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The Future Of Iraq Project



Economy and Infrastructure
(Public Finance)

Working Group

UNITED STATES DEPARTMENT OF STATE
REVIEW AUTHORITY: SHARON E AHMAD
DATE/CASE ID: 22 JUN 2005 200304121

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WORKING GROUP ON ECONOMY AND INFRASTRUCTURE

Economic Policy Subgroup

Introductory

The economic policy system most appropriate for Iraq the day after the current regime is a profit-based system founded on the principle of one for all and all for one. To serve the interests of *all* segments of the population effectively and *without partiality* calls for such a policy of economic solidarism.

The people of Iraq have suffered far too much for far too long. *They need relief, hope, and powerful incentives to strive for economic and social betterment.* Strong national leaders who can show - by their deeds - that they are able to govern their people with justice and foresight will earn the support of a grateful nation, the respect of foreign governments, investors, and other interested parties.

There are better ways to govern a country than by destroying all who disagree with their ruler. Democratic leaders who seek to uproot such ruthless practices need more than talent and conventional wisdom. They need *dynamic new ideas and attunement with the thinking of the great majority of their people.* This includes making a positive impact on the lives of the poor who have been traditionally excluded from the mainstream of modern economic life.

To pursue policies of steady and sustainable social and economic progress in a region fraught with political turmoil is no easy task. To give economic reforms a better chance of success they must be shielded from debilitating disruptions of violent conflict. As we all know, Iraq is situated in a region where cultural and religious wars could erupt and assume earth shaking proportions at any time.

Thus, better economic conditions in Iraq serves a second purpose of focusing the attention of a people struggling to find their place in the new order on self improvement ventures which give them a stake in peace and stability.

Every society has natural business and professional leaders who are willing to extend a helping hand in pulling people out of vicious cycles of poverty or despondency. *They will be doubly motivated to exert efforts in this direction if their work is amply rewarded with handsome profits.* This can happen with innovations that provide financial and moral incentives for such leaders to show those left behind in the race for the more abundant life ways to redirect their energies and leverage their resources to catch up with those already on more rewarding paths of upward mobility.

In Iraq the magnitude of the benefits such leaders may bring in their trail can be so great as to make them worthy of being recognized as true saviors of their people. All these considerations provide a backdrop to the economic policies suitable for the day after Saddam Hussein.

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An Economic Empowerment System

The centerpiece of a policy of economic solidarity for Iraq could be an economic empowerment system (EES). (1) *This system was designed - and tested - to increase simultaneously the supply of capital and entrepreneurship in economies that have serious deficiencies in both these factors of production.*

Recent findings show that the poor not only save more than had been previously thought, but they also have high rates of debt repayment. According to Hernando de Soto, in Egypt alone the assets of the poor are fifty-five times greater than all foreign investment ever recorded, including the funding of the Suez Canal and the Aswan Dam. Despite this, however, most Third World residents are not able to use their assets to create self-perpetuating increases in productive capital which is the lifeblood of economic progress. (2)

Let others have endless discussions on why "capitalism triumphs" in some countries and fails in most of the rest of the world. *We would rather roll up our sleeves and move heaven and earth to make a workable system of cooperative free enterprise triumph in Iraq in its hour of tremendous need. We can think of no better way to make this happen than by launching first a tailor-made economic empowerment system (EES) sponsored by private parties operating for mutual profit under transparent rules that are fair and beneficial to all concerned.*

With strong financial and moral incentives the proposed EES will pull together four distinct productive elements into covenants of hope and profit which they are free to enter and to leave at any time. *Their sole purpose will be to optimize their economic resources.* The productive elements will consist of potential entrepreneurs, bankers, mentor-technicians, and a credit guarantee fund.

Working together under clearly stated guidelines, this grouping of forces will achieve what was previously deemed impossible. They will enter markets that in times past had been inaccessible to them, adopt technologies most suited to their needs, generate continuing streams of private and social capital, boost their financial returns with reasonable safety, and enjoy a sense of belonging *buy-ins and ownership* of significant private enterprises bestow on them and their families.

Envisioned activities are mentoring and technical assistance to generate the best possible business plans, optimal financing, risk management, and computer-based system administration. The eligible borrowers' ability to compete on a leveled playing field for available financial resources will generate direct benefits to the borrowing entrepreneurs, to the consumers of the goods and services they produce, to the lender-investors who earn handsome profits in financing the proposed projects, and indirect benefits to the community mainly in the form of additional fungible capital and additional resources for social service projects a growing economic pie may be expected to generate.

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Economic Problems of Iraq

Given the possibility of a military overthrow of the current regime, to anticipate the economic situation policy makers in Iraq will face after the dust settles is fraught with uncertainties. Yet we must have some idea about the issues those directing the reconstruction efforts in Iraq are likely to encounter. This dilemma may be resolved by assuming that, with obvious exceptions, the problems Iraq is facing today will be much the same as the ones it will face the day after "the fall."

However, caution is in order on two further points. The first caveat may be expressed in four Turkish words: *Evideki hesap çarshiya uymaz*. Freely translated, it means the calculations done at home do not fit the facts of the market place. The second caveat is best illustrated by the following story.

A Turkish businessman wanted to buy a flock in Iraq. Since he could not speak Arabic he wanted to test the language skills of another Turk who claimed to speak Arabic fluently before he engaged him as a translator. So he asked him what the Arabic word for lamb was. The translator thought a little and said,

"To tell you the truth, they don't have a word for lamb.

The businessman was surprised. He said, "Really? What do they do when they want to talk about a lamb?"

"What they do is wait for the lamb to grow and then call it sheep!"

The moral of this story is that one must not pretend to know more than one's knowledge base warrants. In this context, one must also keep in mind the deep divisions of opinion on economic policy matters in the economics profession itself.

The virtually complete absence of meaningful current data on Iraq's economy underscores this concern. Huge gaps in data for the past twenty years is the first problem that a review of the Country Report prepared by the Economic Intelligence Unit (EIU) of *The Economist* (via Web) identifies. A list of other significant problems identified from that source follows.

1. The collapse of the domestic market economy since the imposition of sanctions in 1990 has drastically limited the use fiscal and monetary measures as economic policy instruments. When sanctions allow export for oil only in return for a list of humanitarian goods in a country whose economic well being depends largely on its exports of oil, the scope of independent economic policy making in every area is seriously constricted. *Rebuilding domestic markets in a post-sanctions environment will require both patience and ingenuity.*
2. The EIU claims that, "in part because of the difficult nature of assessing and raising taxes in an economy dominated by family owned businesses ... the only entities still

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paying corporation tax are large public sector companies." This, apparently, leaves customs duty as the most effective means of taxation. (2) This feature of the fiscal system would not only impose constraints in adjusting tariffs as an instrument of trade policy, but also reduce state revenues if or when a new government stops relying on oil smuggling operations as a means of boosting its revenue base. *Since higher taxes is the last thing a people who have endured great hardships would welcome, the need for infusions of new capital is self evident.*

3. Apparently there is also a need to boost confidence in the banking sector. Strengthening the banks is not only an important end in itself, but it also serves as a means to make it possible for the central bank to conduct effective monetary policy. With little bank lending how can changes in reserve requirements or interest rate movements influence the supply of money to the economy? The EIU of *The Economist* believes that public confidence in the banking system can be restored after Iraq's banks are recapitalized. Since this would take time, an alternative would be attracting foreign banks to fill the needs in the interim.

4. Although no precise figures are available inflation in Iraq is now running at 60 to 70 per cent per year. The reason is obvious. The Central Bank is supplying the dinars the regime asks for with little concern for the ensuing inflation of the currency.

As though these problems were not enough Iraq is also saddled with huge burdens of external debt, a major portion of which - about \$50 billion - was incurred to finance its war with Iran. Since the population of Iraq is now around 23 million, the war-related debt amounts to over \$2,000 per capita. Another legacy of war are the damages done in the southern regions of the country and in Iraqi Kurdistan. After a regime change demands for reconstructing these areas may be expected.

Solutions

Reflecting on these conditions is realizing the enormity of the issues to be addressed. It is also recoiling from premature plans and policy decisions based on a view of the world where the economic, the social, the political, and the cultural are placed in separate boxes and analyzed one at a time when, in reality, all these aspects are interrelated.

On the positive side is the fact that Iraq has oil which represents a tremendous asset which can be used to benefit every last citizen of the country, regardless of ethnicity or religious affiliation. *Thus, the most promising policy for the day after is oil policy.*

After the end of one-man rule, there will be no shortage of individuals with experience and proven records of success to assist in placing Iraq's political economy on a sound basis. The list of things to be done can be quite long. However, as starters, we may note very briefly the following:

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1. Adopt a trade policy that reorients economic activity to outward looking, *export oriented industries* based on the principle of specialization in areas where comparative advantages exist.
2. Encourage dynamic growth by *creating a favorable investment climate for foreign investors.*
3. Revitalize domestic markets with organizational innovations such as the EES discussed earlier.
4. Restore the use of fiscal and monetary policy instruments by creating its preconditions - *a diversified market economy, an up-to-date tax system, and sound banks.*
5. *Place the human and property rights of all ethnic groups - of haves and have-nots alike - on the same footing, and place all such rights on more secure foundations.*
6. Attract Iraqi assets back to the homeland, maximize oil exports, cooperate with wealthy Arab states and Western interests in reducing national debt burdens, and create humanitarian interest in the plight of the Iraqi people.

The full potential of none of these policy measures can be tapped, however, without the type of dedicated leadership and spirit of economic solidarity discussed earlier. Of equal importance is responsible government.

In a recent speech Benazir Bhutto, former Prime Minister of Pakistan, said that, "in Islam, dictatorship is never condoned. Nor is cruelty. ... Today the Muslim people ... are searching for forms of government that are representative and accountable. ... The holy Koran says that Islamic society is contingent on mutual advice, through mutual discussion, on an equal footing." (3) Even though, today, Iraq is a secular state, such ethical teachings are not unfamiliar to the people of a traditionally Moslem country.

Economists may do well to reflect on whether they have the right to prescribe solutions for other peoples' problems. Advisors to governments and leaders in other areas serve best when they confine their role to clarifying issues and presenting alternatives. This means that economic policy in Iraq is best determined by means of "mutual advice, through mutual discussion, on an equal footing."

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FOOTNOTES

1. This system was developed by Antonio Velasquez. Its origin can be traced to the work he did under the United States Foreign Assistance Act of 1969. He graciously allowed me to present his ideas by expressing them, at times, in my own words. I accept full responsibility for any wrong impressions my departures from his exact phrasing of his concepts and their applications may have engendered. Mr. Velasquez is our partner in our economic development company named Center for International Economic Development and Growth.
2. See Hernando de Soto, *The Mystery of Capital*, Basic Books, A Member of the Perseus Books Group, New York, N.Y., 2000, front book jacket.
3. The state reportedly still succeeds in taxing the transfer of foreign currency remittances by Iraqi nationals abroad. But as some of them return to Iraq this source of revenue may be expected to decline.
4. Benazir Bhutto, "Views on Islam," *Imprimis*, The national speech digest of Hillsdale College, October 2002, p.2.

**Economic Concerns in Iraq –Post Saddam:
Debt Relief**

**Government Obligations and Reparations
– Reconstruction and Development**

Summary

Iraq under sanctions has accumulated numerous continuing obligations, to foreign governments, including reparations and legal judgments for Gulf War damages, as well as to international corporations and concerns. These obligations are significant, onerous, and must be addressed methodically in concert with creditors so as not to hinder important economic development and reconstruction of a new, post Saddam, Iraq. A modality for addressing these obligations coherently must be developed and integrated with planning for an interim government and its permanent successors. **The Iraq Reconstruction and Development Bank is proposed to deal with these problems:**

- 1) Iraq is currently in default and unable to service or settle many of its international debts. The economy is stagnant, suffering from devastating inflation and functions under black market conditions that avoid tax revenues. Corruption has become the practical currency that facilitates economic life. Iraq's major revenue assets continue to be its oil industry whose earnings have been restricted to "oil for food" and Kuwaiti reparations under the UN sanctions. This limited revenue has now produced a large, un-serviced, international debt, which is estimated to be four times the current GDP. Rampant inflation of the Iraqi Dinar has limited any use of internally generated tax revenues to meet these obligations, nor has the current Government made any effort to satisfy creditors while the sanctions remain in place. Judgments, some very significant, for actions by Iraq in the Gulf War have been added to these Iraqi Government responsibilities. Estimates for the he total of these obligations range between \$115 to \$185 Billion USD. Accurate data for the Iraqi economy is inadequate and unreliable under current economic conditions.
- 2) The Interim government must organize the creditors and negotiate settlements for these outstanding obligations after the UN sanctions are lifted. Oil revenues can be expected to increase significantly, perhaps with exceptional OPEC production agreements, to permit unusually high allocations for Iraq once the oil infrastructure has been repaired to permit greater supply from existing fields. This significant dollar flow must be used not only to settle these historic obligations, but also to finance current and future redevelopment and reconstruction expenses within Iraq.

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- Negotiations with creditors (and OPEC) must be conducted with an appreciation of the need to urgently allocate oil revenues to these important needs, while developing a longer schedule for settling the historic obligations.
 - Tourism development, an additional source of hard currency revenue, should also be made a priority and projected revenues considered in developing solutions with creditors.
 - The interim government should seek a formal moratorium on debt service while coherent plans are prepared to deal with both Iraq's financing for its reconstruction and development.
- 3) The interim government should create an entity to deal specifically with these debts and obligations and empower it to negotiate with creditors.
- This "Iraqi Bank for Reconstruction and Development" (IRBRD) should operate in concert with international agencies and creditors, as well as with government economic planners to devise coherent plans and calendars to deal with both historic debt obligations and the financing for Iraq's current expenditures as well as reconstruction and development investments.
 - The IRBRD should review with the Iraqi Central Bank the continued maintenance of the Dinar, or its replacement, and seek to reestablish a productive working relationship with the international banking system.
- 4) The IBRD should develop critical quasi-governmental entities to address specific economic sector concerns, under its auspices and control.
- The entities should deal with reform of the following which are dependent on external, international support for effective rehabilitation and development:
 - i. the commercial banking,
 - ii. insurance and critical industries,
 - iii. aviation,
 - iv. tourism,
 - v. oil,
 - vi. telecommunications, etc.,
 - The composition of these sector specific enterprises should include both:
 - i. technical expertise from interim government personnel and both Iraqi and non-Iraqi technocrats,
 - ii. private sector representatives.

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Responsibilities of these entities should include planning as well as appropriate administrative and executive authority to reform and operate the appropriate sectors. The existence of these entities will provide creditors with confidence in a rational planning and operations plan that will insure the repayment of Iraqi obligations under the terms developed by negotiations with the IRBRD.

- 5) The IRBRD board and its charter should be determined by the interim government at an early stage and empowered to act immediately to resolve, reform and remedy the critical, emergency concerns with which Iraq must deal to restore its economic life and plan for its future. As appropriate, the IRBRD entities may be capitalized and financed with a mix of government and private funds to complete the emergency nature of their responsibilities and charters.
 - Eventually such IRBRD entities should be fully privatized or devolve into competitive free market enterprises.

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New Currency, Fiscal and Monetary Policies Guidelines for the Transitional Government of Iraq

New Currency: Why?

It was beyond the imagination of the Iraqis that the foreign exchange value of the Iraqi Dinar (ID) in the late seventies (was oneID = 3.3US\$) will one day deteriorate by almost 660000% to reach the current value (oneUS\$ = 2000ID). Such a striking symptom of the unpredicted, rapid, and shocking deterioration of the economic situation has created, among other things, a very bad image of the current currency. Adding to its low value the dominant ugly picture of the dictator on, make the Iraqis more anxious and looking forward to change their currency. They definitely want to replace it by New Iraqi Dinar (NID) as the piles of their current currency remind them with their work struggle and living standards misery. Some may dream of NID that regain the old value of ID and have a symbol of Sumer Fountain of the ancient Mesopotamia civilisation on one side and phrases referring to the values of Liberty, Progress, and Peace on the other.

As Iraqis are still waiting impatiently for the desired regime change, they may consider the introduction of a new currency as an important step to improve the purchasing value and the foreign exchange value of the ID. Such popular notion is psychologically significant in the aftermath of the fall of Saddam regime. Therefore, the introduction of a new currency is essential for gathering support for the new regime regardless of the real economic conditions for improving the value of the currency.

To sustain the likely positive impact of the new currency, it is essential to re-establish the base purchasing and foreign exchange value of the NID as it was in the 1970's. This means that the oneNID= 6000 ID = oneUS\$. The NID would be divided into 1000 Fils, 20 Dirham, and 10 Rial¹.

In practice, putting the NID into circulation should be arranged in view of the available data and information regarding the amount of currency in circulation and the technical and printing requirements. The whole "new currency" task should be assigned to the Iraqi Central Bank (ICB) and must coordinate with the (new) Ministry of Finance and Economy (MoFE).

Economists may differ on the policy and measures that influence the purchasing value of the NID and the need for appreciating its foreign exchange value. Such task should be determined within the suggested macroeconomic, fiscal, and monetary policies. Therefore, apart from the art of designing the new currency to reflect the optimistic Iraqi ideals and culture, its value and its supply and demand are part of the monetary and fiscal policies of the transitional government. These policies are in turn part of the government macroeconomic policy and the economic structural reform programmes².

¹ The sensitivity of any anticipated or suggested value of the NID should be considered carefully and hence it is advisable that any suggestion in this regard must not be propagated.

² The economic and infrastructure group has already adopted the Economic Policy Guidelines for the transitional government.

Needless to mention that a wide and intensive campaign for increasing public awareness of the new currency and the procedures, timetable for replacement should be initiated by the transitional government (ICB&MoFE) immediately after resuming its responsibilities.

Fiscal and Monetary Policies; Lessons from Experience

Given the Iraqi past experience³ and the requirements for promoting a free market economy in Iraq, the following economic, fiscal, and monetary policies and measures have to be analysed and considered by the transitional government.

One: Monetary policy was not effective because the interest rate was low and almost stable. Money supply was mainly responding to the increase of government expenditures. Therefore, interest rates must be used as an effective instrument to stimulate investment and savings alike.

Two: Money liquidity of the public enterprises was high and frequently led to the waste of public financial resources. This requires a more effective regulation and accounts' control of public enterprises. The National Office of Auditing (Diwan AlRaqaba Almalia) should play an important role in this regard.

Three: The government fiscal policy had only government expenditures as the main variable to influence the economy. No role was given to the government banks and the role of private banks. The role of financial market was also absent. Since, oil revenues have been the main source of public finance; the fiscal policy was closely associated to the oil policy (revenue). Therefore, increasing non-oil revenues coupled with more rational government expenditures are to be considered by the transitional government.

Four: The government ability to control inflation through increasing imports by the public sector under no financial constraint or economic capacity limits led to weakening the private sector activities and acted as a disincentive for investment and saving. Thus, it is essential that the transitional government should avoid direct intervention in increasing imports except for the provision of stable foodstuffs and very essential commodities. The private sector should resume its role in the domestic

³ Since the 1950's, the economic role of the State may be analysed within four main distinguished stages. First, the State role extended to financing a number of economic (physical) infrastructure projects in the 1950's. Such role was necessary, though not sufficient to undertake radical and wide economic and social changes. Secondly, the State partially controlled important industrial and economic activities through the public sector. In addition, it was engaged in financing a number of economic and social infrastructure projects in the 1960's. Thirdly, the State monopolised foreign trade and was involved in the direct management of the public infrastructure projects as well as of significant number of commodity and services production through public sector enterprises. The period (1970's to the 1980's) also witnessed a role of public sector in the construction activities. This is the era where the State had wide and decisive economic intervention.

As for the period (August 1990 to present time), it is very difficult to assume that there exists clear economic policies or coherent measures. There were many detailed, scattered, partial, and arbitrary economic and financial government decisions. It was designed to serve the narrow financial and political self-interests. The present period also witnesses the complete absence of public institutions in participating with the government's decisions. Therefore, the present period may be called the chaotic, non-institutional, and a political deterioration era.

and foreign trade activities. Inflation control can not be dealt always by increasing imports financed by public oil revenues.

Five: The then prevailing situation of no financial constraint on government expenditures and no need for foreign capital for financing investment has helped to empower the government economically and politically while the role of the private sector receded further. It is therefore necessary to reduce the risk of using oil revenues as an effective economic and political power by the transitional government. In this respect, the policy of allocating most of oil revenues to finance investment in the infrastructure through the anticipated activities of IDRC is necessary.

Six: The over protection policy of private sector production and investment activities has led to weakening the entrepreneurial capacities and to the deterioration of the quality of domestic products. At the same time, it adds more economic and political power to the government authorities. This situation should be considered in the public finance (revenue side) policy.

Seven: The policies of maintaining low direct and indirect taxes greatly helped the government to impose their policies and peruse their political agenda⁴. On the other hand, this policy led to lessening economic independence of the Iraqis and the role of private sector to influence government economic policies. Therefore, it is essential that in public finance non-oil revenues should be increased.

Obviously, the task of formulating and implementing the fiscal policy (the annual government budget) is the main responsibility of the MoFE. The monetary policy should be a joint responsibility of MoFE and the ICB⁵.

Financial Problems and Remedies

The scarcity of financial and foreign currency resources became a binding constraint on economic activities. Oil revenues have sharply decreased and non-oil exports are almost non-existent. Also, the real value of domestic public revenues such as taxes and custom excises and public services returns have substantially decreased as a result of the economic deterioration and the inefficiency of the government financial management. Even if the government ability for collecting domestic revenue is restored, public revenues would not reach more than its 1989's level. Also, foreign sources including short-term loans and trade credit for financing imports have reached its maximum. Therefore, the financial and foreign currency resources will reduce the targeted effectiveness of the economic policies of the transitional government.

To estimate the required financial resources, the following needs have to be considered.

1. Financing the reconstruction of public projects. Most important, oil projects for retaining oil exports capacities and maintaining oil reserve. Also important are economic infrastructure projects such as roads, seaports, airports, communication facilities, water dams, drinking water, and electricity production and distribution projects. Also is needed social infrastructure such as expanding and improving public health and basic education, and the provision of minimum social care to the

⁴ Details on tax policy are given in the discussion paper entitled "Tax policy: Guidelines for the Transitional Government of Iraq".

⁵ Explicit definition of the Ministry's tasks of the transitional government is given in the economic policy guidelines.

unemployed and elderly people. In addition, finance is required for complementary investments in the semi-idle public sector enterprises such as sulfur and phosphate mining, fertilizer industry, and water discharge sewage projects.

2. Financing current government expenditures to carry on administration, health, education, and public services.
3. Finance is necessary to acquire imported goods and commodities for investment and for production activities of the private sector.
4. Financing foreign trade by foreign loans and credit facilities. Here, it is essential to apply a new and clear cut strategy to be guided by fiscal and trade criteria to be determined by the economy performance and the required internal and external macro economic balance. In this respect, it is necessary to relatively reduce imports and increase non-oil exports. For foreign loan debts and long-term trade credit, it should be rescheduled and settled in the long-run in view of the future economic performance. It is very important to ascertain that it is wrong to consider the settlement of foreign loans and debts as part of a policy to promote inflow of foreign capital in the short-run. Such policy would not be useful if the economic and political bargaining power of the government is weak as we envisage at least until the complete success of EPPA implementation.
5. For military armament's debts and the imposed UN's sanctions, the political will of the nation should work for its cancellation and co-operate with the concerned foreign parties on the basis of diminishing responsibility of the Iraqi people for its causes.

Inflation, Foreign Exchange Rate; Causes and Remedies

Since early 1970's, the policy of increasing government expenditures that increased overall demand and the actual low growth of non-oil output and productivity have led to sharp increase in domestic prices despite the use of oil revenues in depressing inflation by increasing imports by the government. The rapid economic, political, and social changes that have taken place since 1970's accompanied with significant international economic and technological developments were also effecting the prices of imported goods and commodities. Both factors have led to overvalue of the official foreign exchange of the ID. As a matter of fact, the exchange rate of the ID was constant till mid nineties by wrong political decisions, though it should have been devalued, from the second half of the 1970's. However, instead of taking such a devaluation step, the government subsidies policy for imported goods and commodities and the accumulation of foreign currency and gold reserve have maintained the artificial value of the exchange rate in a way not related to the real economy's performance. The experience showed that keeping the exchange rate constant is nothing but increasing the government subsidies to surpass inflation caused by low output growth and productivity deterioration. The discussions of devaluation were prohibited during the 1980's because of its political implications that revealed the government inefficiency and highlighted the deterioration of the living standards. The phenomenon also related to unfair pattern of income and wealth distribution resulting from both price changes and government biased economic and fiscal policies. However, actual devaluation was apparent in the parallel market since the end of the 1970's. This was coupled with the continuous price rise. In an attempt to avoid

devaluation, the government invented an adhoc import policy that need not transfer foreign currency through the Iraqi Central Bank. This short-lived policy led to further increase of prices in the medium -term. The carrot and stick government's policy also failed to combat the smuggle of wealth abroad as result of the deterioration in the domestic political, economic, and social circumstances. Thus, the experience showed that demand on the US\$ continuously increased. Against this, the dictatorial regime continued to monopolize and fully control all foreign currency resources. They have full freedom to utilize all government liquid assets in financing military and armament projects. After the Kuwait crisis, where exports were substantially reduced, the State foreign assets were frozen, and the government expenditures increased by higher rates, the exchange rate of ID rapidly and substantially deteriorated.

In summary, inflation and the deterioration and fluctuations of the foreign exchange rate can only be dealt with by rational macroeconomic, fiscal and monetary policies. The effectiveness of such policies are in the case of Iraq subject to undertaking radical economic structural reforms as well as implementing a huge public investment in infrastructure projects. It is anticipated that all Ministries and government departments of the transitional government should bear the responsibility of implementing the new economic project for change⁶.

Liberalization of the Price Structure

In addition to the inflation problem, the prevailing price structure of goods, commodities, and prime factors of production cause immense problem for any rational economic decision. Both the government and the private sector are not able to ensure efficient economic decisions based on the current prices. Even individuals can not ensure good economic decisions. Many factors have contributed to this price distortion situation. Government interventions, monopolies, lack of infrastructure, widespread informal economic activities are the obvious. However, liberalization of prices needs to be gradual and consistent with government macroeconomic policies. The process of price liberalization would result in important economic, social, and political consequences. Careful attention should be given to this serious problem and the government should consider the following.

1. To maintain the provision of basic goods and commodities at low fixed prices for low- income groups and for a limited period. It should consider this as part of the existing ration system.
2. To achieve certain economic and financial objectives through import duties and custom policy. This is part of the government fiscal policy.
3. To gradually unify foreign exchange rates in one system. This is a prior step for full liberalization of foreign exchange prices. It should be consistent with the macroeconomic, fiscal, and monetary policy.
4. To reduce the existing wide disparity in income and wealth. This can be partially achieved by tax policy consistent with the macroeconomic policy.

⁶ Details on the economic tasks of the transitional government are given in the source cited in footnote no.4.

Liberalization of prices will create favourable environment for increasing economic growth and investment. For social necessities, SSWS will act to counter the problems associated with the negative aspects of free market economy.

Public Investment: IDRC activity⁷

It is imperative to rebuild public utilities and infrastructure that were damaged or destroyed since 1980. Among the priorities of these projects are the extraction and export of crude oil. Also, in the priority list of the proposed projects are oil refineries, petrochemical industries, sulfur and phosphate extraction, fertilizer industry, drinking water, and electricity. Also it is necessary to invest in the heavy and medium engineering industry. In this category, part of the military industry should be transferred to civilian use with the help of government investment.

In pursuing public policies, careful consideration should be given to investment criteria in order to improve its allocation among the governorates and regions. Public investment should be used to reduce the disparity of public wealth among people.

Public investment will remain an important economic variable to influence the economy and the standards of living of people.

Government Current Expenditure (annual budget)

Government consumption (current) expenditure constitutes a significant portion of national consumption that in turn constitutes high percentage of total demand. Since it is necessary to maximize output (GDP) then investment (saving) ratio to GDP should be increased. That is to say, consumption ratio to GDP should be decreased. However, the minimum government expenditures will be determined by the minimum administration cost for rendering public services as estimated in the annual budget. Therefore, it is essential for the government to take drastic measures to improve the given public services by strictly using the productivity criteria for the civil servant promotion and recruitment. Moreover, public administration reform programme – including military manpower and personnel- should result in reducing government current expenditures. Needless to mention that enough resources should be allocated to strengthening the internal security apparatus and enforcing the legal and judiciary system. On the other hand, the government should encourage the governorates and local communities to mobilize financial resources to cover the expenses of certain local activities such as kindergarten and public parks. This would also serves the targeted expansion of decentralization of the decision- making processes and preparation of the governorates annual budgets.

As for the priority list of government expenditures of the annual government budget, we may follow the same criteria that determine the priorities of the social, economic, and environmental infrastructure projects.

In practice, the transitional government should consider that in addition to the allocation of enough financial resources to provide essential foodstuffs and medicine as well as for the priority of maintaining internal security and enforcing law and order. Expenditures on basic education (primary, secondary and high schools), public health services (health centers and general hospitals), improving environment services (sewage), rehabilitation

⁷ Details of the IDRC objectives, activities, and sources of finance are given in the documents and the final report of the IDRC group.

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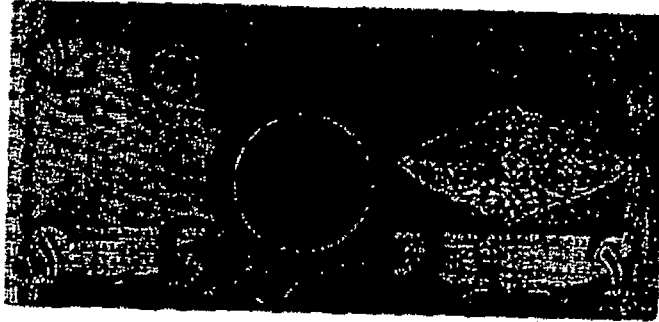
of unemployed people, and public transport should be given priority and high portion of total expenditures. Expenditures on the ministries responsible for running public sector enterprises would have less priority.

The criteria used for the allocation of public revenues (government expenditure) should, in general, be determined on the basis of the kind and number of the beneficiaries. Low-income groups and young people have obvious priority.

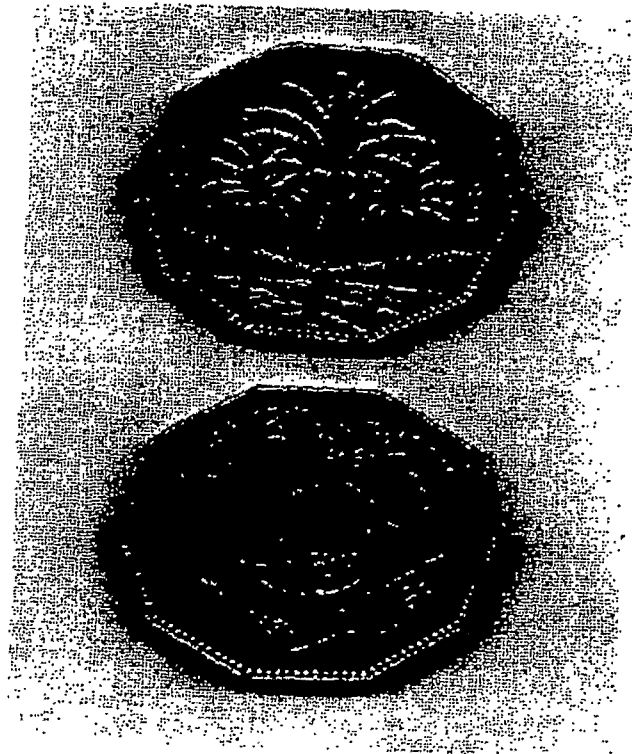
Final remark; while the given guidelines would facilitate performing the huge tasks of the transitional government in the fields of issuing new currency and formulating the fiscal and monetary policies. It is our belief that the accumulated expertise of the Iraqi institutions and highly qualified individuals inside Iraq will undertake these tasks efficiently and disaggregate the policy guidelines into practical measures.

London: 22nd Dec.2002.

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One Dinar note



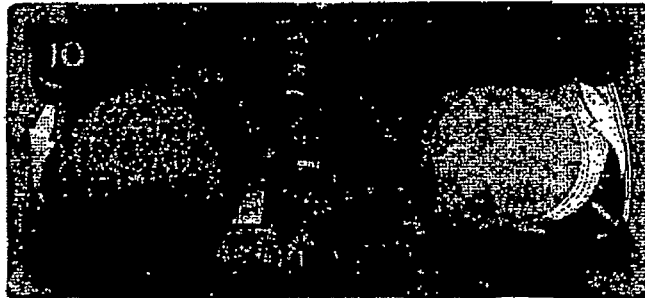
One Dinar Coin

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Five Dinars Note



Ten Dinars note

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Tax Policy: Guidelines for the Transitional Government of Iraq¹

During the first six months after the fall of Saddam regime, it is neither economically viable nor politically wise to engage in the application of new tax measures. Unlike the urgency for the introduction of a new currency, premature steps for tax reform are counter effective. Such cautious attitude is justified at least by the need for the prevailing informal domestic trade activities. Obviously, maximization of supply of goods and commodities will be of first priority of the new government' concerns. However, during this extraordinary period, the transitional government should prepare for the requirements of a (new) realistic, practical, and comprehensive tax system that may replace the current one in a one year time. Tax reform is part of the advocated (new) economic structural reform programmes and will constitute a major change in the government fiscal policy. Politically significant, tax policy had an important passive role in the past, and it should have a positive role in the future. To encourage democracy within a free market economy environment, tax policy should be effective and rigorous to encounter the old bad practices of the government's political power game; i.e. the current regime maintaining its full control of oil revenues and allocations without wide and institutional participation of the concerned parties in the public decision- making processes. In addition to the allocation of oil revenues for public investment in the infrastructure, such practice should be changed partially through reactivating the tax policy in public finance.

The following notes highlight the main tax policy issues that are to be considered by the transitional government (MoFE) in the preparation of the new tax system.

Public Finance and Tax Policy

Two main features have dominated public finance of Iraq in the last three decades. The high and increasing contributions of oil revenues and the low taxes generated by non-oil economic activities and other sources of income and wealth. Taxes, therefore, lost much of its likely influence on economic growth and as an instrument to regulate the redistribution of individuals' income and wealth. Such a state of low taxes has been an important economic factor for creating favourable conditions for the rising of the present dictatorial regime.

The government ability to maintain its high levels of current and investment expenditures with low taxes generated from individuals income and private sector activities have been a major factor in the development of present political crisis and the diminishing of democracy. During the seventies, tax relief policy made the economic policy role of the private sector redundant if not supportive to the socialist policy of the regime. Indeed, the reliance of private sector on public sector activities was a prominent feature then. Also the Iraqis enjoyed a low tax burden, except for government employees.

¹ The given analysis and proposals are consistent with the "Economic Policy Guidelines" adopted by the group as well as with the "New Currency, Fiscal and Monetary Policies -Guidelines for the Transitional Government" currently under discussion by the group.

Since the 1970's, the government maintained its low tax policy that led to easy pursuing the implementation of its economic and political agenda. It has been and is still a powerful tool to keep the regime in power. Even at present, the political implication of increasing individuals economic dependence on the government expenditures is evident in the current foodstuffs ration system. In the case of Iraq, where the dictatorial regime engaged in a wide WMD armament with military ventures, low tax policy serves perfectly the implementation of such destructive strategy. In a free market economy, taxes play an important role in public finance. In Iraq, such importance extends beyond the need to finance government expenditures on public services and performing the State normal functions. Tax policy also relates to the future role of oil sector in economic development.

In the aftermath of the fall of Saddam regime, we may assume that the country needs to allocate most of its resources, especially oil revenues, to deal effectively with the current deteriorating living conditions and alleviating the prevailing economic hardship. However, it is anticipated that this situation will be substantially eased after six months. The transitional government would then resume its normal public finance policy. Therefore, it is essential that the transitional government should have a clear framework for its fiscal policy.

In the short run, most of oil revenues e.g. 75% should be allocated to finance the infrastructure projects. The rest, i.e. 25% should be allocated to the government's annual budget. In the long run, all oil revenues must be utilized for expanding and developing the infrastructure of the country. As experience showed, it is essential to pursue the implementation of the new-old development strategy, namely, the diversification of the Iraqi economy and lessening the high dependence on oil revenues for public finance and as a major source of foreign currency required for increasing imports.

Fiscal Policy and the Role of Taxes

Unfortunately, the size of tax problem (revenue and tax base) can not be estimated because of lack of data and information. Moreover, it is very difficult to follow up and analyze the many, undocumented different and almost daily financial measures undertaken by the regime to increase taxes since 1980's. This problem was aggravated since 1991. Therefore, the suggested guidelines are bound to be of general nature and based on the tax structure dominating in the 1970's. However, it is essential to emphasize that the given proposals are consistent with the role of taxes in a free market economy.

The government fiscal and monetary policies have been characterized for a long time by their ineffectiveness and inability to accommodate any (future) change in the oil revenues that are related to unforeseen circumstances. Also, it failed in reducing the deficit of the annual budget through tax policies. It was ineffective in improving the wide disparities in income and wealth. In general, the fiscal policy failed to maintain the domestic macroeconomic balance and promote indigenous non-oil economic growth factors.

The situation was aggravated by the policy failure in reducing the disparities in income and wealth. Indeed, the disparities in income and wealth have been increasing and creating acute social and political problems that have to be addressed by the new government.

It is, therefore, required to reactivate the government's fiscal policy in order to maintain the balance between public expenditures and revenues so as to control inflation. For pursuing such a radical policy, taxes would then play an important economic role that would restrict the miss-use of political advantages of the government and help to encourage democratic practices.

Also, it is necessary to activate interest rates as an instrument for mobilizing saving for investment. Collection of taxes should be given enough attention to increase public revenues and reduce the size of informal sector in the economy. It is significant that the big informal sector (in terms of money value of its activities) should be obliged to provide all necessary accounts documents for tax purposes. For small informal activities, incentives should be given in order to organize their control by the tax authorities, e.g. the provision of street markets.

Features of the New Tax System

In Iraq there are two main sources of tax categories. First, the direct taxes, which include income tax, profit tax, inheritance tax, estate tax, and agriculture tax. Secondly, indirect taxes, which include custom duties, excise, and stamps². Gaps in the tax base, tax burden, and tax evasion can not be assessed due to the lack of data and information. However, it is widely known that because of false information, official's corruption, and the narrow base of tax, there exists wide area of increasing tax revenues. Moreover, while it was easy to collect income taxes from the government employees, the individuals and private companies who are liable to income or profit tax are not disclosing their real liability. Informal private sector activities, especially the foreign trade smugglers, may constitute a good source of public finance too.

It is our judgment that a new and modern tax system should include clear definitions and criteria for taxation on individuals and companies, tax brackets that consider income and wealth levels, and tax burden on different income groups. A well - defined tax data base and collection procedures should be established. The new system should adopt a decentralized collection and follow -up procedures with strict higher authority regulations and power

It should be mentioned that the MoFE is the responsible department for the preparation of the new tax system (law). In this process, the coordination with the National Office of Auditing (Diwan Al-raqaba Al-Malia) is very essential.

The following are basic indicators for the New Tax System

Tax Base: Individuals

Individuals Income Tax (wages and salaries, interests on savings, heritage, and capital gains)

Income Tax: Brackets (10%, 15%, 25%, and 40%)

- 10% for more than US\$ 2500 and less than US\$ 5000,
- 15% for more than US\$ 5000 and less than US\$ 7000,
- 25% for more than US\$ 7000 and less than US\$ 10000,
- 40% for more than US\$ 10000.

² In addition to the taxes, the main sources of the government revenues are, oil revenues, government services and public sector revenues.

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Exemptions

- Low income: less than US\$ 2500

Inheritance Tax: Brackets (30%, 60%)

- 30% for more than US\$ 50000 and less than US\$ 150000,
- 60% for more than US\$ 150000

Exemption:

- Less than US\$ 50000,

Tax base: Companies

Companies Profits and Capital Gains:

Profit and Capital Gains brackets (30%, 60%)

- Public enterprises accounts may have different criteria for profit assessment and tax brackets
- Oil companies accounts may have different criteria for profit assessment and tax brackets
- All foreign companies are subject to the same tax policy.

Value Added Tax (VAT): taxes on consumption 15%

Exemptions:

- Domestic agriculture products
- Clothes and toys for children under ten years
- Teaching materials in schools, colleges, and universities
- Books
- Electricity for civil use under minimum units
- Electricity for industrial use under minimum units
- Drinking Water under minimum units
- Water for irrigation under minimum units

Land Tax: certain amount per Dounam, e.g. US\$ 10 per Dounam.

Some Related Issues

- It should be noted that in addition to the State Tax Law, the Governorates (Councils in the big cities) might introduce taxes. The purpose of these taxes is to finance the local authority expenditures for the maintenance of local roads, public parks, and improving environment health. The criteria for assessing the burden of these taxes may be based on the area development status and houses grade's evaluation.
- Custom duty's criteria have to be based on the necessity of the imported goods and commodities as well as the income groups of beneficiaries. High duties should be imposed on luxury goods and much less on education materials. Exact ratios of duty to value of imported items should be based on past experience and consistent with the new foreign trade policy.

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- All domestic economic and trade activities, including foreign companies agents, should have registration and must have a recognized accounting practices and records.
- All foreign companies are subject to the tax law and regulations. No privilege treatment must be given to the foreign concerns without an official law.
- To ensure effective tax policy in particular and fiscal policy in general, strict administration, legal, and judiciary measures have to be taken prior to the implementation of these policies.

London, 1st, Jan. 2003.

NEW CURRENCY
FISCAL AND MONETARY POLICY
TAX SYSTEM

Let's Look at the Bright Side

Experts agree that virtually all of the acute economic problems of Iraq are traceable to one source: Saddam Hussein. *The day after his fall, therefore, will be a day of renewed hope and expanding opportunity.* On that day, and not before, will it be possible to start putting Iraq's economic house in order. Saddam is an egomaniac and will not - I almost said cannot - change.

When one's house is burning down it would be counterproductive to devote one's energy to finding out whether the roof or garage needs to be repaired. An alert person would first focus on putting out the fire. Thus, *in Iraq, to fight the raging economic fires, any post-Saddam regime, as a first priority, would have to attract large sums of capital and technical expertise.*

With such additional resources the new regime would be able to *generate greater revenues from its underutilized oil fields, make a visible improvement in its peoples' living conditions, stop the hyperinflation, issue a new currency, and start investing in the reconstruction of its infrastructure.* All these are high priority items. It is difficult to judge from this distance whether or not they are more urgent than repairing the devastation done during the Gulf War or any further war damage to be incurred in the future.

To make progress in all these areas Iraqi leaders need to be self confident enough and progressive enough to ask themselves *whether they can govern their country without patronage networks and baksheesh*, change their investment laws, reform their banking and tax systems, privatize their major industries, and *renegotiate their foreign debt and reparation payments on a quid pro quo basis.* This is strong medicine. But, as they say in the military, no guts no glory.

In the near future, it is not likely that there will be much further damage to Iraq's economy. Any US-led military strike against the Saddam regime is likely to be carried out with surgical precision. *Resistance by a third-rate power to the armed forces of a country that spends about a billion dollars a day on its military establishment is bound to be short-lived.*

The majority of the people will probably welcome the U.S.-led forces as liberators, and some in the Saddam's security forces may actually join them. Moreover, as Daniel

Yergin points out in his analysis of oil policy issues in Iraq, it is unlikely that "Saddam would torch Iraq's oil facilities in a Pyrrhic defeat" since "some commanders might be loath to obey any such orders, as they would have to answer after the war for their actions." (1)

Discussion of who will have real authority in governing Iraq after Saddam is defeated is crucial and indispensable for an analysis of economic policy choices on "the day after." *The success of the new regime's economic reconstruction and development measures critically depends on the quality of government leadership that the country will manage to put in place for that day.*

Iraq is a diverse country with serious ethnic and religious divisions. *If the Iraqi people and the international community do not have enough confidence in the successor regime to cooperate with it in good faith the ensuing conditions may be expected to be chaotic.* There may be debilitating revolts driven by desperation and bloody civil strife driven by a desire for revenge. The country may face large scale unemployment as Saddam's security forces are dissolved. People may starve, freeze in the cold weather, and die from lack of medicine if better arrangements than the current food-for-oil program fail to materialize. Preventing this worst case scenario from adding another chapter to man's inhumanity to man is a heroic endeavor. It will ennoble anyone who considers it doable, and sets out with gusto to do one's best to cope with it.

Iraq not only has oil, but prospects of having state-of-the art monetary and fiscal policies. To make these succeed they must be backed by a new regime that is committed to placing the greatest possible emphasis on moral rectitude. A byproduct of this change will be to induce at least some of the professional classes who have fled to return to Iraq. Under the protection of a pragmatic government which chooses to take the high road, *the long suffering people of Iraq will, at last, have a chance to be liberated not only from tyrannical rule, but also from economic deprivation.* Avoiding the poison of civil strife that divides the country along ethnic and religious lines would itself be a major achievement.

In the current situation there is much to be gained from a little more optimism and a little more willingness to count one's blessings. *The greatest and least appreciated advantage the relatively underdeveloped countries of the world like Iraq have is access to the accumulated experience of their technologically and economically more progressive neighbors.* The success of the advanced world and the leadership by example these areas provide - consciously, or just by being there - is of inestimable value to a country in crisis like Iraq that is seeking relief from its acutely painful problems.

Equally important for Iraq would be to avoid importing the monetary, political, and other sins of the more progressive Western world. Not everyone in the Middle East favors Western style permissiveness, pandering, and overspending of other peoples' money, which in Middle Eastern minds register as "unlimited freedom," "too much freedom," or worse. A new regime that has *the best interests of all the Iraqi people* in mind will have an opportunity to pick and choose the best features of Western policies and institutions

that have served people well wherever and whenever they have been given a chance to exert their beneficial influence, and avoid the rest.

Rejecting failed political "command and control" philosophies like socialism or milder "welfare and warfare systems" supported by high taxes that bring out the ethical worst in people when one could choose market-based participatory communal institutions that bring out the ethical best in people is a matter of pragmatic common sense. It need not become a divisive ideological issue.

The truth of the matter is that there are many gems that may be gleaned from the fertile fields of monetary and fiscal experience of the Western world. That is why I have made them an integral part of my analysis. For in those fields lie the keys to peaceful reconstruction and development not only of Iraq, but also of the whole Middle East - a region that is not inevitably doomed to become a hotbed of intrigue, turmoil and conflict.

Achieving a Sound Monetary System

History teaches that changing money power configurations can lead either to the growth or decline of nations. As a practical matter, a small country like Iraq has virtually no choice but to join the international monetary system. Trying to insulate itself from the world's monetary establishment, which has its undeniable ugly features - like any other giant oligopoly in evolution - is bound to lead to economic isolation and to the social stagnation which it would inevitably bring in its trail.

In a business world inexorably moving toward a global economy, trade, investment, and finance get increasingly interconnected. Thus, achieving competitiveness in trade and creating a favorable investment climate in Iraq to assure dynamic growth cannot be dissociated from best-practice monetary and fiscal arrangements worked out under righteous leadership.

Iraq, therefore, must be psychologically ready, sooner than later, to open its markets to foreign banks and enterprises, and to reorient its domestic industries to export and tourism. *This is best achieved by integrating significant segments of its privatized business sector to either the euro or dollar areas, or to both.* These currency blocks represent around 25 per cent and 20 per cent of the world economy respectively. To engage in extensive trade with firms in these areas and to forge financial links with their banks, insurance companies, and other institutions requires adopting monetary and fiscal standards that are both feasible and credible in the eyes of international interests as well as the local population.

I realize, of course, that one cannot solve an economy's structural problems with the use of macroeconomic policy instruments. But in my first concept paper, I did address the structural microeconomic issues by proposing an economic empowerment system to increase simultaneously the supply of entrepreneurship and capital as the center piece of attempts to rebuild domestic markets on a secure basis of mutually recognized human and property rights and obligations in a post-sanctions economy.

Now I turn to the unfinished business of rethinking the vital role sound macroeconomic policies can play in reconstructing and reforming Iraq. It is important to talk about these since the advances made in the monetary and fiscal policy fields in the rest of the world have created enormous opportunities to create frameworks that foster productive and happy lives.

Discussion of appropriate policy regimes in the areas of money, banking, taxes, and public expenditures are often neglected in discussions of economic issues in a post-Saddam era. The dialog relating to these fields, as a rule, concentrates on specific problem areas without any reference to the general principles involved in the recommendations made to attempt to solve them. Yet the choice of the correct principles spells the difference between success and failure.

In 1920s, John Maynard Keynes argued that the gold standard after World War I was not like the gold standard preceding the war. Inflows and outflows of gold across national borders were no longer causing automatic adjustments of national money supplies which were linked to gold. This meant that the changes in interest rates, expenditures, and national price levels which were driven by the quantities of money in circulation were no longer bringing the international balance of payments of the major trading nations into equilibrium automatically. After the Federal Reserve System was established in 1913, it was the policies of a few large central banks - developed behind veils of secrecy - which were instrumental in determining the monetary conditions in trading countries since the impact of gold flows were sterilized, that is, offset by central bank credit creation unrelated to changes in their gold reserves.

During the traumatic years of the Great Depression of the 1930s all the major trading countries except the United States abandoned their modified gold standards, called gold bullion standards. Under the Bretton Woods arrangements of the post-World War II years, although central banks kept gold as part of their reserves, for all practical purposes, the dollar which was anchored in gold started to function as a world currency. Under this system, the currencies of the various trading countries were not directly tied to gold, but to each other, through a system of fixed exchange rates supervised by the International Monetary Fund. Member nations had obligated themselves to maintain these fixed foreign exchange rates except in conditions of so-called fundamental disequilibrium.

When this system broke down in the 1970s, monetary and fiscal discipline eroded all over the world, as inflation and government budget deficits proliferated. In the major currency areas, where alternative rules of monetary and fiscal discipline evolved, inflation rates subsided. But, for small and medium sized countries, which value outward looking - export oriented - policies as the fastest, if not the only, route to economic development, the question still remains whether it is better to go back to the discipline of fixed exchange rates or to indulge in public spending sprees and let the exchange rate seek its own level on foreign currency markets. For the most part, particularly for small countries, these turn out to be continually declining levels.

It is widely asserted that fixed exchange rates always break down. But the truth is the exact opposite when appropriate monetary arrangements to maintain the fixed rate are put in place. When there are no such arrangements the rate will break down, as was the case in Argentina which, like so many other countries, has had problems of corrupt leadership. When there are no monetary and fiscal discipline and adjustment mechanisms to conform to the realities of the market place, a country's foreign exchange rate should properly be called a pegged rate, not a fixed rate.

As the Nobel laureate, Robert Mundell of Columbia University points out, "Largely because of the way international economics has been mis-taught in many of our schools and international institutions, fixed rates have been identified with pegged rates; i.e., a system with a built-in mechanism of re-equilibration has been confused with a system of no adjustment mechanism at all. The practice is reinforced by the absurd classification of exchange rate arrangements in the *IMF International Financial Statistics*, which lumps together (amidst several other confusions) under the same system - 'currency pegged to the US dollar' Panama and Iraq!" (2)

Thus, when a central bank uses its monetary tools to adjust the size of the money in circulation - called the money supply - in a country to make sure that it maintains its fixed value in foreign exchange markets, the currency is bound to hold its foreign exchange value. *This system operates much like monetary adjustments under the gold standard.* It represents an entirely different policy than having a central bank target its policy on maintaining price stability, high and stable aggregate demand, or having no target at all except political expediency. Not distinguishing between these situations leads not only to confusion, but also to policy "mistakes" that cause enormous hardships resulting from business failures, joblessness, or loss of purchasing power of people on fixed incomes.

Mundell writes that, "*fixed exchange rates always work and only work when intervention in the foreign exchange market determines monetary policy.*" (3) This follows from the fact that the central bank is actively pursuing an active policy of maintaining a fixed foreign exchange rate for its currency. In so doing, however, it must be willing to allow *levels of domestic expenditure and the general price level to rise and fall in response to market forces to maintain the credibility of the fixed rate.* To this end, countries accumulate monetary reserves to weather financial storms.

In any case, *the popular notion that fixed rates always break down is wrong. It stems from a confusion between fixed rates and pegged rates.* Moreover, as Mundell points out, "Experience has shown that many medium-size or small countries can fix exchange rates successfully. Austria, Holland and Belgium-Luxemburg, for example, achieved inflation rates comparable with the best in the world by fixing their currencies to the mark." (4)

Iraqi policy makers may choose whether it would be more advantageous to fix the dinar to the dollar or the euro. Ronald McKinnon noted that "*exports of homogeneous primary products such as oil, wheat, copper, and so on, all tend to be invoiced in dollars with worldwide price formation in a centralized exchange.*" (5) Moreover, as he further notes,

except gold, "about 70 percent of official reserves held outside Europe are dollar denominated." (6) But choosing between suitors from competing currency areas involves broader considerations.

Financial commitments, like membership in fraternal or service club organizations, gather more staying power when they are sealed by common interests and commitments. The European Union is showing signs of increasing interest in the Middle East as it extends its reach to Eastern Europe and Russia. Because of this passion for expansion there may be more willingness to renegotiate Iraq's foreign debts. Discussions on post-Saddam economic arrangements frequently stress the need to lessen Iraq's foreign financial obligations. That is very nice. But why would creditors be willing to compromise their financial interests in this way? Tying this issue to the choice of the foreign currency to which the dinar will be fixed may provide incentives for cooperation in this area. A more sophisticated alternative would be to engender a spirit of "friendly rivalry" by fixing the dinar to both the dollar and the euro in proportion to anticipated trade and financial transactions with those currency areas.

A Federal Reserve economist in conversation with me argued that a fixed exchange rate for Iraq which undervalues the dinar may induce an excessive inflow of foreign capital, and thus cause inflation. (Interestingly, he kept calling the proposed rate a pegged rate despite my drawing to his attention the distinction Mundell makes between a fixed rate and a pegged rate!) Obviously, *a great deal of professional international and local expertise must go into determining the most appropriate level for the new dinar.* But, considering Iraq's great need for foreign investments, his concern appears to me to be misplaced. *Far from being a negative factor, a large inflow of foreign capital is exactly what Iraq will need to gather the resources to put its economic house in order.*

Any inflation that may accompany this inflow will have to be miniscule compared with the recent rates of 60 to 90 per cent a year, not to mention the 1000 per cent inflation rate reported at a conference on Iraq! (Could that have been a typo?) In any case, as we shall see in the next section, a fixed rate regime would also help to improve the terms of trade of Iraq.

Since this is a concept paper, and not a blueprint for implementation, I need not go into details except to point out that it would defeat the spirit and purpose of the fixed rate system to give the central bank any control over the allocation of the hard currency earnings and reserves. *To make the adjustment mechanism operate automatically, who receives the available hard currencies should be determined strictly by market forces.*

Under Saddam Hussein, reportedly, the vast majority of imports and foreign exchange transactions have been controlled by the government. Transferring this power to a central bank, even though it may be managed independently from the government, would not represent much of an improvement. More important, it would violate the intent of the fixed rate system, which is to let competitive market forces restrained by the discipline of following a clear and transparent monetary rule to avoid traditional "networks of patronage" and baksheesh.

This brings up the related point that adopting flexible exchange rates does not mean espousing an alternative monetary rule. It means suspending all monetary rules. Mundell likens flexible exchange rates to flexible diets! True, such diets will give people more freedom to eat what they want. But if they do, will they lose weight or improve their health? While one could adopt other rules of monetary and fiscal discipline to replace the self discipline of a fixed exchange rate, these are probably not feasible in Iraq at this time.

I was asked why I recommend a fixed foreign exchange rate for the dinar when the dollar is free to float or fluctuate under a flexible exchange rate regime? My answer is that Iraq does not have the sophisticated statistical data base and other economic information needed to support the inflation targeting, aggregate demand analysis, and other methods the Federal Reserve uses to guide its monetary policies. Nor does it seem to have the technical expertise. Besides, I can see the logic behind a former Fed Chairman's statement that loose money makes for loose morals, although the puritanical undertones of such a notion made this an object of mirth for many at the time!

Still, defending a nation's currency is no joke. *Adopting simple rules of monetary and fiscal discipline with a visible target - the foreign exchange rate - to guide the issuance of the new currency can not only help to improve the living conditions of Iraq's population, but also serve as a symbol of national pride.* Therefore, I suggest that the image of the great Babylonian lawgiver-king Hammurabi be imprinted on the most widely used denomination of the new dinar. This may remind people of the great lawgiver-king Hammurabi's Code, which *nearly four thousand years ago had provisions to prevent the strong from taking advantage of the weak.*

Broadening the Base of Public Revenues

Because Iraq has the world's second largest known oil reserves but a production capacity of only around three percent of the world's total, discussions of post-Saddam economic issues invariably bring up the need to step up oil production to generate greater revenues. But this is easier said than done. As Daniel Yergin points out, "Even if Iraq doubled its capacity, that could take more than a decade." (7) Moreover, the OPEC cartel which, like any other monopolistic organization, looks to restricting rather than increasing production, might not be too thrilled to give back Iraq its pre-sanctions share of the market, let alone increase that share.

So far, oil has provided the mainstay of Iraq's public treasury. Consequently, the new regime can ill afford not to send its most skilled negotiators to do business with the consortium of international oil companies that offers the best terms in exploring and producing the country's principal resource. A stable macroeconomic environment free of political strife, a sound currency, privatization, and all the other measures I am recommending, if adopted, would strengthen the hand of Iraq's negotiators since they would lower the risk factors of the foreign oil companies who have to weigh the implications of these changing conditions in their decisions.

Even after getting the best deal possible on oil, however, Iraq will still need other revenue sources to avoid putting all of its eggs in one basket. According to the Economic Intelligence Unit (EIU) of the London *Economist*, apart from oil, the largest source of public revenue in Iraq consists of custom duties. While these cannot be eliminated altogether, *continued excessive reliance on tariffs as a source of revenue would militate against any trade liberalization measures the country needs to adopt if it wants to modernize its inefficient industries to make them more competitive in dynamic world markets.* This means that Iraq will need to find alternative revenue sources to pay for the costs of government.

Economists have recognized the importance of the role taxes play in hindering the economic growth of nations. Yet tax to the sovereign is the price we all pay for civilization. The father of economics, Adam Smith, had specified *four maxims with regard to taxes: equality, certainty, convenience of payment, and economy in collection.* The income tax, which was advocated by Karl Marx in his *Communist Manifesto*, violates every one of these canons. Since, after all, despite what others say, there are economic laws one cannot break for long without seriously hurting people, this tax is now falling in disrepute.

In 1976, president-to-be Jimmy Carter, who called for a "complete overhaul of our income tax system," called it a "disgrace to the human race." (8) Since then, the number of pages of federal tax law and rules has doubled! More recently, Treasury Secretary Paul O'Neill called the U.S. income tax system an "abomination." (9) In the United States, there is widespread support to replace this tax, which many consider to be fundamentally flawed, with better consumption-based taxes like the national retail tax or the flat tax. *The value added tax (VAT), which is more popular in Europe, is similar to the flat tax which, from the standpoint of economic analysis, is essentially a consumption-based tax, although on the surface it looks like an income tax.* (10)

Therefore, to build a broader base for public revenues in Iraq, a consumption-based tax would be the tax of choice from the standpoint of doing the least damage to the nation's economic growth. *The exact form such a tax should take depends on whether, under Iraqi conditions, it would be simpler to administer, easier for taxpayers to handle, and more appealing to the politically active population in Iraq.*

It is important, however, not to impose the tax on the country's exports. Imports, along with all other goods and services bought in the country, would be subject to tax. It is also important that no exemptions be granted for food, medicine, or other items. European countries give such exemptions and thereby distort the structure of incentives in their economies to achieve social objectives which can be achieved more effectively through other means.

From an economic point of view, the merits of consumption-based taxation are clear. The less a broad-based tax influences how the general population and businesses earn income, purchase commodities, save and invest their incomes, the more efficiently markets can allocate a nation's growing economic resources to their optimal uses. Moreover, as

Robert Shapiro, thinking of the United States, states, it "would also reduce the quiet arrangements and tacit corruption that allow powerful industries and wealthy people to secure special tax treatment at a cost of billions of dollars." (11)

Shapiro claims that "the economic evidence suggests ... that *tax incentives for saving and investment have little impact on overall savings and investment rates,*" and that *technological innovation and improved skills are far more important in promoting growth and raising incomes.*" (12) At the same time, because Iraq's population after Saddam would desperately need to make visible gains in its standard of living, let us not ignore a further potential economic advantage consumption-based taxes could promise them: the possibility of improving the country's terms of trade as it opens its markets to the rest of the world.

In analyzing how consumption-based taxes like the value added tax affect international trade Dr. David Raboy says that, the crucial issue for a nation's economic competitiveness is its terms of trade, that is, the ratio at which the country exchanges goods and services with the rest of the world. These terms are determined by dividing the external price of a country's exports as measured in world currencies by the external price of its imports. By prices he means index numbers that measure prices. When a country's terms of trade improve it can purchase more of other countries' products and services with the same domestic effort, resources, savings, or production.

Raboy argues that VAT can improve a country's terms of trade since, unlike the cases where corporate and personal income taxes are used, previous VAT payments are rebated when a product is exported, but applied to imports. Classical economic analysis would indicate that this a "first order answer" since, if markets work, the improvement cannot last "because market pressures dictate, over time, that a firm that produces goods for both domestic and foreign consumption must earn the same return, after tax, in both markets; and that domestically produced goods must bring the same price as imports with which they compete, including all taxes." (13)

Pointing to the limitations of the classical analysis regarding the impact of the VAT on a nation's competitiveness, David G. Raboy concludes that *the beneficial impact will last* since "exchange rates are now less influenced by the currency demands associated with exports and imports than by trading in financial instruments and the expectations of currency traders ..." Notice that he is analyzing the issue in the context of flexible exchange rates. *When fixed rates are used, his point regarding the beneficial impact of the VAT on a nation's terms of trade becomes even stronger.*

Economists and politicians in the United States seem to enjoy carrying on endless debates about what is fair in taxation. The fact that they never agree does not seem to deter them. One school asserts that fair means taxation proportional to one's income and wealth; the opposing school asserts that fair means progressive taxation, which makes the rich pay higher taxes than the poor in proportion to measures of their affluence.

Those who favor progressive taxation implicitly or explicitly assume that, at birth, the economic position of different individuals is accidental and that it is the responsibility of "society" to improve on the Creator's "injustice" in failing to guarantee a more "even playing field" for "His" creation. When the laws of reincarnation and spiritual balance are scientifically established with indisputable facts, opinions may change on these matters.

In the meantime, placing this matter in the context of analyzing the economic problems a post-Saddam government will face, it seems to me that, as long as provision is made to meet the basic needs of the general population, *pulling together to make the size of the economic pie to grow as fast as possible is more important than divisive and exhausting battles regarding who should get which slice of the pie.*

In the nineteen sixties, I have heard IRS experts complain that using the tax system to reach social policy objectives, say, to help the disadvantaged, complicates tax administration enormously. They argued that the proper function of taxes is to cover the cost of government. Period. There is much to be said for the view that *overloading the tax system with tax credits and tax deductions to subsidize various "socially desirable" activities not only hinders effective tax administration, but also opens a Pandora's box whose contents may poison the political atmosphere for decades.*

When one has the opportunity to start with a clean slate, as in Iraq, it is more efficient to achieve social objectives directly, rather than indirectly, through the tax system. Especially in Iraq, where over 40 per cent of the population is 14 years old or younger, it would seem to make more sense to emphasize the needs of children in the nation's welfare programs so they would grow up with the skills needed to create their own security. Child health and educational services - including instruction in vocational and life skills - would also make the future citizens of Iraq more able and willing to take care of their needs and the needs of the elderly members of their families. This would reduce excessive dependence on the misplaced largess of any government.

Share-the-wealth schemes would probably prove to be totally impractical in a country like Iraq in any case. So I feel comfortable sticking to my guns in making my case that a welfare state mentality would hinder the expansion of the gross domestic product by diverting energies from the economic to the political arenas of public life. This is not to say that social programs are not needed, or that they should be guided exclusively by economic considerations. There will always be a need to help those who cannot help themselves. *But, promoting individual responsibility as part of any endeavor - public or private - will make any nation stronger in the long run.*

Surfacing Neglected Problems

In discussing the economic policy choices of "the day after" *one cannot ignore the possibility that a vicious Iraqi mafia may emerge after Saddam Hussein's security forces are dissolved.* Instead of turning against the individuals who served with these forces by getting intoxicated on the bitter potion of recrimination, it would be wiser to recognize that many of them may have been pressed into such service by "cruel circumstance." A

possible answer to the question of what to do with them may be to re-employ them as official or private guards and give them assignments to protect both small and large business owners from economic predators.

This would prevent Iraq from going through the same ordeal as Russia, and perhaps even Afghanistan, as armed mafia types take over and start terrorizing people when law and order breaks down. *If Saddam's forces are not given an acceptable alternative they may become active in the criminal sector of Iraq's underground economy, instead of assuming more constructive roles as defenders of the people from the nefarious schemes of opportunistic crime syndicates.*

If organized crime becomes a problem not only will businesses be saddled with an additional "tax" to criminals in the form of protection money, but also it would make collecting the consumption-based tax more difficult. Even without a mafia problem, collecting any kind of new tax may be expected to present the new regime with quite a challenge. If Iraq is like a typical Third World country, we shall find that *the wealthy are not used to paying taxes. So they seldom do.*

The fact that one may find quite a few taxes on the books does not mean that they are being collected. Often, even after tax liabilities are recognized after audits of large business taxpayers, collections do not necessarily follow. In Third World countries the capability to collect taxes is pitifully stymied by long standing custom. Nor is this situation likely to change until reformed governments muster the will and the courage to impose severe sanctions on wealthy tax evaders.

Making some forms of tax evasion criminal offenses and actually putting some prominent individuals in jail for cheating on their taxes sends a strong message. In the United States, Vice President Spiro Agnew was incarcerated for not reporting his taxable "bribes." *The point of making illegal-source incomes taxable is not to collect tax revenue. Actually, collections from such sources never amount to much. The point is to discourage illegal activities.* So there may be room for the income tax in Iraq's future tax system provided it is restricted to illegal-source incomes.

For the legal sectors of an economy, tax compliance is best when to the greatest extent possible it is voluntary. Withholding of tax at the source and information reporting on taxable items certainly helps "voluntary" compliance. But, *especially in view of the fact that developing these administrative systems in Iraq may be either impossible or difficult to put in place in the short run, it is important to create a climate that makes ordinary people willing to meet their tax obligations.*

People will pay their taxes if rates are kept low without too much fuss once they begin to respect those in authority and trust that their tax moneys will bring them visible benefits. The success of the recent flat tax in Russia is a case in point. Sometimes it is assumed that paying taxes will make people take an interest in how well their government is being managed. The truth may be the opposite. People will not voluntarily pay their taxes until they believe that their government is being managed well.

In any case, since *the crux of the problem in raising revenue to cover the cost of government in countries like Iraq is collection, not tax legislation*, paying taxes must be made as convenient in as efficient and impersonal process as possible. It is not worth the effort to collect tiny amounts of tax from a widely scattered base of dwarf-payers. Besides, resource allocation occurs quite efficiently, thank you, when the participants in legal sector underground economies are resourceful. Let some in official agencies and international institutions shed crocodile tears over the noncompliance of informal suppliers and the loss of public revenues they cause. I believe that *Iraq would be better off exempting micro businesses from even a relatively simple-to-administer consumption-based tax.*

The fact of the matter is that legislatures have so far not demonstrated much understanding or skill in writing tax legislation. *It is impossible to cover all factual circumstances by tax law.* Consequently, tax administration cannot effectively be micromanaged by activist legislators. As Dr. Gyongyi Vegh, lecturer of the Faculty of Law of the E6tv6s Lorand University (Hungary) writes, "One of the very important attributes of a modern tax administration is to be customer-oriented and to implement its activities on the basis of risk management." (14) He says this as a preface to his discussion on the concept and tools of presumptive taxation.

Vegh says, "Generally presumptive taxes are based on presumed income rather than actual income, and the method of the presumption varies on a wide scale ... *It is preferred for the taxation of the so-called 'hard-to-tax groups,' like professionals, family enterprises, small agricultural enterprises, etc.; and in situations where the low level of tax morality makes difficult to establish the actual income.*" (15) There are many such taxpayers in Iraq.

Vegh's reference to income should not be taken to mean that these methods are only applicable to modern income taxation. They can also be used for consumption-based taxes like a VAT, a national sales tax, or flat tax. As Vegh points out, presumptive taxation originated in ancient Egypt and was used in taxing agricultural activities in the Principality of Milan in the seventeenth century. Essentially, it is a form of indirect taxation.

The basic idea is not to require detailed bookkeeping or accounting and, instead, to choose another basis, from among a broad range of alternatives. These may be the value of the assets used in the business, outward signs of wealth, or reconstruction of gross receipts or income from the size of the business, number of employees, location, inventories carried, and/or various other factors.

One can always find technical reasons, administrative problems, or equity-related issues to object to presumptive taxation. As Vegh mentions some of them himself by noting, for example, that not requiring bookkeeping may open "the possibility of tax evasion by larger taxpayers, since the smaller, presumptive taxpayers may issue invoices without having further consequences and large taxpayers may use this to decrease their tax liability." (16) *But let us not forget that perfection is never attained in tax matters.*

Those who seek the unattainable may get the same type of response that a young woman got from a young man to whom she said that she was perfect. He said, "Oh, so you are perfect! Then, why can't I be practice?" His mischievous thought was, as you might have guessed, that practice makes perfect!

In its application to Iraq, an additional merit of presumptive taxation is that since the basis for the presumptive tax is fixed, efficient operators pay proportionately less tax on their earnings or businesses since they get more value from their resources than their less efficient competitors who are taxed on the same alternative basis as they are. *By thus rewarding the more productive, unlike the traditional income tax that "penalizes" success, the presumptive tax encourages economic growth.*

Another tax, which Iraq may consider using which also encourages more productive use of economic resources is one, reportedly, applied in parts of Latin America. (17) As I understand it, this is how it works. Tax inspectors visit owners of idle land and tell them that had their lands been put to their best use they would have generated an estimated amount of calculated revenue. Therefore, the tax is imposed, not on the *actual* revenues generated by the land, which would be zero for idle lands, but on its *potential* revenues. Consequently, *landowners are required to pay a fraction of what their lands would return in their best uses.*

The desire of landowners to avoid having to pay tax on incomes they have not earned provides the incentive to make their lands more productive or, alternatively, to sell them to others who are more able and better disposed to do that. The result is that the country benefits.

The Critical Need for Honest and Strong Leadership

A careful reader of this paper will notice that all the proposals presented here and in my previous concept paper are interrelated. I used this approach because I felt *the Iraqi people would benefit most if the various policies and measures proposed would reinforce each other to generate greater value from the whole than from the sum of its parts.*

While it may not be necessary to adopt all of the proposals simultaneous to achieve the desired effect, much value would be lost if economic reforms in various areas are not coordinated in an efficient manner. The way to take advantage of the possibilities of harmonization and solidarity is for *a post-Saddam regime to appoint an economic czar* to coordinate the different measures advocated in these two papers and other measures proposed by others in other contexts.

Circumstances will determine how Iraq will be governed after Saddam falls. In my previous paper I had said that, "Economists may do well to reflect on whether they have the right to prescribe solutions for other peoples' problems. Advisors to governments and leaders in other areas serve best when they confine their role to clarifying issues and

presenting alternatives. This means that economic policy in Iraq is best determined by means of "mutual advice, through mutual discussion, on an equal footing." *I repeat this here to dispel the impression that my suggestions in this paper are cut and dried solutions that need no further discussion or adaptations to fit local needs and circumstances.*

I feel, however, that before closing I need to comment on the form of government that, I believe, is best suited to make the most productive economic policy choices in post-Saddam Iraq. As I mentioned earlier, I consider this to be a crucial issue in assuring the economic progress I envisage for this troubled country.

It seems to me that it is particularly important that the new regime be unified enough and strong enough not to create the impression that it is in danger of ceding too much power to foreign interests. *Without gaining the confidence of its neighbors it would be difficult to set a credible example of how concentration on improving the lives of ordinary people can provide a more constructive alternative to inflaming passions that disturb the peace of the region.* Sincere commitment to this ideal may also be a positive factor in negotiations with foreign governments, multinational corporations or international financial institutions.

Formerly ruled by the Ottoman Empire, after the League of Nations ended Great Britain's mandate over Iraq, the country was declared to be an independent kingdom in 1932. A "republic" was proclaimed in 1958; but, in reality, the country has been ruled by military strongmen ever since. Thus, Iraq needs to gain more experience with the rule of law or democratic processes. *Clearing up the frequent confusion in modern political discourse of republican with democratic forms of government could help to mitigate the difficulties Iraq will soon be facing in rejoining the community of well meaning nations in the modern world.*

Etymologically, the word republic derives from the Latin *republica*, which means a community of a people who are free. During the Renaissance the renowned Jean Bodin in 1577 in his *De Republica Libri Sex* defined a republic as being a state in which law is supreme even when a free people are ruled by a monarch.

Centuries after we find frequent references to the Republique Francaise even when it was ruled by the Emperor Napoleon Bonaparte. The republic of Poland was ruled by a king also, and was far from being a democracy. As long as a king or emperor abides by the law or established customs of his land and let his country's free people be governed by these instead of arbitrary, tyrannical decrees, then, he has a right to call his government a republic.

The relevance of all this to the situation in Iraq is that, if the country is to make rapid economic progress it can ill afford to be governed by "mob-rule" that is not restrained by impartial law and dependable policies. *Aristotle "came to describe democracy as a perversion of "polity," a perversion of "constitutional government." (18)* While the structure and dynamics of modern society is far different than conditions that influenced

Aristotle's thought, there is still a danger that democracy can be manipulated to allow "the evil elements amongst the politicians to take advantage of the credulity of the uninformed but politically minded masses with disastrous results." (19)

I touch upon these issues to create awareness that Iraq as a country which could *potentially* be beset by ethnic, political, and perhaps religious divisions, must watch its steps as it opens its markets to foreign interests. *In such critical times, the new regime cannot afford to fail to listen to its poets, artists, and visionaries as they reflect the destinies of ancient peoples who find themselves living too often at cross purposes with each other.*

Decisions of multinational corporations and international institutions based on economic considerations alone may cause resentment among people who, in the final analysis, are to be the beneficiaries of the land and resources. Given the prospect of new conflicts that insensitivity in this area may bring about, respect, if not love and admiration for heroic leaders and *stable laws and policy standards like the ones discussed in my two papers would be a better guarantor of the rights - balanced by commensurate obligations - of all participants in the economic process.*

The forces unleashed by technological progress, capital accumulation, and globalization are incredibly powerful. All the prophetic religions - Judaism, Christianity, and Islam - teach that *there is only one power that comes unto humankind from above.* It is how one uses this power that makes all the difference. If one uses it wrongly, like Saddam Hussein did, and continues to do, thereby he becomes evil. *But if those who succeed him use this power rightly therein are they ennobled, and their seed along with them.* (20)

FOOTNOTES

1. Daniel Yergin, "A Crude View of the Crisis in Iraq, *The Washington Post*, Sunday, December 8, 2002; page B01. This article presents an astute analysis of the oil policy issues facing Iraq which no person concerned about the current economic plight of this stricken nation can afford to ignore.
2. Robert Mundell, "Currency Areas, Exchange Rate Systems, *Journal of Applied Economics*, Vol. III, No.2 (November 2000), p.229.
3. Robert Mundell, "Currency Areas, Exchange Rate Systems and International Monetary Reform," *Journal of Applied Economics*, Vol III, No.2 (November 2000), p.285.
4. *Ibid.*, p.287.
5. Ronald McKinnon, "Mundell, the Euro, and the World Dollar Standard, *Journal of Policy Modeling*, 22 (3) 2000 Society for Policy Modeling, p.320.
6. *Ibid.*, p.321.
7. Yergin, *loc. cit.*
8. "Transcript of Jimmy Carter's Speech at Democratic National Convention," *The New York Times*, July 16, 1976, p.A10.
9. "O'Neill Lays Out Vision for Tax," *Financial Times*, May 18, 2001.
10. The reason the flat tax is essentially a consumption-based tax is that it is imposed only on wages and pensions which are generally spent on consumption items. The basic difference between an income tax and a consumption-based is the treatment of saving and investment. At the business level, firms deduct wages and pensions along with purchases from other firms. If you modify the flat tax so taxes are not imposed at the individual level but at the business level, by not allowing them to deduct wages and pensions, the resulting tax would be a "subtraction method" value added tax. (VAT). The VATs have the same tax base as a final sales tax since purchases from other businesses are subtracted in calculating the tax base. Therefore, the flat tax has essentially the same tax base as a sales tax too on the logic that two things equal to a third thing are equal to each other.
11. Robert J. Shapiro, "The Case for Tax Fairness: Talking Points," *Progressive Policy Institute Talking Points*, April 1, 1996. This may be accessed by visiting the following website.
http://www.ppionline.org/ppi_ci.cfm?knlAreaD=125&subsecID=163&contentID=1395
12. *Ibid.*

13. David G. Raboy and M. Jeff Hamond; Robert J. Shapiro, Editor, "Enterprise Economics IV: The Case For and Against Value-Added Taxation," *Progressive Policy Institute Policy Report*, July 1, 1995. This may be accessed by visiting the website cited above at contentID=2027.

14. "Presumptive Taxation: An Up-to-date Solution" Memorandum sent to Arnie Gordon/Wash /Barents transmitted to the author by Bill Lefbaum by e-mail on December 11, 2002, p.1. I am indebted to Bill Lefbaum, formerly chief analyst of the IRS' Taxpayer Compliance Measurement Program (TCMP) for sharing his expertise on tax administration with me based on his field experiences as a tax consultant in Russia, Armenia, and Egypt.

15. *Ibid.*

16. *Ibid.*

17. I am indebted to Antonio Velasquez for this information.

18. Edward Langford, *This Is a Republic, Not a Democracy!*, The Noontide Press, Los Angeles, California, 1965, p.10.

19. *Ibid.*, p.11.

20. This thought is inspired by a divinely revealed philosophy called Soulcraft.

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DRAFT PAPER ON THE FUTURE OF THE OIL-FOR-FOOD PROGRAM, December 2002

Future of Iraq Project

Economy and Infrastructure Working Group

Subcommittee on
The Future of the Oil For Food Program
(Security Council Resolution 986)

Recommendations to the
Post-Saddam transitional government of Iraq

Executive summary and a draft document
December 12, 2002

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Security Council Resolution 986 - The Oil-for-Food Program

Summary Prospects Under a "New Government"

In 1990, a trade embargo was imposed on Iraq by the international community via the United Nations. The oil-for-food program has been implemented to mitigate the adverse effects of the extended embargo on the Iraqi people. The program has become the largest humanitarian program in the world with earnings of nearly \$60 billion over a 6-year period, with over \$40 billion provided for humanitarian goods and services. Despite operational inadequacies, the program has significantly benefited the Iraqi people.

Under a "New Government" the oil-for-food program, in revised form, should continue during a transition period under an Iraqi governing board that includes international development experts and public administration professionals. The main features are:

- Determine and confirm exact income, allocation, and expenditure amounts in each of the five primary accounts, including interest amounts and authorized deductions.
- Suspend fund allocations to military and non-essential security services.
- Provide a revised food basket to vulnerable families only, for a limited period only. Procure food locally to stimulate local food production and to increase rural incomes.
- Provide adequate health care to all Iraqi residents at minimal costs.
- Suspend payments by the compensation commission and transfer 25% account funds to reconstruction programs.
- Terminate allocation of amounts in the 2.2% and 0.8% accounts to the UN and transfer funds to cover recurring costs of the New Government.
- After the costs of food and medical supplies are met, transfer the balance of funds in the 59% and 13% accounts to reconstruction programs to be planned and implemented by an Iraq Development and Reconstruction Council (IDRC).
- Institute a process that will promote transparency and accountability to demonstrate the New Government is both responsible and responsive to current and future needs of the Iraqi people.

* * * * *

IRAQ AND THE SECURITY COUNCIL

Since 1990, the United Nations Security Council has met, discussed, and passed more than twenty five resolutions addressing the humanitarian needs of the Iraqi people: 661, 687, 688, 706, 712, 778, 986, 1051, 1111, 1129, 1143, 1153, 1158, 1175, 1210, 1242, 1266, 1275, 1280, 1281, 1284, 1293, 1302, 1330, 1352, 1360, 1382, 1409, 1447. Security Council resolutions have the force of international law. All nations, as UN member states, are bound by treaty with the United Nations to enforce them.

Security Council Resolution 986 - The Oil-for-Food Program

Background

Following the events of 1990-1991, the UN imposed a trade embargo prohibiting UN member states from procuring Iraqi exports. Iraq was allowed to import food and medical supplies only. Iraq's assets in external financial institutions were frozen. The UN would lift the embargo only after Iraq complied with a series of resolutions pertaining to the elimination of weapons of mass destruction (WMD), and other issues.

The UN first offered an oil-for-food program in 1991 under SCR-706 and SCR-712. The program allowed a limited amount of oil to be sold. The funds would be deposited in a UN-controlled bank account for the procurement of food, medicines, and other humanitarian goods approved by the UN. However, the Government of Iraq (GOI) rejected this offer. Without GOI cooperation, the program could not be implemented. For five long years, the Iraqi people suffered under the extreme conditions of greatly diminished food availability and minimized family incomes. Basic public services, once above average in the Middle East, significantly deteriorated.

SCR-986, which initiated the current oil-for-food program, passed in early 1995, was at first rejected by the GOI. In January 1996, however, the GOI agreed to cooperate and discuss the program. A Memorandum of Understanding (MoU) was signed in May 1996 outlining the implementation process. Oil began flowing under the program in December 1996 and the first benefits, food, arrived in March 1997.

This December marks six years of program implementation. Some changes have been made since the program began. For example, initially, there was a limit on the value of oil that was allowed to be exported, \$2 billion. Later, the limit was removed and Iraq has been allowed to export unlimited quantities of oil. After proceeds from oil sales are deposited in a UN master bank account, an amount is deducted for fees incurred for the usage of the Iraq-Turkey Pipeline (ITP). The balance is divided among five sub-accounts:

Account	Purpose
59%	humanitarian goods/services for center-south Iraq
25%	compensation fund
13%	humanitarian goods/services for northern Iraq
2.2%	operational costs for UN humanitarian agencies
0.8%	operational costs for UN weapons inspectors

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For each phase, before funds can be spent the Iraqi government must submit a Distribution Plan (DP) to the UN Secretary General for endorsement/approval. The DP lists the funds allocated to each sector (food, health, education, electricity, etc.) and provides limited details of the items to be procured.

In center-south Iraq, the Iraqi government directly manages the program. The government directly negotiates and signs contracts with suppliers for items to be paid from the 59% account and directly receives the goods. Before payment is allowed, each contract must first be approved by the UN Sanctions (661) Committee. Not only does the Iraqi government directly procure items to be used in center-south Iraq, it also procures food and medicines for the three governorates in Iraqi Kurdistan, the government receives stocks and sends shares to Iraqi Kurdistan.

In Iraqi Kurdistan, ten UN agencies are involved in the management of the program on behalf of the Iraqi government. These UN agencies, to some degree or other, consult and cooperate with the Kurdistan Regional Government (KRG) in planning and implementation. To support program implementation, the KRG provides the services of tens of thousands of civil servants at no cost to the UN. The KRG also provides warehousing, security services, and other support services and facilities.

Under the program, every resident of Iraq is entitled to receive a monthly food ration that provides 2,472 Kcal and 60.2 grams of protein per person per day. The program allocates sufficient funds to meet the physical health needs of the population. In addition to food and medical supplies, the program also allocates funds for electricity, agriculture, reconstruction/resettlement, education, telecommunications, water and sanitation, and landmine-related activities. Funds are also allocated for oil spare parts, pipeline fees, compensation/repairs, and UN administrative costs.

FOOD BASKET

regular monthly ration		
n	item	quantity (kg)
1	wheat flour	9.00
2	rice	3.00
3	sugar	2.00
4	tea	0.20
5	cooking oil	1.50
6	dried whole milk/cheese	1.00
7	pulses (beans/lentils)	1.50
8	iodized salt	0.15
9	soap	0.25
10	detergent	0.50
infant monthly ration		
n	item	quantity (kg)
1	milk powder	3.60
2	fortified weaning cereal	0.80
3	soap	0.25
4	detergent	0.5

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The oil-for-food program is implemented in 6-month phases, with each phase authorized by a separate Security Council resolution. The thirteenth phase was recently authorized under resolution 1447.

During six years of program implementation, approximately \$60 billion in oil sale proceeds have been earned, received, and deposited in UN-managed commercial bank accounts. More than \$1 billion in interest has been earned on unspent funds.

More than \$40 billion has been allocated for humanitarian goods and services - 82% for the people of central-south Iraq and 18% for the north.

OIL REVENUE AND DISTRIBUTION FOR PHASES 1-13

phase	value (\$ million) as of 6 December 2002					
	oil sales	59%	25%	13%	2.2%	0.8%
1	2,150	1,269	538	280	47	17
2	2,125	1,254	531	276	47	17
3	2,085	1,230	521	271	46	17
4	3,027	1,786	757	394	67	24
5	3,947	2,329	987	513	87	32
6	7,402	4,367	1,851	962	163	59
7	8,302	4,898	2,076	1,079	183	66
8	9,564	5,643	2,391	1,243	210	77
9	5,638	3,326	1,410	733	124	45
10	5,350	3,157	1,338	696	118	43
11	4,589	2,708	1,147	597	101	37
12	5,494	3,241	1,374	714	121	44
13	49	29	12	6	1	0
Total	59,722	35,236	14,931	7,764	1,314	478

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Positive Notes and Features

Following is a list of positive features of the program:

1. The program provides sufficient funds to meet the basic needs of all residents of Iraq.
2. 74.2% of earnings under the program are allocated to addressing humanitarian concerns. These concerns fall within the realms of relief, rehabilitation, and development. This percentage is higher than before the events of 1990-1991.
3. Emphasis is deliberately placed on serving the public interest, not the interest of the regime. No funds can be allocated for military or security services.
4. Iraq has had a food rationing system since the Iraq-Iran War of 1980-1988. The general population is dependent on the government for food security. To illustrate, a study conducted by a British NGO in Iraqi Kurdistan concluded that 60% of the region's population lives under the poverty line (earning less than \$1 a day), but survive on the monthly food ration they receive under the oil for food program. In other words, if the program were to be stopped, due to high unemployment and low family income, 60% of the people of Iraqi Kurdistan would not be able to feed themselves. We should expect the rate to be higher for areas in center-south Iraq under the current regime's control.
5. Currently, food security in Iraq is helping to serve social security. Under the program, the whole country receives the same food and has access to the same level of availability of medical supplies. Even though we hear otherwise from the regime's media efforts, there is no starvation or destitution in Iraqi Kurdistan. The difference in program performance between the center-south and the north is a function of leadership and management.
6. The program addresses the rehabilitation of infrastructure in Iraq. To illustrate, in Iraqi Kurdistan, the program has supported reconstruction and development of more than 3,000 destroyed communities. Reconstruction generally involves housing, water and sanitation systems, roads, schools, and health centers. About 25,000 houses and 600 schools have been constructed. Numerous water and sewerage works have been completed. Nearly \$1 billion has been allocated to the electricity sector for repair of hydroelectric power stations, generators, and renovation and extension of transmission and distribution systems.
7. Regarding other sectors: In agriculture, local food production has increased in variety and yields. In education, 600 new schools have been constructed and numerous old schools have been renovated. School furniture and teacher and student supplies, including textbooks and computers, have been provided. Modern printing presses for textbook production have been installed. Teacher training and curricula development are addressed.

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Negative Notes and Features

1. Program implementation performance is less than satisfactory. The Iraqi government has often been obstructionist and UN performance overall has not been up to standards allowed by the extent of funds available.
2. Instead of maximizing oil sale proceeds, the Iraqi government has occasionally reduced oil exports and increased unauthorized exports. At times, the government has suspended oil exports for political purposes, thus depriving the program of much needed income.
3. The GOI changed from accounting for oil sale proceeds in US dollars to European Euros resulting in a loss of hundreds of millions of dollars.
4. The program has been in operation for six years, but neither the Iraqi government nor the UN has produced a professional social-economic analysis to guide program planning. In effect, selection of projects for funding remains too much a shopping/wish list exercise.
5. To reap political benefits without demonstrating success, the regime has deliberately implemented the program at less than full capacity. Procurement of essential items has been deficient. The regime has used the program to further its political aims by offering procurement contracts to business firms in countries for returns of political support on the Security Council and in the media.
6. One very major deficiency is that the program imports wheat into a country where wheat is the main crop. This import has served as a disincentive to local food production, which is the main economic activity outside of oil production and main source of private income outside of government employment.
7. The UN has been less than forthcoming regarding transparency and accountability. Clear and complete accounts are not provided. No Security Council member knows how much has been spent by each agency or on each sector. Performance is excessively slow; no time limits are placed on UN agencies to spend available funds. Interest earned on oil-for-food funds in all UN accounts, including UN agency accounts, is not reported. The Security Council does not hold UN agencies accountable for unsatisfactory performance.
8. Of \$7.8 billion earned and allocated to Iraqi Kurdistan since the program began, only about 52% has been spent to date. Funds allocated over five years ago for medicines have yet to be spent and there are chronic shortages of important and urgently needed items.
9. The UN manages and implements the program in Iraqi Kurdistan in cooperation with the Kurdistan Regional Government (KRG). Most public administrative structures within the region that exist today are the same structures that existed prior to the events of 1990-1991. Normally, the UN supports the strengthening of local public administrative structures. However, in Iraqi Kurdistan, to an inordinate extent the UN has established parallel structures. By offering salaries ten to fifty times higher than what the KRG has the capacity to provide, the UN has undermined local government structures and public universities.

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Recommendations

1. Recognize and accept that some degree of initial international control is essential during a post-regime transition period. The overall goal is for Iraq's substantial oil wealth to be effectively and efficiently applied to serve the public interest in a manner that promotes security and stability, and peace and prosperity. The intent, framework, and layout of the current oil-for-food program are important elements to correct past abuses pertaining to the use of public revenues. Mechanisms need to be put in place that promote responsive and responsible use of Iraq's public wealth.
2. To ensure food security and to support the delivery of public services for the population following regime change the program should continue for a transitional period of a maximum of three years. During this period a new government is to be established and prove itself to be credible and trustworthy. This process will include government departments being reformed, which may include restructuring and re-staffing. New economic policies need to be developed.
3. With a temporary mandate, and with an appropriate measure of international influence and support, an "Iraq Development and Reconstruction Council (IDRC)" will need time to establish itself and become fully operational. In the beginning of the transition period a system should be put in place whereby resources remain under some degree of international control/influence. As the transition period proceeds, international control will be phased out as pre-determined milestones are met.
4. During the transition period, efforts need to be made resulting in program development from needs analysis to planning, to implementation and evaluation, being of the highest professional standards. An international consortium composed of non-government organizations, including Iraqi organizations, under clear terms and conditions, should carry out analysis and planning. Implementation should be carried out by private organizations on clear terms and conditions, or by government agencies adhering to predetermined measurable performance criteria with progress subject to independent evaluation.
5. During the transition period, existing UN agencies in the country will phase out their operations in a manner that supports the new government by introducing global goals and objectives for the new government departments to meet on the economy, public administration development, and environment. Existing government departments need to be reformed in their approach to public service, with the current mindset of over-centralized control for decision-making and service delivery to be changed. This process will take time and needs to begin as soon as possible.

Transformation of the current UN Resolution

From oil-for-food =====>>>> to an integrated program for rehabilitating Iraq

A broad strategic outline for the United Nations-New Government Integrated Rehabilitation Program in Iraq needs to be introduced. It will be a conceptual approach for strengthening the management of the program, a holistic attempt to enhance the links between short-term humanitarian emergency priorities to longer-term social and economic development visions. It is also an attempt to guide the inter-sectoral coordination regarding program planning for the New Government.

Over the remaining life of the UN-administered program the challenge will be to harness humanitarian efforts and to shape them into meaningful initiatives that will stimulate reconstruction, with special reference to the living conditions of vulnerable groups. Among the top priorities will be:

- Improving access to shelter, health, education, and related infrastructure, as well as other services required to better social and human development.
- Ensuring household food security and the reconstruction of a fragile agricultural base through concerted efforts to improve rural incomes, especially for the low-income farmers, while stimulating the productive linkages with the urban sector.
- Strengthening opportunities for employment creation and income earning prospects for the majority of population through business development, allowing international trading and investment.

The ideal environment for implementing the program will entail successful application of the new UN legislative consideration to bring about efficient, adequate, and equitable distribution of available resources. In the process there should be a less complex and more responsive mechanism formulated for program implementation. The end-result will be a demand-driven, community-focused humanitarian assistance program that is responsive to the needs of vulnerable and destitute groups.

In an effort to promote efficiency and effectiveness of its management capacity the UN should strengthen existing institutional mechanisms to facilitate initiatives through coordination. Efforts need to be made to target strategic objectives with a focus on basic needs provision, recasting the settlement rehabilitation sector, strengthening food security, improving income earning opportunities, and strengthening program implementation. This is to be done while addressing specific community level needs focused on district level initiatives that merit redefining overall budget allocation targets.

1. Current resolution legal context and constraints

The legal framework arising out of the Security Council resolutions, specifically resolution 661 (1990) and resolution 986 (1995), and the Memorandum of Understanding dated 20 May 1996, present three broad difficulties or constraints to program implementation. These restrictions and prohibitions are:

- a) Cash provisions to local authorities and institutions for recurring personnel and other operation costs. The oil-for-food program currently does not support these costs.
- b) Purchase of local agricultural produce and other locally produced items. The oil-for-food program imports most goods from external sources instead of investing in the local economy.

Good stewardship of the enormous resources assigned to the United Nations-New Government requires that appropriate and timely solutions be found to these complex issues that arise from the program's legal framework.

The Secretariat, in consultation with the participating UN agencies, should deal with these issues to determine latitude that could develop from the current legal framework and implementation capacities, and to identify those matters that require guidance from the Council.

2. A New Strategic Framework

Improved program implementation will be attained when changes to the current legal framework take place, in particular, those that relate to the program administrative concerns such as payment of operations and maintenance costs of the program, including emoluments and other recurrent costs. In the process, changes should be made to strengthen and improve the United Nations' relationship with the New Government to facilitate improved decision-making processes in a joint manner.

Most crucial will be the improvement made to better target allocations to attain strategic goals, while responding to urgent community needs.

These initiatives will be implemented through a multi-sectoral policy planning approach and processes that links communities at district level with the decision makers at the governorate level. Assistance from non-UN, and non-government institutions should be sought to improve planning and implementation.

Program planning and coordination should be addressed through regular, clear channels of communications and reporting mechanisms to ensure the United Nations is accountable to the New Government.

3. Anticipated Oil Revenues

Since November 1996, under the current UN-administered program, Iraq exported more than 3.2 billion barrels of oil, generating about 60 billion US dollars. There are confirmed reports that Iraq continued to export oil outside the UN program at reduced rates generating an additional 2 billion per year. In 1999, under the UN program Iraq exported the highest amount, 390 million barrels in six months period, about 2 million barrels a day. However, the highest revenues generated from oil sale were in 2000 when oil prices on the world market rose to a high of \$26 a barrel.

Since 1996 when the oil-for-food began Iraq exported a peak 1-day amount of around 3 million barrels. Considering repairs made to the oil industry and the political commitment of the New Government, Iraq should be able to export more than 2.5 million barrels a day, generating about \$20 billion per year depending on market rates.

4. Changing the Resource distribution

Distribution of resources should change to maximize the allocations that go to the Iraqi people. In the new proposed distribution, 82% of oil revenues will be allocated for humanitarian supplies for Iraqi people in the center-south and north. Agreements should be made at the political level of the Security Council to delay compensation and reparations for the non-government loses during the 1991 Gulf War. If further negotiations take place, then payments from the compensation fund could be postponed and the allocation added to the center-south allocation.

current distribution		new (future) distribution	
account	purpose	account	purpose
59%	humanitarian goods/services for center-south	82%	humanitarian goods/services for center-south
13%	humanitarian goods/services for Iraqi Kurdistan	18%	humanitarian goods/services for Iraqi Kurdistan
25%	compensation fund	0%	compensation fund (suspended)
2.2%	operational cost for UN humanitarian agencies	0%	operational cost for UN humanitarian agencies
0.8%	operational cost for UN weapons inspectors	0%	operational cost for UN weapons inspectors

Under the new (future) distribution, the 82% and 18% amounts will include amounts to cover recurring costs of running local governments organizations, including health care and education services.

5. Changing the Food Basket and Beneficiary Lists

In order to provide better services for the Iraqi people under new governing conditions the current food basket should be improved to increase nutritional value and reduce food expense among the most vulnerable families. Unlike the current program that offers free food to all families irrespective of income, the revised food basket would be provided to only vulnerable groups and for a limited period only. This is expected to lead to increased rural/farm income and reduce the cost of free food distribution.

current monthly ration		
N	Item	quantity (kg)
1	wheat flour	9.00
2	Rice	3.00
3	Sugar	2.00
4	Tea	0.20
5	cooking oil	1.50
6	dried whole milk/cheese	1.00
7	pulses (beans/lentils)	1.50
8	iodized salt	0.15
9	Soap	0.25
10	Detergent	0.50
current infant monthly ration		
N	Item	quantity (kg)
1	milk powder	3.60
2	fortified weaning cereal	0.80
3	Soap	0.25
4	Detergent	0.50

new monthly ration	
item	quantity (kg)
wheat flour	7.00
rice	5.00
sugar	2.00
tea	0.20
cooking oil	1.50
dried whole milk/cheese	1.00
pulses (beans/lentils)	1.50
iodized salt	0.15
soap	0.25
detergent	0.50
tomato paste	2.00
protein (meat or chicken)	2.00
new infant monthly ration	
item	quantity (kg)
milk powder	3.60
fortified weaning cereal	0.80
soap	0.25
detergent	0.50

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Household expenditures

(What an average middle class household need per month)
(In Iraqi Kurdistan, February 2003)

#	Item (need of a family of 5)	Monthly cost in OID (Old Iraqi Dinar-Swiss)	Monthly cost in US\$ (1\$=8.4OID)
1*	A basket of essential food items (now provided freely by the oil for food program)	600	70
2*	Other food items not covered in item 1 (i.e. meat, fruit, veg.)	600	70
3*	Electricity and water	200	24
4*	Fuel for cooking and heating	200	24
5	Transport (bus + taxi)	300	35
6	Doctor visitation (Twice a month)	50	6
7	Health and education	Free	Free
8	Clothing (2 sets a year per member)	100	12
9	Entertainment	100	12
10*	House rent (2 rooms - 4 rooms)	400 - 1200 (Average 800)	95

Total monthly expenditures for an average middle class household	2950	348
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Excluding the free food basket	2350	278
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* Priority items

Current kinds of income (monthly range):

	OID	US\$
Government employee	250-1000	30-120
Non Government employment	1000-4000	120-480
Labor (50 -150 OID per day), 15 working days	750-2250	90-270

Government Salary scales based on education

(All in Old Iraqi Dinar-Swiss dinar, current exchange rate 1\$=8.40ID)

Casual labor:	ranges from 40 /day	to	100 /day
Secondary school:	320 / month		
University graduate:	350 / month		
Engineer:	750 - 1200 / month		
Doctor: (public not private clinic)	1500 / month		
Teacher:	500 - 650 / month		

Free market Prices of essential items:

Bread:	3 no. = 1 dinar	1 bread = 0.33 dinar
Wheat flour:	1 kg = 2.5 dinar	
Rice:	1 kg = 5 dinar	
Meat:	1 kg = 25 dinar	
Soaps:	1 pcs = 2 dinar	
Shirt:	1 pcs = 50 - 100 dinar (based on quality)	
Suit:	1 pcs = 600 dinar	
Shoe:	1 pcs = 100 dinar	
Kerosene	1 liter = 2 dinar	
Benzene (gasoline)	1 liter = 2 dinar	

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Future of Iraq Project

Economy and Infrastructure Development Workgroup

Subcommittee on
Electricity

**Recommendations to the
Post-Saddam transitional government of Iraq in preparation for a free society under a constitutional
democracy**

DRAFT- Recommendations

January 25, 2003

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1.0 Purpose

The purpose of this plan is to establish an outline of restoring the electricity supply to the Iraqi provinces to the normal capacity levels after the departure of Saddam's regime.

2.0 Background

Around 85%-90% of Iraq's national power grid (and 20 power stations) was damaged or destroyed in the Gulf War. Existing generating capacity of 9,000 (or 9600) megawatts (MW) in December 1990 was reduced to only 340 MW by March 1991. In early 1991, transmission and distribution infrastructure also was destroyed, including the 10 substations serving Baghdad and about 30% of the country's 400-kilovolt (kV) transmission network. In early 1992, Iraq stated that it had restarted 75% of the national grid, including the 1,320-MW Baiji and Mosul thermal plants as well as the Saddam Dam. In 1998, Iraq's maximum available electric generation capacity was estimated (by Iraq) at around 4,000 MW, with a report in November 1999 indicating that this figure may have increased even further, to 6,000 MW. Despite this increase, power continues to be rationed throughout the country.

According to a report by U.N. Secretary General Kofi Annan, Iraq's power deficit stood at 1,800 MW as of August 2000, with blackouts a common occurrence. Iraq reportedly has signed contracts for renovating two generation units at the Harithah power plant, and another to rebuild the Yusufiyah plant, which stopped operating in 1990. Iraq's Electricity Authority reportedly also has signed several other contracts with Chinese, Swiss, French, and Russian companies, to build 3,000 MW of additional power generating capacity. These contracts require U.N. approval, and Iraq has claimed that the United States and Britain are blocking \$1.5 billion worth of electrical equipment it has requested. In December 2000, it was reported that a Chinese company had completed work on the Abdullah power plant north of Baghdad. In October 2001, it was reported that Russia's Mosenergomontazh was working to modernize Iraq's Southern Heat and Power Plant in Najibia, Basra province. The project aims to add 200 MW of generating capacity to Iraq's grid. In August 2002, the Najaf governate in southern Iraq announced that two new power plants, with a combined capacity of 20 MW, had come online.

The above data was obtained from US DOE. This data can be viewed at www.eia.doe.gov/emeu/cabs/iraq.html.

3.0 Current Situation

Currently within the framework of Security Council Resolution 986 (1995), the United Nations Development Program (UNDP) through the UN Department of Economic and Social Affairs (UNDESA) is responsible for the observation in the 15 governorates in the Centre and South of Iraq, of electricity equipment, procured and installed by the Government of Iraq. UNDESA is also assisting in the implementation of the SCR 986 also known as the Oil-for-Food Program, part of which permits the Government of Iraq to rehabilitate the electricity systems in the central and southern regions of the country.

An estimated US\$10 billion is to be required for the repair of the electricity sector to restore it to pre-Gulf War level of generating 9,600 MW. However, only a total of US\$ 4.7 billion has been allocated for the electricity sector since the beginning of the Oil-for-Food Program in 1996. Only US\$1.67 billion worth of material has arrived in Iraq, but only 60% has been implemented.

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At the onset (Phase I-V), the allocation focused on meeting the emergency requirements of the power stations and distribution system. From Phase V onwards, equipments to rehabilitate the facilities were being procured.

The program is currently covering some 21 power plants and distribution sites in Centre/South Iraq, which have an available generating capacity of 3,700 MW.

Not all the details are available for the activities in all parts of the country. For more details of the status of Iraqi Kurdistan electricity restructuring refer to Attachment 1 of this report.

In the three northern Kurdish governorates of Dohuk, Erbil and Sulaymaniyah, UNDP is directly implementing the Electricity Network Rehabilitation Program (ENRP) in cooperation with the Local Kurdish Electricity Authorities, which aims at rehabilitating the electricity network across the four main sectors of generation, transmission, substations, and distribution. Capacity building is addressed as across cutting theme.

As of 29 March 2002, electrical equipment valued at over US\$224 million (out of the US\$871 million budget) had arrived in the area, of which 82% had been distributed to installation sites.

In 1999, UNDP was requested to expand ENRP's mandate to address the generation shortfall in the region resulting from the onset of drought in late 1998 and to ensure a minimum humanitarian level of electricity to the population in Iraqi Kurdistan. The severity of the drought and its continuation for over three years has rendered the hydro generation resources in the north incapable of supplying the most basic electricity requirements of the population.

In response to the need arising from this shortfall and within the premises of its added mandate, UNDP in 1999 was able to procure 1,150 small diesel generators, which has a total installed capacity of over 100 MW, for installation across the three Kurdish governorates. These generators are supplying electricity to all major hospitals and health centres in Iraqi Kurdistan and has directly benefited a population of over 1 million (consumers have now continuous access to water and are receiving a limited supply of electricity for eight hours per day).

In 2001, UNDP was able to commission three 29 MW diesel power stations, which have improved the overall generating capacity for the Kurdish region. Water levels have increased during the past winter (2001-2002), which have contributed to the optimisation of the Dokan and Darbandikhan dams and hydro power stations in Sulaymaniyah. The dams will generate 200 MW from the previous 50 MW and will supply both Erbil and Sulaymaniyah. Dohuk is already connected to the national electricity grid.

Major rehabilitation work of the remaining networks and the distribution transformers and limited expansion are planned under several stages with the allocated funds from Phases X and XI. Due to the nature of the works, the distribution sector is very much dependent on the human resources of the Local Electricity Authorities. In this context, the project has been heavily involved in capacity building and training in addition to the planning and design works that the sector requires.

4.0 Scope of this Plan

The scope of this plan is to meet the following objectives:

- 1. To restore the availability of the electricity of Iraq to an acceptable level by rehabilitating and strengthening the generation, transmission system, substations, and distribution systems.*
- 2. To install sufficient additional generation capacity to address the normal, emergency, and industrial requirements in Iraq.*
- 3. To restore the capability of the local Electricity Authorities in the country to a sufficient level whereby they can sustain the operation and maintenance of the overall power system.*

The specifics of the plan for the overall power system are outlined as follows.

Generation

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To increase the generation capacity of the national grid by rehabilitating existing power stations and installing additional generation facilities. A feasibility study should be performed to evaluate the alternatives of generation types and investment involved. As a minimum it must address that the minimum emergency and humanitarian electricity requirements are met.

Substations

To provide safe, reliable and efficient 132/33/11kV and 33/11kV substation installations, to accommodate the rehabilitated transmission and distribution systems and to allow for future system expansion resulting from increased generation capacity. Other transmission line voltages may need to be reviewed to justify economics.

Transmission

To rehabilitate, re-establish and/or install new overhead lines (or underground lines) to restore the transmission network and if possible augment the reliability of the system.

Distribution

To rehabilitate, reinforce and develop the power distribution network in order to meet the consumer, emergency and industrial demands with acceptable efficiency and reliability.

Sustainability

To protect the integrity of the assets by operating and maintaining them in accordance to prudent working practices. This may require attracting experienced and trained resources from local and international market at the beginning stages of restoration. Local skills will have to be developed through on the job learning until confidence is established to operate efficiently and economically. An execution plan for this task will have to be in place during the transitional period.

5.0 Execution Plan

Iraq's current state of Electricity requires a complete restructuring in terms of adding new generation capacity, adding new transmission line capacity, adding modern substations, and adding new communication system. While the addition of power capacity infrastructure is being planned, the existing infrastructure will have to be refurbished and reinstated to meet the immediate power demand. The strategy to optimize the investment in the new and refurbishment infrastructure needs be evaluated. A strategy plan will have to be in place before the structuring of investment plan is discussed.

The focus of this plan is limited to the scopes identified in Section 4.0. Therefore, a plan for the scopes identified in Section 4.0 is included in this section.

Generation Capacity

Meet the power demand of today. Our objective is to meet the additional capacity within the first two years of post Saddam regime.

In order to accomplish this scope, an assessment of the existing generation capacity is required. Based on information available, it is estimated that the current capacity (as of 2001) stands at 5375 MW (we need further verification of this data). The 1990 capacity was 8967 MW. Based on the USDOE report, if the 3000 MW new capacity contract is already in place, this brings the existing capacity to about the original capacity of 1990 (5375+3000+200+20=8595). This however does not include all the demand growth over the years as well as industrial load growth for the post Saddam economic plan. If it is estimated to have a load growth of 1.05% over a year (based on load growth of Sulaymanyah), an additional capacity of approximately 13% should be added to the 1990 capacity. This results to an estimated 2002 capacity to approximately 10,170 MW. A deficit of approximately 1575 MW will still have to be addressed as new capacity to meet the demands of electricity of 2002. The actual number will have to be verified by a thorough survey of the existing capacity and ongoing project developments.

The challenge is to reach a capacity of over 10,000-10,200 MW (rounded from 10,170 MW). The additional capacity is a resultant of the survey that will be needed at a given point in the implementation phase. It is my estimate that the additional capacity building for the first two years may range from 2000-3000 MW if status of above data is true, whereas it may range 3000-4000 MW if the data shown

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above is inaccurate and the status of plants in operation are not in the best of their health to continue service for the next five years.

We need to verify the following information in order to successfully estimate the additional generation capacity needed to normalize the consumer demands for electricity:

- The actual data so that the new capacity to meet the 2002-2004 power demands can be assessed.
- The verification of the status of the power plants currently in operation. Their absolute health and life expectancy will help in assessing the real capacity available by 2004.
- Verify the status of the 3000 MW contracts as stated above. What are the deadline (operation date), cost, and technology.
- Review contracts and progress of UNDP projects for the Electricity Network Rehabilitation Program in Northern Iraq.
- Review contracts if necessary to expedite commissioning dates or revive contract currently under UNDP or entered by Saddam regime.

Substations

All of the substations will be reviewed to evaluate the situation to deliver power to the customers. The equipment conditions of the substations in operation will be evaluated. Based on the conditions of equipment and its interface requirements, the upgrade will be recommended. Special effort will also be made to improve the reliability of the power delivery. To accommodate expansion of load demands as well of completely demolished substations, effort will be made to install state of the art substation technology. All investments for the substations will be reviewed to justify economics and reliability.

Transmission System

All of the transmission lines will be reviewed to evaluate the situation to deliver power to the load centers. The equipment conditions of the transmission lines in operation will be evaluated. Based on the conditions of equipment and its interface requirements, the upgrade will be recommended. Special effort will also be made to improve the reliability of the power delivery. To accommodate expansion of load demands as well of completely demolished transmission lines, effort will be made to re-evaluate the transmission voltage levels and efficiency of transmission. All investments for the transmission lines will be reviewed to justify economics and reliability.

Distribution System

The existing 11 kV and 0.4 kV network are generally consisted of overhead lines and are determined to be in worst condition due to numerous reasons (such as failures, damages, lack of spares, inadequate resources to repairs, etc.).

Distribution transformers are extensively over loaded and operated with inadequate protection. Extensive upgrade will be needed to improve electrical protection. The effort will be placed to replace overloaded transformers with higher ratings and also minimize loads by re-distributing the loads through other transformers. Also, plan to overhaul over-stressed transformers will be needed to salvage old transformers.

Sustainability

Local skills will be developed through on the job learning until confidence is established to operate efficiently and economically. An execution plan for this task will developed to train all local resources within a period of 2-3 years. All investments for the training will be reviewed to justify economics.

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6.0 Investment Plan

The objective of this section is to recognize that a review of the overall system status will be needed to assess the state of the current power system grids and generation capacity and identify the future need until 2010 in the electricity sector in Iraq. Once these data are available, an effective and economic investment plan shall be recommended in a report at a later stage.

UNDP and Local Electricity Authorities are carrying out a program of various rehabilitation and maintenance activities to develop and enhance the electricity system in their respective areas. A survey report will be needed to identify the state of these activities in various parts of the country. Based on this survey recommendations will be made to address the problems.

This report does not identify or recommend the type of generation capacity whether thermal or gas will be installed for new generation capacity. Every indication of the physical limits and the popularity, it seems highly likely that the Gas Turbines will be the candidate for the newly installed generation capacity. Also, combined cycle generation will also be a candidate for capacity expansion for the thermal generating units. It seems that hydro generation will not be a practical option for the initial new capacity installations.

Investment plans for the electricity sector shall be driven by funds from the state and will be regulated. Future planning should include privatization of the electricity sector. In this respect, our planning for investment should include the capacity building that restores the demand for 2004. We should also establish plan for meeting energy demand requirements of year 2010. It is expected to see a rapid rise in demands once industrial growth begins to shape up after the Saddam regime.

This report is not projecting any figures for investment since all data and resources are not available at this time. With further developments and involvements we should be able to gather overall national data and estimate a budgeted figure for the total investment. These will be developed through active involvement of local authorities and experts at a given point in time in the near future.

7.0 Conclusion and Recommendations

The restoration of capacity and infrastructure should be accomplished within two years of post Saddam regime. This restoration of capacity will include the new lost capacity that would result from the widely anticipated and inevitable war in the immediate future. It also expected to restore all emergency load demand in the least amount of time. The emergency load demands may be addressed based on priority scheduling.

The ongoing projects and other list of projects that were generated by the local authorities will be used to establish the projects necessary to restore the electricity infrastructure. Additional survey and independent evaluations will be performed to finalize the scope and investment of the projects. Emphasis to technical and economical justification will be given to all short-term (less than two years) and long-term (over 5 years) project planning.

Investment plans for the electricity sector shall be driven by funds from the state and will be regulated. However, future planning should include privatization of the electricity sector. In this respect, our planning for investment should include the capacity building that restores the demand for 2004 with limited projections to the load growth that are expected to increase due to rapid expansions in the industrial sectors (such as Oil, irrigations, processes, etc). It is expected to see a rapid rise in demands once industrial growth begins to shape up after the Saddam regime. The planning should also focus on the additional energy rebuilding that would result from the inevitable war in the immediate future. It is estimated that an additional rebuilding may range from 20 to 30 percent of the total capacity as a result of the anticipated war. We should also establish plan for meeting energy demand requirements of the year 2010.

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Investment Plan

**Rehabilitation of Electricity sector in
Iraq**

Case Study Iraqi Kurdistan

Prepared by the Ministry of Industry and Energy of Iraqi Kurdistan Regional Government
Erbil, Northern Iraq
November 2002

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SITUATION REPORT

ELECTRICITY IN IRAQ TODAY

Today and within the framework of Security Council Resolution 986 (1995), the United Nations Development Program (UNDP) through the UN Department of Economic and Social Affairs (UNDESA) is responsible for the observation in the 15 governorates in the Centre and South of Iraq, of electricity equipment, procured and installed by the Government of Iraq. UNDESA is also assisting in the implementation of the SCR 986 also known as the Oil-for-Food Program, part of which permits the Government of Iraq to rehabilitate the electricity systems in the central and southern regions of the country.

An estimated US\$ 10 billion is required for the repair of the electricity sector to restore it to pre-Gulf War level of generating 9,600 MW. However, only a total of US\$ 4.7 billion has been allocated for the electricity sector since the beginning of the Oil-for-Food Program in 1996. Thus far, half of this has been available and utilized. To date, US\$4.7 billion worth of applications has been received, out of which US\$2.5 billion has been approved. US\$1.67 billion has arrived in Iraq, but only 60% of that has been implemented.

At the onset (Phase I-V), the allocation focused on meeting the emergency requirements of the power stations and distribution system. From Phase V onwards, equipments to rehabilitate the facilities were being procured.

The program is currently covering some 21 power plants and distribution sites in Centre/South Iraq, which have an available generating capacity of 3,700 MW.

In the three northern Kurdish governorates of Dohuk, Erbil and Sulaymaniyah, UNDP is directly implementing the Electricity Network Rehabilitation Program (ENRP) in cooperation with the Local Kurdish Electricity Authorities, which aims at rehabilitating the electricity network across the four main sectors of generation, transmission, substations, and distribution. Capacity building is addressed as across cutting theme.

As of 29 March 2002, electrical equipment valued at over US\$224 million (out of the US\$871 million budget) had arrived in the area, of which 82% had been distributed to installation sites.

In 1999, UNDP was requested to expand ENRP's mandate to address the generation shortfall in the region resulting from the onset of drought in late 1998 and to ensure a minimum humanitarian level of electricity to the population in Iraqi Kurdistan. The severity of the drought and its continuation for over three years has rendered the hydro generation resources in the north incapable of supplying the most basic electricity requirements of the population.

In response to the need arising from this shortfall and within the premises of its added mandate, UNDP in 1999 was able to procure 1,150 small diesel generators, which has a total installed capacity of over 100 MW, for installation across the three Kurdish governorates. When operated, these generators supply a daily average of 18MW or 14,000kW hrs of electricity. These generators are supplying electricity to all major hospitals and health centres in Iraqi Kurdistan and has directly benefited a population of over 1 million (consumers have now continuous access to water and are receiving a limited supply of electricity for eight hours per day).

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In 2001, UNDP was able to commission three 29 MW diesel power stations, which have improved the overall generating capacity for the Kurdish region. Water levels have increased during the past winter (2001-2002), which have contributed to the optimisation of the Dokan and Darbandikhan dams and hydro power stations in Sulaymaniyah. The dams will generate 200 MW from the previous 50 MW and will supply both Erbil and Sulaymaniyah. Dohuk is already connected to the national electricity grid.

Major rehabilitation work of the remaining networks and the distribution transformers and limited expansion are planned under several stages with the allocated funds from Phases X and XI. Due to the nature of the works, the distribution sector is very much dependent on the human resources of the Local Electricity Authorities. In this context, the project has been heavily involved in capacity building and training in addition to the planning and design works that the sector requires.

PROGRAM OBJECTIVES

4. To bring the levels of reliability and availability of the electricity network in Iraq to acceptable international levels by rehabilitating and strengthening the generation, transmission lines, substations and distribution systems.
5. To install sufficient additional generation capacity to address the emergency humanitarian requirements in Iraq.
6. To develop the capacity of the local Electricity Authorities in the country to a sufficient level whereby they can sustain the operation and maintenance requirements of the electricity network.

Program Support Objective 1 (Generation)

To increase the generation capacity of the network by rehabilitating existing hydro power stations and installing additional generation facilities (of a permanent or temporary basis) as required and ensuring that the minimum emergency and humanitarian electricity requirements are met.

Program Support Objective 2 (Substitutions)

To provide safe, reliable and efficient 132/33/11kV and 33/11kV substation installations, to accommodate the rehabilitated transmission and distribution systems and to allow for future system expansion, with increased generation capacity.

Program Support Objective 3 (Transmission)

To rehabilitate, re-establish and/or install new overhead lines as required to restore the network to a safe operational level, by taking into account emergency and humanitarian as well as future requirements.

Program Support Objective 4 (Distribution)

To rehabilitate, reinforce and develop the electricity distribution network in order to make it capable of meeting the electricity demand of public utilities, domestic consumers and other consumers in a safe, reliable and efficient manner while at the same time ensuring sustainable development.

Program Support Objective 5 (Sustainability of the program)

Through good stewardship of the assets and capacity building

To protect the integrity of the assets by operating and maintaining them as required in accordance with prudent international practice, until such time as they can be handed over. Also to enhance the capacity of local electricity authorities to a level whereby they can sustain the operation and maintenance requirements of the network. Emphasis would be on: (a) skills improvement, and (b) management.

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CASE STUDY – IRAQI KURDISTAN

1. THE ELECTRICITY SITUATION IN IRAQI KURDISTAN

Prior to the imposition of sanctions on Iraq, the three northern Kurdish governorates of Dohuk, Erbil and Sulaymaniyah were supplied with electricity from the Iraq national grid. Two hydropower stations were constructed in the Sulaymaniyah Governorate to serve as peaking stations during periods of high demand; the Dokan dam was built in 1975 and the Darbandikhan dam in 1987. The maximum combined total generation capacity of these two power stations is 649 MW.

The three northern Kurdish governorates were supplied with power from several high voltage 132 kV transmission lines from the governorates of Mosul and Kirkuk. These lines fed into 132-33 kV transmission substations from where the energy was then distributed.

As the electricity system of IK was part of the Iraq national grid, technical support was centralized and provided from Baghdad. Teams located at either Mosul or Kirkuk provided maintenance of the system in the north and the northern staff carried out system operation and fault repair.

In 1991, the electricity supply system in IK suffered severe damage. Several distribution and transmission lines were put out of commission, many substations were destroyed, and the control panels at the Darbandikhan power station were ruined by explosives.

By early 1998, the electricity generation, substations and transmission and distribution systems became very weak and power cuts of up to five hours were a regular practice. In certain areas, supply was limited to three to five hours daily, further reduced to one hour per day or no supply in some areas.

The governorates of Erbil and Sulaymaniyah had been cut off from the national grid and had to rely on the hydropower stations of Dokan and Darbandikhan for their power supply. The generation capacity of these dams, however, was insufficient to meet the demand. The governorate of Dohuk was still linked to the national grid but received very little supply. The result was a combined shortfall in electricity supply for the three northern governorates of about 350 MW.

The impact of the shortfall in supply in the north was further exacerbated by heavy losses of electricity resulting from the state of the transmission and distribution networks: smashed towers, kilometers of cables and conductors stolen, shattered insulators, several substations vandalized while others totally or partially destroyed and burnt out distribution transformers.

To add to the fragility of the system the drought that affected the region from 1998 to 2001 had severely affected water levels in the reservoirs serving the two-hydropower stations Dokan and Darbandikhan. With increased rainfall in late 2001 and beginning of 2002, inflows to the two dams have increased considerably, allowing for electricity generation. However, the system is not ready to absorb the increased supply. As a result, although there is more electricity available it may not necessarily reach the consumers.

2. PROBLEMS TO BE ADDRESSED

a) Dam and Hydro Power Stations

Following the disconnection from the Iraqi national grid, the governorates of Erbil and Sulaymaniyah were solely supplied by the two-hydropower stations of the Dokan and Darbandikhan dams. The structural integrity of these two dams was the first priority to be addressed under the ENRP. Both dams and associated power stations sustained considerable damage and suffer from lack of spare parts and funds to ensure proper maintenance. They are in need of major and urgent rehabilitation.

b) Transmission network

The electricity supply system is configured to receive supply through 132 kV and 33 kV overhead lines. After the disconnection from the national grid, to access the power generated at the Dokan and Darbandikhan hydro power stations, the Local Electricity Authorities had to construct major new line circuits out of salvaged material. Unfortunately these works were affected with minimal regard to engineering design. The emergency nature of this construction had two important consequences- (i) some outlying areas were left without supply, and (ii) the quality of power supply is well below acceptable norms.

In their present state, these 132 kV and 33 kV networks constitute a hazard to the public and electricity workers, and place severe operating conditions on all electrical plants and equipment. The system may collapse at any time and is presently only just operable due to limited generation outputs. Therefore, a comprehensive program of rehabilitation needs to be implemented to upgrade the condition of the 132 kV and the 33 kV systems, and to build new 132 kV and 33 kV lines. These are required to feed new substations already in progress and to enable the return of power supply to those regions that had electricity before the hostilities.

c) Substation

The power injection to the medium voltage network is provided from a large number of substations, originally planned and designed geographically to cover most of the load centers in the area. Many substations were badly vandalized and in some cases totally looted or destroyed during and after the disturbances. This had a direct impact on the network design and stability.

Some of the substations are in general good condition and only need partial refurbishment. However, most will have to be rebuilt in either their present location or on sites which are more suitably located to the load centers.

d) Distribution

The main problem facing the distribution network is the deteriorated state of its existing infrastructures. Lack of investment in improving the network, considerable load growth and poor maintenance work during the last 10 years have resulted in overloading of the system and increasing the frequency of failures and outage duration. The present power system operates with comparatively high system losses of about 23%. It is estimated that about 17% of these are in the distribution system. As a result, the excessive system voltage drops are keeping the efficiency of the operation of consumer appliances very low.

Another important issue facing the distribution network is the need to build new 11 kV and 33 kV lines in order to restore proper connections to existing substations (transmission and distribution lines using their design voltage levels) as well as to connect newly built substations to the network.

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The distribution network needs to be expanded to include: households located close to the existing distributions networks, but not connected to the networks so far due to either limited capacity of the existing plant or due to shortage of materials to implement the electrification schemes. Another challenge is to connect the households located in areas, which had electricity before, but lost it when the distribution facilities were destroyed during the hostilities; and, households located in remote areas that are not electrified so far.

e) Generation

Over and above the needs of the network and its infrastructures, the most obvious problem of the electricity system in the northern Kurdish governorates is the lack of sufficient generation. The estimated base load requirement above the combined realistic sustainable output of the existing power plants is 350 MW. At an estimated \$800,000 per MW, this would entail an expenditure of about \$280 million, although the options actually available could reach beyond this figure.

3. **PLANNED ACTIVITIES (subject to fund availability)**

To address the above-mentioned problems, the following activities need to be undertaken:

- a) Build 1,675 km of 132 kV and 33 kV transmission lines.
- b) Rehabilitate 1,179 km of 132 kV and 33 kV transmission lines, and restore 140 km of 132 kV lines to their original design voltage.
- c) Rehabilitate and build 70 substations (the ENRP intends to commission a first tranche of 8 substations by October 2002, 19 additional substations by February 2003, 18 additional ones by June 2003 and the remaining 25 substations by June 2004).
- d) Rehabilitate 16,095km of distribution lines (33kV, 11kV, Dist Trans and LV).
- e) Build 1,720 km of new distribution lines (33kV and 11kV).
- f) Rehabilitate two dams and their hydro power stations.
- g) Install diesel power plants (3x29 MW for each of two stages).
- h) Install 256 diesel generators (38 MW) for water pumping, 172 (17 MW) for health utilities, and around (8-10 MW) for domestic consumption.
- i) Establish one system control center and one network communication system
- j) Procure large quantities of parts and spares
- k) Develop the capacities of the local electricity authorities in the region to sustain the efficiency being visualized under the rehabilitation and strengthening projects by skills development to install, operate and maintain the systems scientifically.

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4. IMPLEMENTATION METHODS

Currently, as per the Memorandum of Understanding between the United Nations and the GOI that codifies the practical arrangements for the implementation of the Oil-for-Food Program, UNDP is responsible for the entire procurement, installation and commissioning of electrical equipment, along with storage of spare parts, necessary for the rehabilitation of the electricity network in the three Kurdish northern governorates.

There are currently twenty seven ongoing projects with several international large-scale tenders to be issued this year. A large number of these projects are/will be implemented through turnkey contracts with international engineering companies. Other smaller projects are/will be implemented directly by the ENRP in cooperation with the Local Electricity Authorities.

For the future IDRC should oversee the operations of the New Government Departments.

a) Procurement procedures

Procurement of Goods, Works and Services will be carried out by IDRC through International Competitive Bidding modalities as applicable under International Financial Regulations and Rules, FIDIC is what is used in Iraq.

The first step in the procurement process is normally represented by the publication of either a invitation for Expressions of Interest (EOI), for services, or an invitation to apply for pre-qualification (Request for Pre-qualification) in the case of provision of goods, works and supply & installation services.

Short-listed or pre-qualified companies/suppliers are then invited to submit a formal bid for the supply of goods, works and supply & installation services, as applicable.

Formal solicitations to submit bids/proposals are normally issued to pre-qualified/short-listed firms as:

- Request for Proposal (RFP), for the provision of services and/or works, including supply & installation of equipment; and
- Invitation to Bid (ITB), for the supply of goods, works, materials and/or plant.

b) Contract execution

Briefly, the main modalities followed in Iraq for contracts execution are the following:

- Turnkey contracts for the engineering design, supply and installation of electromechanical equipment and/or plant;
- Supply contracts for equipment, materials, plant and vehicles;
- Supply and Installation contracts for electromechanical equipment and plant;
- Consultants' Services contracts for employment of consultants' firms; and
- Special Service Agreements for appointment of freelance specialists or Reimbursable Loan Agreement with companies for appointment of their professionals.

DETAILED INVESTMENT PLAN FOR IRAQI KURDISTAN

1. INTRODUCTION

The objective of this report is to review and summarize the state of the various sectors of the current electrical network, and identify weaknesses with the view of proposing necessary plans to meet current and future need until 2010 in the electricity sector in Iraqi Kurdistan.

UNDP and Local Electricity Authority are carrying out a program of various rehabilitation and maintenance activities to develop and enhance the electricity system in the area. For the future, projects planned under current cooperation program between the UN and KRG should continue.

Most information at this report is based on a study conducted by the Australian Consultant Company (SMEC). In 1998, SMEC completed a major survey of the network in the three Kurdish Governorates. The survey aims at identifying the state of the various sectors of the electrical network, and make recommendation to address the problem, the recommendation of this study were shared with the Local Electricity Authorities and are currently used as a general guideline for the planning of future activities.

2. CURRENT SITUATION

RELIABILITY:

The reliability of plants and equipment in the Iraqi Kurdistan is weak due to the following:

- Shortage and lack in power generation.
- Lack of protection.
- Excessive over load
- Lack of maintenance & spare parts
- Communication problems
- Shortage of tools and vehicles
- Shortage of transmissions lines and transforming capacities

LOAD:

As a result of natural load growth of 1.05% per year the load on Sulaymaniyah-Erbil was estimated to rise from 480 MW (in year 1998) to about 500 MW in 2003 and 530 MW in year 2008 these figures should be increased by about 400 MW for load shedding to give an unsuppressed (no load shedding) maximum demand requirement at generation level of 940MW.

The maximum demand on the Dohuk system was 90MW (in year 1998), if Dohuk load are included then the unsuppressed maximum demand requirement at generation level in the long term became, 1140 MW.

TARIFFS:

The low price of electricity has resulted in extravagant usage of electricity in northern Governorates, the amount and reliability of electricity supply available to people will reduce substantially until new generation becomes available.

3. GENERATION & SOURCES

Electricity power resources in Iraqi Kurdistan currently are limited to:

1. There are two hydro station located in Sulaymaniyah Governorate, Dokan (5X80MW) and Darbandikhan (3X83MW), the maximum power supplied by these two stations (with full storage) is 566 MW and due to deteriorated state of the power station the available power becomes less than 480 MW.
2. Three station of 29 MW diesel generation plant (one station for each Governorate).

The availability of power from the National grid via Mosul is supplied only to Dohuk Governorate and the availability of power is politically controlled, however there is regular load shedding in Dohuk.

The only options for increasing the power generation in Iraqi Kurdistan are:

- Hydro Generation plant provided.
- Thermal Generation plant provided.
- Re-connection with the National grid.

For reconnecting Sulaymaniyah-Erbil 132 kV network with the National grid, studies have been made concerning the over all cost of the items and supplies needed to this reconnection as a turn-key project implemented by foreign companies, and the preliminary estimates as follows:

Reconnection through two line as a first step at a total cost of \$ 15 million as follows:

- Taamem Governorate-Taslujah, at a cost of \$ 8 million
- Dibs-Erbil, at a cost of \$ 7 million

Reconnection through three lines at a total cost of \$ 23.5 million that is to say the Taamem-Taslujah and Dibis-Erbil Lines at the same cost as above, with the addition of a Qaraqush-Erbil line at a further cost of \$8.5 million.

4. TRANSMISSION LINES

In any electricity supply program the transmission network is the key to the transmission of electrical energy from the generating source to the load centers and they are designed for high reliability.

Generally there are few numbers of 132 kV & 33kV transmission lines, in the area, some of 33 kV even 11kV feeders are supported on the 132 kV towers until these towers are required for the 132 kV system. Some section of the 132 kV and 33 kV transmission system have been extensively damaged, the forms of damages are:

1. Steel towers destroyed or damaged
2. Steel work missing on towers.
3. Conductors and earth - wire missing.
4. Insulators broken

Because of a shortage of materials and equipment, temporary repair have been made which are substandard and which leave the system in an unreliable state.

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Bellow is review of details regarding the existing 132kV& 33kV transmission lines

Governorate	132 kV T.L		33 kV T.L	
	No.	Length (km)	No.	Length (km)
Erbil	7	434	20	233
Sulaymaniyah	13	577	22	303
Dohuk	6	315	9	265
Total	26	1326	51	801

5. SUBSTATIONS

Substations form the power injection point to the distribution network. All the substations in the area are in deteriorated condition requiring immediate rehabilitation and in many cases, augmentation too; loads in most of them have exceeded the firm capacity. Some of them are mobile substations.

The existing 33 kV and 11 kV circuit breakers are in poor condition and require replacement as a matter of urgency, these equipment were purchased in 1970 and has exceeded its normal life cycle, most are operated manually and they are severely at risk due to the inability to isolate faults.

The 132 kV circuit breakers at north Erbil S/S and old Dohuk S/S are very old and the company has now been taken over several times and it is extremely unlikely that a supplier will be able to provide the necessary spare parts.

Following are the details regarding the existing 132 & 33 kV substations:

Governorate	No of 132 kV S/S	No. of 33kV S/S
Erbil	4	14
Sulaymaniyah	9	22
Dohuk	3	13
Total	16	59

6. DISTRIBUTION

The L.V network is the most important part of the distribution system it is important that it is designed to meet the potential customer load and the quality and standard of supply is adequate as regards reliability and voltage limits.

Generally the existing 11 kV & 0.4 kV network in the area are overhead lines and they are in bad condition due to past damage and lack of materials necessary for appropriate repairs or preventative maintenance.

Distribution transformers are extensively over loaded and most of them with out protection, they urgently need an upgrade of their electrical protection. Poor voltage levels below the allowable limits affect various section of the distribution network.

This has caused poor supply voltages to consumers in these areas, causing various problems in the use of electrical equipment.

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7. COMMUNICATION

Communication is poor, in many cases reliant on the sub-standard local phone network, power line carries (PLC) &(VHF) systems covers sub-station but only few are working, parts are missing on most equipment and an urgent survey is required to determine the parts that are needed to restore the system to operation.

Remote control is impossible and there is no control system for transmission or distribution although the scheduling of generation and load shedding is carried out from Dokan hydro power station.

Generally, Communication is poor – needs new equipment and specialist review & a control dispatch center would help reduce system outage time.

Options for Additional Generation Capacity

In Iraqi Kurdistan

INTRODUCTION

This report gives immediate generation options whilst including a great deal of information on the medium and long term options for additions to generation capacity.

In this study, Immediate Term means completion in less than 2 years from now, Medium term means completion within in 2-4 years, and Long Term means completion in more than 4 years from now.

CONCLUSIONS AND RECOMMENDATIONS

1. **LOAD**

The 1999 total maximum demand and energy requirement for the Sulaymaniyah, Erbil and the Dohuk systems at generation level to be about 580 MW and 1900GWh/year respectively.

Given a resumption of normal hydro catchments inflows and a gradual increase in generation to supply loads shed prior to the drought, previously unelectrified villages and collective villages, the total maximum demand and energy requirement for the Sulaymaniyah, Erbil and the Dohuk systems at generation level has been estimated to rise to about 600MW and 2000GWh/year in 2001 (the short term), 630MW and 2100GWh/year in year 2003 (the medium term) and 1140MW and 3700GWh/year in year 2010 (the long term)

The above figures assume that the maximum demand on the Dohuk system in year 1999 is about 100MW (Summer) and 170MW (Winter) and the energy requirement 380GWh/year.

2. **GENERATION**

It is unlikely that the maximum-recorded generation out put for Sulaymaniyah hydro (480MW) will be exceeded prior to rehabilitation. The only options for increasing the power generation in Iraqi Kurdistan, are:

1. Thermal generation, if the plant is provided under SCR 986 or another program and if the authorities are able to arrange and cover the cost of the necessary fuel.
2. Hydro generation if the plant was provided under SCR 986 or another program.
3. Re-connection with the Iraqi grid.
4. Re-connection with the Turkey grid.

Implementation of any option will require allocation of funds from National Budget, since consumer tariffs do not generate sufficient funds to cover fuel and operation and maintenance (O&M) expenses.

3. **THERMAL GENERATION RESOURCES**

In assessing thermal resources it is assumed that all resources will have to be contained in the three Kurdish Governorates. The constrain on development of thermal generation in Iraqi Kurdistan is the size of the exploitable thermal resources that exists in each of the Governorates namely Sulaymaniyah, Erbil and Dohuk.

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The resources will have to be quantified to allow correct generation planning to be completed. The resources would have to be classified as proven reserves before commitment to a project is made. The definition of proven reserves being that there is a 90% probability of exploiting the reserve to the extent estimated.

Since no official records of reserves were available, then it must be assumed that the following activities would have to precede the commencement of thermal plant design and would be carried out in series i.e. the total time would be 2 years.

- Exploration 1 year
- Production drilling oil wells 1 year

Following successful production drilling three types of plant could be considered. The times shown are from start of implementation planning to commission:

- Large diesel genets up to 2 years
- Gas turbines 2.5 years
- Steam turbines (oil/gas fired) 3 years

4. HYDRO GENERATION RESOURCES

Hydro resources also need some thorough investigation to achieve an acceptable degree of certainty. Typically the period from planning to commission is not less than 5 years, however there are two schemes in Iraq Kurdistan for which a lesser time may be allowed.

These are the Bekhma (1500MW) and the Bakurman schemes. Only the Bakurman would qualify for a medium term because of the size and political and contractual problems likely with Bekhma. Some mini-hydro schemes may also qualify as medium term.

Typical implementation times for hydro are:

1. Site identification 3 months
2. Site investigation and survey 2 years
3. Detailed design 10 months
4. Financing 12 months
5. Tendering 6 months
6. Construction 4-5 years
7. Commissioning 12 months (large station)

The hydro potential of a site depends basically on two things; the flow of water and the available head. The head can be measured in a short time with almost any survey equipment.

The water availability can only be determined by careful measurements over a prolonged period. Survey and geotechnical data is needed to improve the estimation of project costs and viability.

5. HYDRO POWER OPTIONS

Hydropower is the best renewable generation sources available in Iraqi Kurdistan. There are a number of large rivers and an abundance of narrow gorges suitable for the construction of dams and power stations.

Typical cost of hydro power station is 1000—3000 US\$/KW.

A number of potential dams can be contracted in the future including the following:

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- Bekhma A 230m high multipurpose rock fill dam under construction on the Greater Zab River, designed to provide flood control, as well as peaking hydro power for the Iraqi grid, The 1500MW power station would have produced an average of 4776GWh/a

While Bekhma dam has already been designed and partially constructed the power station itself is too large for the northern governorates grid. Without interconnection with the southern Iraqi grid.

It is technically possible to construct a 90m high reinforced concrete cavity (RCC) dam in place of the proposed integrated cofferdam giving a lake level of EL. 450m. This could supply water to temporary low head power station of about 150MW Capacity connected to the low level out let tunnel; it will produce an average of 960 GWh/a. This project would set up relatively quickly because the dam high is less than the level of 476 for sediment storage for the main dam.

- Lower Bekhma, a 25m high dam with 100MW power station down stream from Bekhma capable of re-regulating the peak power releases into less damaging constant discharges with an annual 343GWh of energy.
- Bakurman, a 100m high concrete arch dam associated with a 66MW hydropower project on the Khzir River estimated 70 GWh of energy. This site has been investigated and studied and the data should be available from Baghdad for design and early construction.
- Qaladza was proposed as an 85m high dam upstream from Dokan on the lesser Zab. The flows are about three quarters of the Dokan flows. In principle this project should be about 180MW
- Taq Taq has been proposed, as a dam down stream from Dokan This River is wide at this location and is expected to require a significant dam structure founded on alluvium, it will produce about 70MW based on the release from Dokan and the available head.
- Similarly, a dam at Buanur is expected to produce 90MW from the 45m high dam based on the daily releases from Darbandikhan.
- Deralok, on the Greater Zab clear of the maximum flood of the Bekhma Dam
- Buanur dam has been proposed as a re-regulating dam for Darbandikhan mini-hydro power option.

6. WIND POWER OPTIONS

Records for Dokan and Darbandikhan show that the average wind speeds at these locations are quite low; they are only of the order of 2-3 m/s.

A wind generator of worth while proportion for a village, say 600Kw (about 1000 customers at 4A per customer), would deliver about 219MWh/a to the village. The corresponding capacity factor is only 4% Although this is the equivalent the of about one hour per day in fact the customers would not want to share usage according to the current wind speed. Hence battery back up would be required plus probably a diesel-driven generator. If diesel driven generator back up is required and fuel is cheap and available, it would be financially advantageous to install only the diesel-driven generator.

Small diesel generator cost about 100-200 US\$ per KW and wind generators about ten times this unit cost.

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SHORT TERM EXPANSION

The immediate term plan to be commissioned within two years is as follows:

1. Presently, three 29MW diesel power stations are installed in the three northern governorates, also there are about 1150 small diesel generators with a total installed capacity of 106 MVA across the area. To ensure continuity operation for these units, supply of fuel, oil & necessary spare parts should be secure, the estimated amount of fuel and costs of spare parts is as shown below:

For three 29 MW diesel stations

Fuel amount for one-year operation-173 million liter \$4.5 million

For 1150 small diesel generators

Fuel amount for one-year operation-40 million liter (9 H per DAY) \$1.5 million
Spare parts for one year \$2 million

2. Installation of additional generation supply by installing 12 units of Gas Turbine of 20MVA capacity each with its necessary equipments & components for connection with the grid (33 KV side). These units should be distributed as follows:

Sulaymaniyah	2X20MVA
Erbil	4X20MVA
Soran	2X20MVA
Dohuk	3X20MVA
Aqra	1X20MVA

The estimated costs of these units and amount of fuel for operation are as follows:

12X20 MVA gas turbine unit complete with necessary connecting equipments is \$190 million
Amount of fuel for operation per year 360 million liters \$10 million

3. Re- inter connection with the Iraqi grid, however there should be indication that GOI would guarantee the amount of transfer power. The inter connection of Sulaymaniyah/Erbil grid with Iraqi grid would be via two 132Kv circuit, (Dibes- Azade) are (Kirkuk - Taslujah).

The estimated cost is about \$ 25 million

4. The interconnection has already been made prior to 1990 and network components are in place. Connect Dohuk grid with Sulaymaniyah-Erbil grid after improving source of generation, it is concluded that the inter connection via new Hamir , Aqra & Bakurman and Sarsink is technically satisfactory.

The estimated costs for this connection is about \$20 million

Notes

- Current UNDP-ENRP activities Regarding maintenance of existing generation plants, Transmission lines, Substations, Communications & Distribution network, should be continued according to the applying plan. But by the Kurdish Local Electricity Authorities
- Transmission Lines and substations plan are shown in the attached tables which shows details of work to be done and the required funds
- Funds required for communication and SCADA system is about \$55 million, fund need to be secured.

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- For distribution sector, \$216 million have been allocated to rehabilitate 4430 kM and construct 550kM of new networks in IK via ENRP activities, but distribution sector still needs to allocate additional funds of \$60 million to the sector for the short term to under take new activities

MEDIUM & LONG TERM EXPANSION

Tables No. 1 & 2 shows the most important options & plans that should be taken under implementation for medium and long term consideration for increasing the power generation in northern Iraq and improving reliability for electricity system in the region.

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لغاية عام 1990

تاريخ التنفيذ	السعة الموسمه MW	النوع	اسم المحطة
1975	5x80	كهرومائية	دوكان
1987	3x83	كهرومائية	دربنديخان
	4x187.5 4x15 2x120	كهرومائية	سد الموصل
	6x110	كهرومائية	القادسية
1972	3x28	كهرومائية	سامراء
	4x3.75	كهرومائية	الهندية
1976	2x25	كهرومائية	حمرين
	4x1.25	كهرومائية	الكوفة
1979	4x210	حرارية	الناصرية
	1x200	حرارية	الهارثة
1978	4x160 4x25	حرارية - بخارية	الدورة
1973	2x17 2x20	حرارية بخارية - غازية	الشعبية
1974	2x100 3x15	حرارية بخارية	النجيبية
	4x50 2x60 1x15	بخارية - غازية	جنوب بغداد
	6x220 4x10	بخارية - غازية	بيجي
	3x12.5 1x20 1x6 1x5 2x2.5	بخارية	الصرافية
	3x300	بخارية	المسيب

تاريخ التتفيذ	السعة المؤسسة MW	النوع	اسم المحطة
1976	3x25 4x11 5x8	بخارية غازية	الدبس
1977	12x17	غازية	ملا عبدالله
1976	2x45	غازية	النحف
1976	10x17	غازية	الموصل
1976	3x20 4x15 2x8	غازية	التاجي
1977	4x45	غازية	خور الزبير
1973	4x20 4x17	غازية	الحلة

الحمولة القصوى لمحافظة القطر خلال عام 2001

المحافظة	اعلى حمل MW	المجموع MW
بغداد	1900	4775
نينوى	500	
البصرة	550	
التاميم	150	
صلاح الدين	260	
ديالى	200	
الأنبار	210	
بابل	145	
كربلاء	140	
النجف	85	
القادسية	120	
ذي قار	110	
ميسان	200	
كوت	95	
سماوه	105	
السليمانية	240	600
أربيل	220	
دهوك	140	
المجموع الكلي		

Table No.2

Major Hydro Power Potential in Iraqi Kurdistan

Project	Head m	Capacity MW	Energy GWh/a	Plant Costs \$ Million	Civil Cost \$ Million	Engineering Costs \$ Million	Cost per MW \$ Million	Cost per KWh US \$	O&M Per MW \$ Million
Bekhna 2 (low) (Erbil)	70	3X50	973	99.2	276.1	12.9	2.6	0.083	0.006
Bakurman (Dohuk)	130	2X33	58	43.6	211.7	9.9	4.0	0.639	0.066
Qaladzon (Sulaimany)	80	3X60	750	119.0	164.0	13.1	1.6	0.056	0.006
Taq Taq (Erbil)	35	2X30	525	49.6	103.0	7.6	2.7	0.044	0.005
Buanur (Dohuk)	45	3X30	467	69.5	119.1	8.7	2.2	0.061	0.006
Deralok (Dohuk)	140	3X50	1016	91.0	239.5	19.2	2.3	0.049	0.005
Galibalinda (Dohuk)	140	3X40	606	72.8	236.8	18.9	2.7	0.076	0.008

Table No. 1

Thermal Generation Option

Project	Oil Resource million barrels	Oil Type	Gas Resource	Power Potential Based on Oil Resource (MW)	
Koya (Sulaimany)	1800	Light & Heavy	None	207	(2x50 Turb Turb
North Cham Chamal (Sulaimeny)	607 (Estimate)	Light	Expected	76	(2x2 Turb MW
North Cham Chamal (Sulaimeny)	1038 (Estimate)	Light	Expected	132	(2x5 Turb Turb
Pelcana (Sulaimany)	621 (Estimate)	Heavy	None	78	(2x25 Turb MW
Chiasurg (Sulaimany)	237 (Estimate)	Light	Expected	30	(1x25 (1x20 (3x7)
Damerdakh (Erbil)	158 (Estimated)	Heavy	None	20	(1x20 Turb Engi
Tawkey (Dohuk)	158 (Estimate)	Heavy	None	24	(1x20 Turb Engi

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Future of Iraq Project

Economy and Infrastructure Workgroup

**Subcommittee on
Information and Telecommunication Infrastructure¹**

**Recommendations to the
post-Saddam transition government of Iraq in preparation for a free society
under a constitutional democracy**

IATI Recommendations - v6.1

January 27, 2003

¹ **Disclaimers:** The Information and Telecommunication Infrastructure subcommittee is a non-political, non-governmental group of Iraqi technocrats gathered under the auspices of the US State Department "Future of Iraq" project.

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Executive Summary

Under the "Future of Iraq" project sponsored by the US State Department an advisory subcommittee on Information and Telecommunication Infrastructure under the Economy and Infrastructure working group was formed to

- Assess the current state of Information and Telecommunication Infrastructure in Iraq.
- Identify Infrastructure initiatives needed, the day after Saddam, to maintain and support essential services; distribution of food and drinking water, medical services, sanitation, transportation and security.
- Recommend Infrastructure goals to meet in the first 180 days and within the first two years following the liberation of Iraq and beyond.
- Specify, at a high level, the requirements to meet these Infrastructure goals.
- Initiate the process for setting guidelines for a Freedom of Information Act for Iraq

To conduct its business, the subcommittee divided the Segments of Information and Telecommunication Infrastructure into the following:

- **Terminal Appliances**, such as radio sets, television sets, computers, telephones and mobile phones.
- **Distribution Networks**, such as telephone network, radio spectrum including satellite, and Internet and data networks, and
- **Content Production Facilities**, such as radio stations, television stations, newspaper and magazine publishers, book publishers and Iraq's portion of the world wide web

The subcommittee collected information on Iraq's economy and compared it to some selected neighboring countries. Iraq's per capita GDP in 1991 was \$3,483. In 2002, it is \$2,500. The following is a table of economic statistics by country for 2000².

Iran	\$6,300
Jordan	\$3,500
Lebanon	\$5,000
Turkey	\$6,800
USA	\$36,200

Definitions: Gross domestic product (GDP): The value of all goods and services produced domestically.
Purchasing power parity (PPP): The PPP method involves the use of standardized international dollar price weights, which are applied to the GDP produced in a given economy.

² <http://www.infoplease.com/ipa/A0874911.html>

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The subcommittee reviewed the state of Information and Telecommunication Infrastructure in Iraq based on publicly available records. According to the May 2002 UN Oil for Food program report:

The telecommunications infrastructure in Iraq is extremely poor, which has resulted into negative consequences on the efficient procurement and distribution of humanitarian supplies, poor communications between warehouses and hospitals, and hindered the timely passing on, of accurate information on requirements.

An ITU mission in 1998 concluded that the rehabilitation and modernization of the telecommunication network in Iraq would require an investment of over \$1 billion and its implementation could take between 7 and 10 years.

The number of telephones per 100 people in Iraq was 5.6 in 1985, which deteriorated to 3.1 in 1998 and today it is below 3 per 100. The world average is 10.

The telephone infrastructure in Iraq is mainly analog and requires massive upgrade to a digital infrastructure. It consists of two analog networks (Coaxial and Microwave) making a figure 8 shape covering Iraq from Mosul to Basrah intersecting in Baghdad. International connections are through 3 old satellite stations, and Coaxial cable and microwave radio relays to Jordan, Syria, Turkey and Kuwait.

Internet and data networks are almost non-existent. The estimated number of users is 12,500 (2001) outside Kurdistan and 10,000 in Kurdistan. There is no civilian backbone data network, but it is speculated that a military one exists. One known optical data network backbone was built in the past 10 years designed as a local loop between Baghdad and Tikrit to enable military and secret service communication. It is estimated that the total Optical backbone data network is less than 500 km long.

Some interesting reference statistics include 6.7 percent of world population has access to the Internet. Turkey has around 1.5 million users. United Arab Emirates has around 500,000 users.

The current state of content production facilities in Iraq excluding Kurdistan is summarized in the following: There were 19 AM (5 are inactive), 51 FM, 4 shortwave radio broadcast stations as of 1998. There were 13 television broadcast station as of 1997. In 1996, there were 20 daily newspapers. In 2000, there was one Internet Service Provider, with no web sites other than a few government web sites.

In Iraqi Kurdistan, the situation improved due to the free IK government, but the overall situation is still very poor due to lack of financial resources and the fact that the region started from almost nonexistent infrastructure. There are 15 TV broadcast stations, 20 radio broadcast stations, which broadcast in SW and FM, 167 daily, weekly, bi-weekly and monthly newspapers and magazines and 2 Kurdish satellite TV broadcasts.

The following table present statistics on Iraq vs. other countries of similar economies, plus the US as a reference:

Newspapers, Radio, Television, Telephones, and Computers by Country³
(per 1,000 inhabitants)

Country	Daily newspaper circulation 1996	Telephone main lines 2000	Cellular phone subscribers 2000	Personal computers 2000	GDP/PPP per capita
Iran	26	149	15	56	6,300
Iraq	20	30	—	n.a.	2,500
Lebanon	141	201	194	46	5000
Turkey	110	280	246	38	6,800
USA	212	673	400	585	36,200

Sources: Except as noted, newspapers, radio, and television—United Nations Educational, Scientific, and Cultural Organization, Paris, France, *Statistical Yearbook* (copyright); telephones, cellular phones, and personal computers—International Telecommunications Union, Geneva, Switzerland, *World Telecommunication Indicators* (copyright).

The subcommittee identified the following major challenges facing Iraq during the post Saddam transition period:

- Gathering facts in a timely manner about current information and telecommunication infrastructure
- Introducing new infrastructure into major population areas and integrating the whole country
- Shortage of skilled labor as well as training local labor
- Establishing a regulatory framework to enable contributions from private sector
- Introducing regulated free press and free media in an orderly fashion, which we propose to be introduce under a comprehensive **Freedom of Information Act** for Iraq

³ <http://www.infoplease.com/ipa/A0883396.html>

Utilize the experience accumulated in Kurdistan from the past 10 years in building telecommunication infrastructure, assessment of needs, skills requirement, identification of vendors & equipments, information regulations and de-regulation procedures, Internet access, and licensing issues

The subcommittee established the following guidelines for setting up its recommendations, *i.e.* initiatives should take into consideration the following:

- Geographic distribution of population around Iraq.
- The infrastructure in neighboring countries and countries with similar per capita GDP.
- In parallel, fix what is there, and plan to build new infrastructure.
- Leverage existing military and security infrastructure such as the coaxial cable network to the western desert, including the optical data network if it survives the military destruction.
- Although significant improvement has been made on the infrastructure developed in Iraqi-Kurdistan over the past decade, the quality of services is still very poor due to the limited resources of the region. Therefore, the planning should make sure that the region is also upgraded and integrated fully into the rest of the country
- In building the new infrastructure, special considerations should be made to introduce the same quality of service throughout the country and not to focus only on the capitol
- Leverage all Iraqi and non-Iraqi expertise that can be made available to Iraq after the regime change
- The subcommittee is to use a phasing scheme process when planning on implementing new telecommunication infrastructure projects that are flexible, scalable, and extensible, utilizing open standard technologies and equipments

Subcommittee Recommendations

We recommend three stages of recovery and development after the liberation of Iraq

1. **Recovery Stage**, which deals with the restoration or establishment of essential communication services.
2. **Basic Services Stage**, which deals with the introduction of information and telecommunication infrastructure services that meet basic daily needs of the society
3. **Advance Services Stage**, which deals with the introduction of services that enable Iraq to grow unhindered and match countries of similar per capita GDP that have advanced services.

Recovery Stage – First 180 days

The transition government should create taskforces

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- a. To gather accurate information on the state of the infrastructure and complete it within the first 90 days.
- b. To identify and specify communication infrastructure needed to maintain and support essential services, and
- c. To identify the skills required by the workforce responsible for building, maintaining and operating the telecommunication infrastructure in Iraq.

During the recovery stage the existing recommendations made by the UN Oil for Food Program should be implemented immediately. These are:

1. Replace the analog Baghdad Junction Network (BJN) with a digital network at a cost of approximately \$15 million. It is estimated that the replacement of the transmission lines could be made operational within six to eight months. The subcommittee should identify immediately a capable and a well-known vendor(s) to plan, design and implement this phase of the project and plan the subsequent phases in Baghdad and other Iraqi cities.
2. Replace the international communication facilities (Earth station, international exchange and the analogue microwave link between them) with a modern digital infrastructure.
3. Replace four old crossbar exchanges (Karbala, Diwaniya, Nasiriyah and Basrah) and of the obsolete analogue microwave link between Baghdad and Basrah with a digital link and extend it to the port of Um Qasr, the entry point of the main portion of humanitarian commodities. This microwave link will pass seven governorates whose total population is more than (7) million and considered as the most populated region in Iraq.
4. Replace three exchanges in Baghdad that were completely damaged during the Gulf war with modern digital exchanges.

The cost of the above projects is estimated to be between \$130 - \$170 million

5. We also recommend the introduction of a small mobile telecommunication network for (50,000) subscribers in Baghdad, and a (10,000) subscribers network in the center each of the governorates in Iraq at an estimated cost of approximately \$75 million. It is anticipated that mobile telephone services will offered based on a subscriber by new established private companies with help from the central government.
6. We also recommend the introduction of mobile telephony in an aggressive way into Iraq by allowing several vendors to compete in entering the Iraqi

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market on condition that they bear the cost of initial deployment of infrastructure and subsidize heavily handsets and monthly charges.

The cost of infrastructure for 1 cell phone per 100 people in Iraq is estimated at about \$125 million. To give each family one cell-phone, assuming an average family consists of 5 members, will cost up to \$25 billion for infrastructure.

Basic Services Stage

In the first two years, we recommend:

1. Introduction of data network to allow connection of computers in all warehouses and Government Ministries, agencies, private businesses such as manufactures, export and import firms, and other parties involved in the humanitarian distribution programs.
2. Enable the private sector to be involved in providing some of the communication services in the country such as ISPs and mobile telephony.
3. Utilize the military network built by the Saddam regime for civilian use.
4. Develop a standard and simple "government bid proposal" to encourage small businesses and entrepreneurs to import required hardware and software and establish information and communication services
5. Collaborate with neighboring countries that have modern infrastructure such as Iran, Turkey, UAE, and Kuwait to benefit from their experiences, cost allocation, time and resources required, management risks and preparations.

We recommend the following target level of services in two years (per 100)

Year	Daily newspaper	Telephone main lines	Cellular phone subscribers	Personal computers
Now	20	30	--	--
2004	60	10	10	4

Total cost is estimated at

- o \$2.5 billion for telephony
- o \$1.2 billion for cellular telephony
- o \$1 billion for computers

Advanced Services Stage

Beyond first two years, we recommend to match or exceed the highest service levels of countries with similar per capita GDP and similar economies, particularly oil producing countries.

1. Introduce a modern digital infrastructure for telephony to all regions of Iraq based on project phasing plan
2. Introduce a high-speed IP-based infrastructure to support voice and data services and cover major population areas in Iraq. This backbone should consist of
 - a. An optical backbone for metropolitan area networks based on approximately 7 Network Operation Centers (NOCs) distributed thorough the Iraqi regions and connected to provide a fail-over and redundant network capabilities.
 - b. A distribution (last-mile network) that consists of a hybrid infrastructure of wire-line and wireless (including satellite)

The subcommittee established the following guidelines for goal setting in the Advance Services Stage

- Service levels should be proportional to the country's per capita GDP of countries with similar economies.
- Regulate the airwaves and information distribution channels to enable the private sector to contribute to the building of infrastructure
- Coordinate activities by a government agency (or IDRC) to oversee projects and treat them as public works projects and for job creation at the same time. A preferred list of equipment vendors with proven records in implementing and managing complex projects must be prepared in advance with the assistance provided by the IDRC technical department
- Establish strong enforcement body to prevent abuse and maintain transparency in all projects.
- Establish publishing houses and encourage university researchers, writers, and artists to write books, publish all types articles and issue specialized magazines and periodic
- Establish centers for translating works produced in other countries of the world.

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The telecommunication subcommittee for future of Iraq recommends the following target level of services in 5 years (per 100 for telephone & computer services):

Year	Daily newspaper	Telephone main lines	Cellular phone subscribers	Personal computers
Now	20	3	-	-
2007	200	25	40	10

The telecommunication subcommittee for future of Iraq estimates the total spending in the next 5 years on telecommunication infrastructure, hardware equipments and devices, software, services and distribution by the Government of Iraq and private businesses to reach close to 9 billion US Dollars, base on:

- o \$4.00 billion for telephony
- o \$3.5 billion for cellular telephony
- o \$1.5 billion for computers

This subcommittee also estimates the total spending on the digital/IP data network infrastructure in the next 5 years to reach approximately \$2.0 billion. Iraq Freedom of Information Act

Freedom of expression is a cornerstone for any democratic society. Freedom of access to information safeguards a democracy. Free access to information distribution channels is crucial to the success of a democratic system.

This subcommittee recommends the establishment of an "Iraq Freedom of Information Act" in the post-Saddam Iraq. Public service channels, both radio and TV that are not affiliated with the government or political parties, where all views are allowed can go a long way in liberating people and fulfilling their aspiration for freedoms as well as safeguarding the new budding democracy in Iraq.

This subcommittee recommends that

- a. Local radio and TV broadcast be restricted to civil organization and preventing their ownership by political parties or the government.
- b. Political parties should be allowed to use satellite as a vehicle to broadcast their political thought throughout the country.
- c. Any group should be allowed to publish in a newspaper or a magazine their ideas in written form or any other form of expression.
- d. Strong regulation should be developed against the publishing of obscene materials, slanderous expressions that infringe on the reputation of others without evidence and expressions whose target is to insight anger and acts of violence.

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- e. Establish laws and processes for access to government information and records to ensure transparency and accountability in government. All citizens have the right to know.

Enforcement of Regulation

With freedom comes responsibility. To prevent the deterioration of the media outlets into forums for personal attacks on political opponents, strict enforcement of slander laws needs to be in place. An independent commission, representing a coalition of political parties should oversee the enforcement of such regulation enforcement.

Preface

Iraq, the cradle of civilization, the people that introduced the first law and civil society in history is at last preparing to join the free world, after over 30 years of draconian oppression and tyrannical rule. Saddam's mafia-style government has caused massive damage to Iraq's infrastructure during the past 20 years since the first Gulf War, as a result of gross miscalculations and self-centered adventures. Repairs of the infrastructure will take billions of dollars and tens of years let alone bringing it to 21st century standards of modern societies.

Ironically, the same tyrant himself has created the necessary environment for his own demise. The free world, led by the United States of America, has reached the conclusion that without removing this dictator from power, the whole region will continue to be in turmoil and the new phenomenon of extremism that has led to unthinkable terrorism against innocent civilians will continue unabated. At last, the people of Iraq can hope to restore their lost freedoms with the help of the free world.

Introduction

The Future of Iraq Project, its workgroup on Economy and Infrastructure, and this subcommittee on Information and Telecommunication Infrastructure aim at preparing a set of recommendations for post-Saddam Iraq, both short term, i.e. urgent, and long term, i.e. strategic.

Mission

Advise the post-Saddam transitional Iraqi government on the restoration and development of information and telecommunication infrastructure in Iraq. Identify information and telecommunication infrastructure projects and action plans that facilitate the delivery and exchange of free content among the citizens of Iraq, connect them to each other and to the rest of the world, facilitate economic growth, improve their quality of life, protect freedom and democracy, and provide jobs. Recommend guidelines for an Iraqi freedom of Information Act to govern all types of media such as Television, Radio, Newspapers, Magazines, Internet access, Internet content, and others.

Action Plan

The subcommittee's action plan is to:

- a. Assess the current state of Information and Telecommunication Infrastructure in Iraq.
- b. Identify Infrastructure initiatives needed, the day after Saddam, to maintain and support essential services; distribution of food and drinking water, medical services, sanitation, transportation and security.
- c. Recommend Infrastructure goals to meet in the first 180 days and within the first two years following the liberation of Iraq and beyond.

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- d. Specify, at a high level, the requirements to meet these Infrastructure goals.
- e. Initiate the process for setting guidelines for a Freedom of Information Act for Iraq

Segments of Information and Telecommunication Infrastructure

During the final two decades of the 20th century, the world embarked on a new information and telecommunication revolution. Information and telecommunication infrastructure has become the backbone of modern societies.

To conduct its business, the subcommittee divided Information and Telecommunication Infrastructure into the following segments:

Terminal Appliances

These include radio sets, television sets, computers, telephones and mobile phones.

Distribution Networks

These include the telephone network, radio spectrum including satellite, and Internet and data networks.

Content Production Facilities

These include radio stations, television stations, newspaper and magazine publishers, book publishers and Iraq's portion of the World Wide Web.

Facts About Iraq⁴

The following are facts about Iraq for reference:

General Information

Total Land Area:	437,370 km ²
Coastline:	58 km
Capital:	Baghdad, population: 4,850,000 (estimated 2002)
Other large cities	Mosul: 664,221; Irbil: 485,968; Karkuk: 418,624; Basra: 406,296; Karbala: 400,000 estimated; Najaf: 400,000 estimated

⁴ The entire section (except where indicated otherwise) is based on information posted on the web site for the Statistical, Economic and Social Resource and Training Center for Islamic Countries: www.sesrtcic.org

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Demography

	1999	2002 ⁵ (estimated)
Population:	22.99 million	24.00 million
Crude Birth Rate:	32/1000	34.2/1000
Crude Death Rate:	10/1000	6.02/1000 ⁶
Infant Mortality Rate:	101/1000	57.6/1000
Life Expectancy:	Male: 58 years; Female: 60 years	
Urban Population:	76.0 percent	
Adult Literacy:	58.00 percent (1998)	60.00 percent (1991)

Economy

Iraq has remarkable resources of oil, natural gas, phosphates and sulfur with an economy heavily dependent on exports of crude oil and petrochemicals. It has the second largest oil reserves and had become the second largest exporter of hydrocarbons in the world prior to the Gulf War. Manufacturing plays a relatively smaller role in the economy. All large-scale industry is currently publicly owned and includes iron, steel, cement, pharmaceutical, and fertilizer productions. Small private industrial companies are engaged in food processing and textiles. Iraq has a skilled work force. Most of the fertile irrigated land is available for agricultural purposes and 30 percent of the work force is employed in agriculture.

	1991	2002 ⁷
GDP at Current Market Prices:	64,116 million US\$ (1991)	57 billion US\$
Per Capita GDP:	3,483 US\$ (1991)	2,500 US\$
Share of Sectors in GDP:	6.0% Agriculture, 13.0% Industry, 81.0% Services, (1998)	
Total Exports:	8,738 million US\$ (1999)	21.8 billion US\$ (2000 est.)
Total Imports:	1,513 million US\$ (1999)	13.8 billion US\$ (2000 est.)

⁵ www.infoplease.com

⁶ Source: CIA web page on Iraq: www.cia.gov/cia/publications/actbook

⁷ Source: CIA web page on Iraq: www.cia.gov/cia/publications/actbook

Economic Statistics of Selected Countries⁸ (Year 2000)

Country	GDP/PPP in billions	GDP/PPP per capita	Real growth rate (%)	Inflation (%)
Algeria	171	5,500	5.0	2.0
Egypt	247	3,600	5.0	3.0
Iran	413	6,300	3.0	16.0
Iraq	57	2,500	15.0	100.0
Israel	110.2	18,900	5.9	0.1
Jordan	17.3	3,500	2.0	0.7
Lebanon	18.2	5,000	1.0	0.0
Libya	45.4	8,900	6.5	18.5
Morocco	105	3,500	0.8	2.0
Saudi Arabia	232	10,500	4.0	0.5
Spain	720.8	18,000	4.0	3.4
Syria	50.9	3,100	3.5	1.5
Turkey	444	6,800	6.0	39.0
UAE	54	22,800	4.0	4.5
U.S.	9,963	36,200	5.0	3.4

Definitions: Gross domestic product (GDP): The value of all goods and services produced domestically. Purchasing power parity (PPP): The PPP method involves the use of standardized international dollar price weights, which are applied to the GDP produced in a given economy. The data derived from the 1998 method provide a better comparison of economic well-being between countries than conversions at official currency exchange rates. n.a. = not available.

Source: U.S. Census Bureau, International Database and *The World Factbook*, 2001.

Current State of Information and Telecommunication Infrastructure in Iraq

The information presented in this section come from data obtained from United Nations and US government web sites that are generally available statistics. Some of this information may be outdated, since the infrastructure has been under a continuous state of deterioration. Furthermore, the liberation of Iraq may result into additional damage to the infrastructure:

This group certainly hopes that the rules of engagement given to the liberation forces would include sparing infrastructure from any unnecessary additional destruction.

According to the UN Oil for Food program report (May 2002)⁹: "The present state of telecommunication system throughout Iraq is extremely poor. Apart

⁸ <http://www.infoplease.com/ipa/A0874911.html>

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from the wider social considerations, there are negative consequences for the efficient procurement and distribution of humanitarian supplies." Furthermore, "In the health sector, poor communications between warehouses and hospitals have contributed to delays in the collection of supplies by health facilities. The absence of adequate data links has also hindered the timely passing on of accurate information on requirements." The report continues: "At present, the transfer of computer files (data transfer) is almost impossible via the public telephone network and affects directly UN observation activities and reporting. The mission, further, concluded that the rehabilitation and modernization of the telecommunication network is a huge development project. It would require an investment of US\$ 1 billion or more and its implementation could take between 7 and 10 years."

Under the Oil-For-Food program, Iraq has allocated more than \$2.5 billion for the telecommunication sector, out of which only \$873 million has arrived to the country. The Security Council has approved contracts with a value of \$1.7 billion. Contracts worth \$450 million are still on hold. Details of supplies and equipment to be procured under this program can be found in the annexes of the program distribution plans from phase 1 to 12.

International companies that are contracted to implement telecommunications projects in Iraq, under the Oil-for-Food Program, include Siemens (German company), which is contracted for implementation of projects in Iraqi-Kurdistan and Alcatel (French company), which is contracted to implement projects in the rest of Iraq. Both companies have representative offices in Iraqi-Kurdistan and the rest of Iraq.

State of Terminal Appliances

The following table¹⁰ shows the number of terminal appliances per 100 inhabitants for each year, over the period between 1985 and 2002.

	85	86	87	88	89	90	91	92	93	94	95	96	97	98	--	02
Radio	--	--	--	--	--	--	--	--	--	--	--	--	22	--	--	--
TV	5.7	6.1	--	6.8	6.8	6.9	7.2	7.3	7.5	7.5	8.0	8.2	8.3	8.3	--	--
Telephone	5.6	--	4.1	4.0	3.9	3.7	3.6	3.5	3.4	3.4	3.3	3.3	3.2	3.1	--	--

Note: Today, the world average number of phone sets per 100 persons is 10.

State of Distribution Networks

Content distribution networks suffered severe destruction during the Gulf war and the embargo throughout the past ten years.

⁹ <http://www.un.org/Depts/oip/dp/dp11/execsummary.pdf>

¹⁰ Source: Statistical, Economic and Social Research and Training Center for Islamic Countries web site: www.sesrtcic.org

¹¹ Source: www.infoplease.com

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Telephony Infrastructure

The telephone infrastructure in Iraq is mainly analog and requires massive upgrade to a digital infrastructure. It consists of two analog networks (Coaxial and Microwave) making a figure 8 shape covering Iraq from Mosul to Basrah intersecting in Baghdad. International connections are through 3 old satellite stations, and coaxial cable and microwave radio relays to Jordan, Syria, Turkey and Kuwait.

Telephones - main lines in use: 675,000 (1997)

Telephones - mobile cellular: NA; service available in northern Iraq (2001)

Telephone system: *domestic:* coaxial cables and microwave radio relay links.
international: satellite earth stations –
2 Intelsat (1 Atlantic Ocean and 1 Indian Ocean),
1 Intersputnik (Atlantic Ocean region), and
1 Arabsat (inoperative); plus
coaxial cable and microwave radio relay to Jordan,
Kuwait, Syria, and Turkey;
Kuwait line is probably nonoperational

Satellite earth stations 2 Intelsat (1 Atlantic Ocean and 1 Indian Ocean),
1 Intersputnik (Atlantic Ocean region), and
1 Arabsat (inoperative)

Telephony Infrastructure in Iraqi-Kurdistan since 1991

Since 1991, the telecommunication network in Iraqi-Kurdistan was disconnected from the Iraqi national network. Most telecommunication systems were installed in IK during the 1970s and 1980s. It was not possible and, often not economical to maintain or extend these old systems to accommodate the current needs in the region. The Kurdish Regional Government, KRG replaced the infrastructure with a new Digital system in Dohuk, Erbil and Sulimaniyah. But, solution choices were limited to those available in the Turkish and Iranian markets.

More than 100,000 lines were made available to the public. Telephone density in IK today is 2.8 telephones per 100 inhabitants. There are more than 500,000 families living in Iraqi-Kurdistan. The goal of the local telecommunication authorities is to increase the number of available lines to 500,000 to allow every family to have a telephone line. Currently a new fixed home phone line can be installed upon request for a fee of \$400 plus a monthly fee based on use. International calls, can not be made directly from home lines, but can be made using private communication centers using V-SAT systems with a fee of 30cents per minute.

Private companies using the V-SAT system introduced mobile phones to the market. A cellular phone with a line can be purchased for \$400. Additional charges are based on usage for 30 cents per minute. There are more than 20,000 cell phone holders in IK. You can make and receive international calls with these phones.

Radio Spectrum

The radio spectrum is highly regulated in Iraq and hardly any of it is available for the private sector. In most of Middle Eastern countries, governments control the communication and information media. Freedom of press has been sparse. In most of these countries the main role of the local media is transmitting official government statements. They are not allowed to criticize government actions.

The Internet in Iraq

Internet connectivity in Iraq is very low; in fact it is one of the least connected regions in the world. There are a number of reasons for this, among them, the lack of the current government will to introduce Internet for fear of losing control over information, poor communication infrastructure and affordability of people. Despite this, there is limited Internet access in Iraq.

The Ministry of Information has Internet access along with a few other selected locations controlled and monitored by the ministry. Considering that even satellite dishes are prohibited in the country, it is not surprising that there is very little Internet access in Iraq.

It is very difficult to find an accurate estimate for the number of users of the Internet in Iraq. In fact it is a near-impossible task given the problems involved. First, the Internet, as a network, is expanding all the time in most regions. Second, in many cases multiple users use a single Internet account. Nonetheless, it is estimated that there were about 12,500 Internet users in 2001.

The number of Internet users worldwide was around 410 million as of 2001, which is 6.7 percent of world population. Of this, the Middle East accounts for a share of only 4.5 million users. The top three countries of the Middle East in terms of Internet users are respectively, Turkey with around 1.5 million users, Israel with just over one million users, and United Arab Emirates with around 500,000 users.

Internet Access in Iraqi-Kurdistan

In Kurdistan Region there is Internet connectivity, despite the fact that the state of telecommunication infrastructure has been very poor in the region. Most KRG ministries in Erbil and most of the colleges of Salahaddin and Duhok universities have Internet access. Plans are underway to further expand Internet connectivity

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into all university colleges and technical institutes. There are probably around 10,000 Internet users in Kurdistan Region.

WEB-SAT <www.web-sat.com>, a low-cost, high-speed, two-way Internet access system via satellite make up the basis of Internet access infrastructure in Iraqi-Kurdistan. Web-Sat service is independent of telephone lines or any local ISP connection. It is a low-cost, high-tech solution to Internet access in areas where local telecommunications are not up to today's high-speed requirements. The system comprises of two interface cards (2 PCI cards which fit in your PC/Server) with an 84cm Receive/Transmit dish and installation software CD. Most KRG Ministries, universities, Internet cafes use the WEB-SAT system.

Other private and business usage via telephone dial-up is also available through KURDISTAN-NET ISP <www.kurdistan-net.com>. The company offers unlimited or by-the-hour Internet access.

- Registration fee: \$50 or its equivalent in local currency to be paid once.
- Monthly subscription fees:
 1. Unlimited subscription: \$50 or its equivalent in local currency
 2. Limited subscription by hours: is according to

15 hours a month	125 dinar
30 hours a month	250 dinar
45 hours a month	375 dinar + 2 free hours
60 hours a month	500 dinar + 5 free hours

State of Content Production Facilities

Content production facilities are strictly regulated in Iraq except in Iraqi-Kurdistan. Government agencies and the ruling Ba'ath party strictly own TV and radio stations as well as newspapers and magazines in Iraq.

Radio broadcast stations: AM 19 (5 are inactive), FM 51, shortwave 4 (1998)
Television broadcast stations: 13 (1997)
Newspapers (daily): 20 (1996)
Publishers: Unknown
Web sites: Limited to government institutions

Media in Iraqi-Kurdistan

More than 15 TV stations were established in the three Kurdish governorates, in addition to more than 20 radio stations, which broadcast at SW and FM. Today in IK, there are more than 167 daily, weekly, bi-weekly and monthly newspapers

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and magazines being published. In 1999 Kurdistan satellite channel started broadcasting from Erbil, and later KURDSAT Satellite channel broadcasted from Suliemanayah.

**Iraq vs. Other Countries in the Region in Terminal Appliances
Radio, Television, Telephones, and Computers by Country¹²**
(rates per 1,000 persons)

Country	Radio receivers, 1997	Television receivers, 1997	Telephone main lines, 2000	Cellular phone subscribers, 2000	Personal computers, 2000
Egypt	317	119	81	20	12
Iran	263	71	149	15	56
Iraq	229	83	30	—	n.a.
Lebanon	907	375	201	194	46
Syria	278	70	104	2	14
Turkey	178	330	280	246	38
USA	2,116	806	673	400	585

Sources: Except as noted, newspapers, radio, and television—United Nations Educational, Scientific, and Cultural Organization, Paris, France, *Statistical Yearbook* (copyright); telephones, cellular phones, and personal computers—International Telecommunications Union, Geneva, Switzerland, *World Telecommunication Indicators* (copyright).

Iraq vs. Other Countries in the Region in Content Production Facilities

Country	Daily ¹³ newspaper circulation, 1996
Egypt	38
Iran	26
Iraq	20
Lebanon	141
Turkey	110
USA	212

Sources: Except as noted, newspapers, radio, and television—United Nations Educational, Scientific, and Cultural Organization, Paris, France, *Statistical Yearbook* (copyright); telephones, cellular phones, and personal computers—International Telecommunications Union, Geneva, Switzerland, *World Telecommunication Indicators* (copyright).

¹² <http://www.infoplease.com/ipa/A0883396.html>

¹³ <http://www.infoplease.com/ipa/A0883396.html>

The following two maps outline the demographic distribution as well as the layout of existing telecommunication infrastructure relative to the demographic distribution.

Geographic Distribution of Population

<u>Governorate</u>	<u>Population</u>
Ninevah	2486466
Tameem	869246
Baghdad	6408160
Salah Al-Din	961577
Diala	1254391
Anbar	1254241
Babylon	1390695
Kerbala	733121
Najaf	940966
Qadisiya	904455
Muthana	549259
Basrah	1954698
Maysan	836639
Thi-Qar	1519490
Wasit	927166
Dahuk	807005
Erbil	1316162
Sulaymaniyah	1584683
Total	26698420

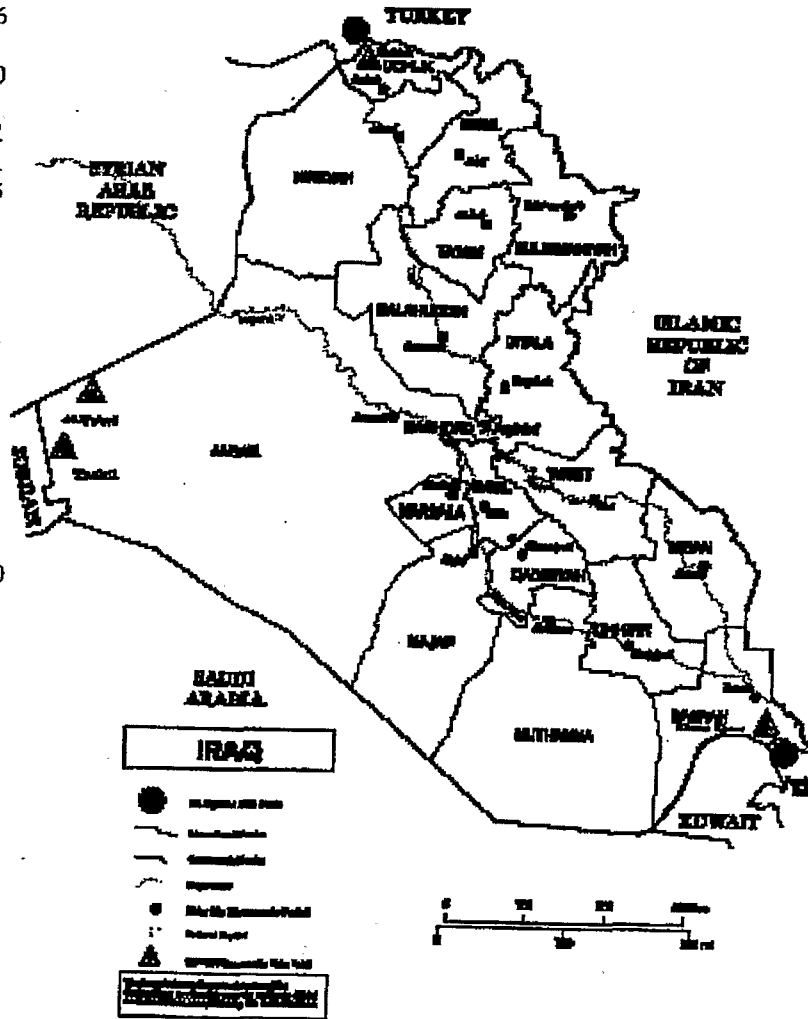


Figure 1
Demographic Distribution of Population in Iraq over Eighteen Governorates

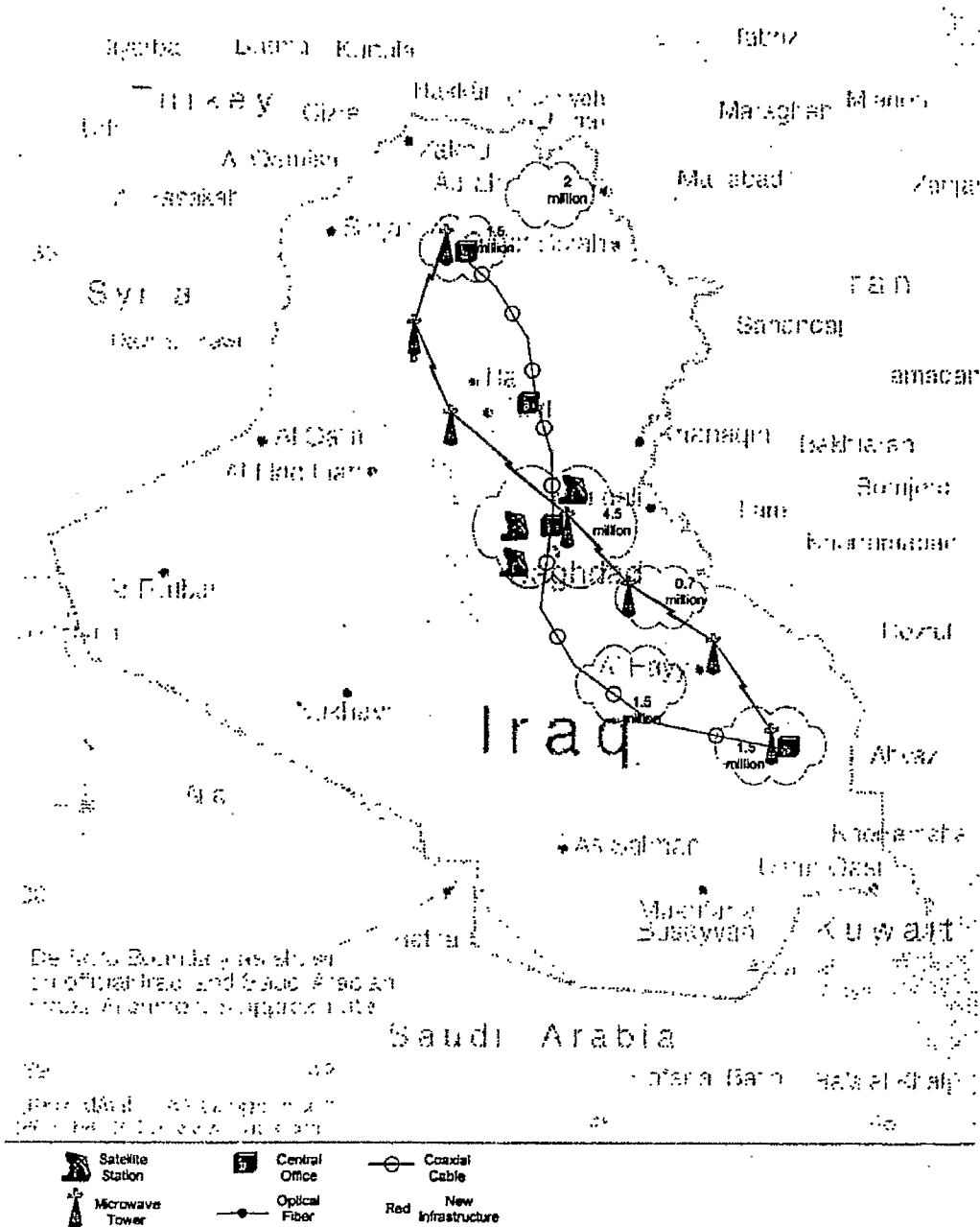


Figure 2 Existing Telecommunications Infrastructure in Iraq¹⁴

¹⁴ There are a number of other microwave and coaxial links that are used by the military only, which can be utilized for civilian use. E.g. a coaxial link to Western Desert.

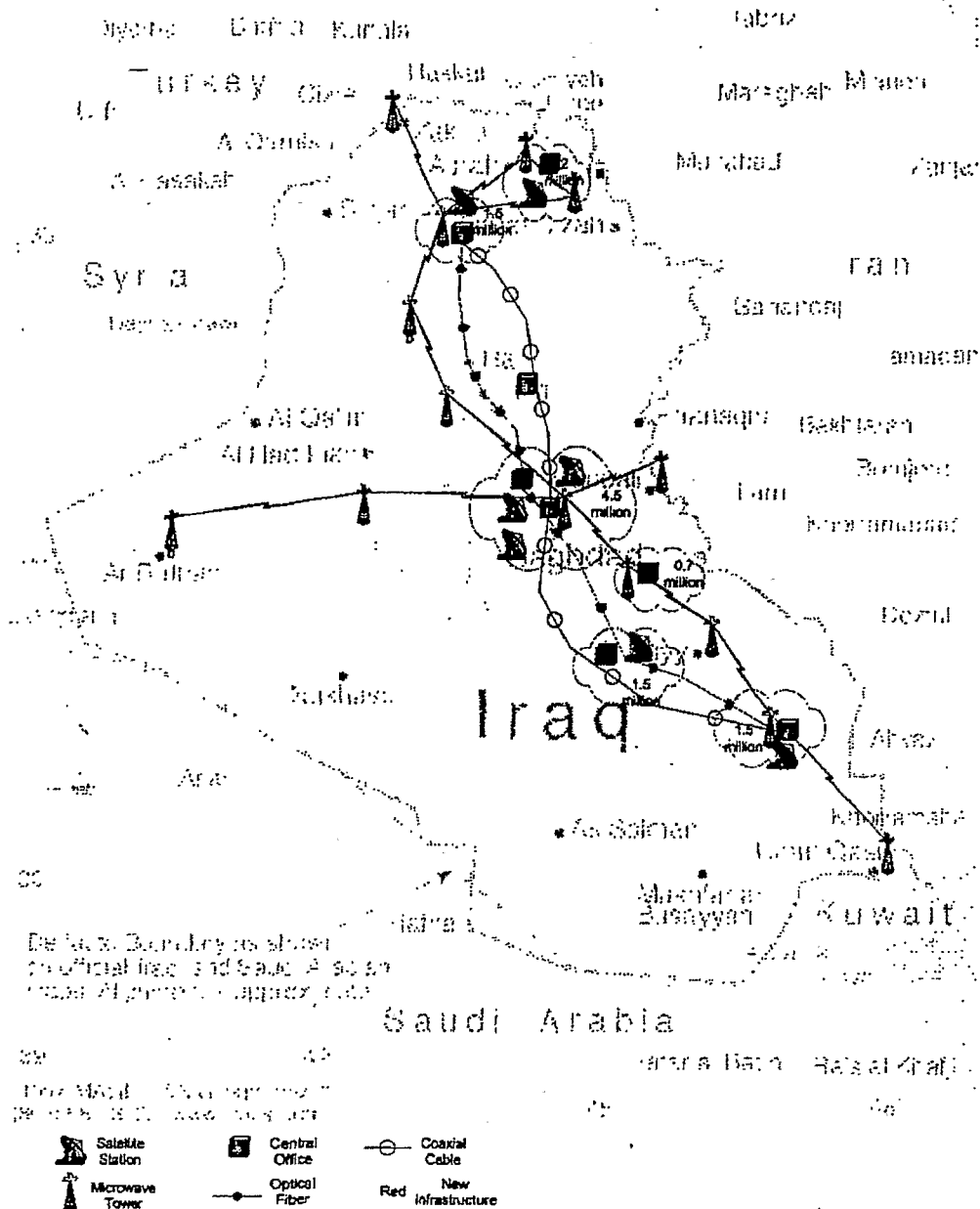


Figure 3
Existing and Recommended Telecommunications Infrastructure in Iraq

Challenges and Target Focus

The potential benefits of developing a sound technology strategy for Iraq are immense. Success in executing even a small "planned" steps have an immediate impact not only on productivity and profits for the Iraqi people, but also can generate new jobs and enhance livelihoods. This section focuses on some of the challenges and constraints facing Iraq during the post Saddam transition period:

- Gathering facts in a timely manner about current information and telecommunication infrastructure
- Introducing new infrastructure into major population areas
- Shortage of skilled labor as well as training local labor
- Establishing a regulatory framework to enable contributions from private sector
- Introducing regulated free press and free media in an orderly fashion, which we propose to be introduced under a comprehensive Freedom of Information Act for Iraq

Utilize the experience accumulated in Kurdistan from the past 10 years in building telecommunication infrastructure, assessment of needs, skills requirement, identification of vendors & equipments, information regulations and de-regulation procedures, Internet access, and licensing issues

Subcommittee Recommendations

The subcommittee established the following guidelines for setting up its recommendations, *i.e.* initiatives should take into consideration the following:

- Geographic distribution of population around Iraq.
- The infrastructure in neighboring countries and countries with similar per capita GDP.
- In parallel, fix what is there, and plan to build new infrastructure.
- Leverage existing military and security infrastructure such as the coaxial cable network to the western desert, including the optical data network if it survives the military destruction.
- Although significant improvement has been made on the infrastructure developed in Iraqi-Kurdistan over the past decade, the quality of services is still very poor due to the limited resources of the region. Therefore, the planning should make sure that the region is also upgraded and integrated fully into the rest of the country
 - Telecommunications Ministry replaced Analog exchanges in Dohuk, Erbil and Sulimaniyah with new Digital exchanges, but significant additional work is needed in other major population centers.
 - More than 100,000 new lines were made available for the public. Telephone density in IK is still 2.8 telephones per 100 inhabitants

- despite the substantial improvement that was made on the infrastructure relative to times before the liberation of IK.
 - Private companies using the V-SAT system introduced 20,000 mobile phones to the market.
 - There are 10,000 Internet users in Kurdistan through WEB-SAT, a low cost-high speed - two way Internet via satellite
 - There is no political censorship in Iraqi Kurdistan.
 - Media outlets belong mainly to political parties. No outlets are commercial!
- In building the new infrastructure, special considerations should be made to introduce the same quality of service throughout the country and not to focus only on the capitol
- Leverage all Iraqi and non-Iraqi expertise that can be made available to Iraq after the regime change
- The subcommittee is to use a phasing scheme process when planning on implementing new telecommunication infrastructure projects that are flexible, scalable, and extensible, utilizing open standard technologies and equipments

Recovery and Development Stages

We recommend three stages of recovery and development after the liberation of Iraq:

1. **Recovery Stage**, which deals with the restoration or establishment of essential information and telecommunication services.
2. **Basic Services Stage**, which deals with the introduction of information and telecommunication infrastructure services that meet basic daily needs of the society
3. **Advance Services Stage**, which deals with the introduction of services that enable Iraq to grow unhindered and match countries of similar per capita GDP that have advanced services.

Recovery Stage - First 180 days

The transition government should create taskforces:

- a. To gather accurate information on the state of the infrastructure and complete it within the first 90 days.
- b. To identify and specify communication infrastructure needed to maintain and support essential services, and
- c. To identify the skills required by the workforce responsible for building, maintaining and operating the telecommunication infrastructure in Iraq.

The replacement of damaged or obsolete equipment and introduction of some new equipment that will improve communications in areas of activities of the

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humanitarian program in major metropolitan areas is of utmost priority. This will directly have positive impact on the improvement of the procurement and distribution system of humanitarian supplies.

The installation of telecommunication projects requires high level of expertise. Before 1991, the local staff of ITPC used to carry out all the installation of telecomm equipment with minor supervision from the suppliers. The same staff was able to put the majority of the remaining systems immediately after the war into operation. We recommend the use of local resources for the installation and commissioning of the projects, to minimize expenditures.

It goes without saying that the new equipment to be purchased is of new technical generation. This will require training in the manufacturer premises.

During the recovery stage the existing recommendations made by the UN Oil for Food Program should be implemented immediately. These are:

1. Replace the analog Baghdad Junction Network (BJN) with a digital network at a cost of approximately \$15 million. It is estimated that the replacement of the transmission lines could be made operational within six to eight months. The subcommittee should identify immediately a capable and a well-known vendors to plan, design and implement this phase of the project and plan the subsequent phases in Baghdad and other Iraqi cities.
2. Replace the international communication facilities (Earth station, international exchange and the analogue microwave link between them) with modern digital infrastructure.
3. Replace four old crossbar exchanges (Karbala, Diwaniya, Nasiriyah and Basrah) and of the obsolete analogue microwave link between Baghdad and Basrah with a digital link and extend it to the port of Um Qasr, the entry point of the main portion of humanitarian commodities. This microwave link will pass seven governorates whose total population is more than (7) million and considered as the most populated region in Iraq.
4. Replace three exchanges in Baghdad that were completely damaged during the Gulf war with modern digital exchanges.
5. Replace switching centers in the three main cities of IK, Dohuk, Erbil, and Suleimaniyah and connect them with microwave links.

The cost of the above projects is estimated to between \$160-\$200 million

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- 6. We also recommend the introduction of a small mobile telecommunication network for (50,000) subscribers in Baghdad, and a (10,000) subscribers network in the center of each of the governorates in Iraq at an estimated cost of about \$80 million.
- 7. We also recommend the introduction of mobile telephony in an aggressive way into Iraq by allowing several vendors to compete in entering the Iraqi market on condition that they bear the cost of initial deployment of infrastructure and subsidize heavily handsets and monthly charges.

The cost of infrastructure for 1 cell phone per 100 people in Iraq is estimated at about \$125 million. To give each family one cell-phone, assuming an average family consists of 5 members, will cost up to \$25 billion for infrastructure.

Basic Services Stage

In the first two years, we recommend:

- 1. Introduction of data network to allow connection of computers in all warehouses and Government Ministries and agencies, private businesses such as manufactures, export and import firms and other parties involved in the humanitarian distribution programs.
- 2. Enable the private sector to be involved in providing some of the communication services in the country such as ISPs and mobile telephony.
- 3. Utilize the military network built by the Saddam regime for civilian use.
- 4. Develop a standard and simple " government bid proposal" to encourage small businesses and entrepreneurs to import required hardware and software and establish information and communication services
- 5. Collaborate with neighboring countries that have modern infrastructure such as Iran, Turkey, UAE, and Kuwait to benefit from their experiences, cost allocation, time and resources required, management risks and preparations.

We recommend the following target level of services in two years (per 100)

Year	Daily newspaper	Telephone main lines	Cellular phone subscribers	Personal computers
Now	20	30	-	-
2004	60	10	10	4

Total cost is estimated at

- o \$2 billion for telephony
- o \$1.2 billion for cellular telephony
- o \$1 billion for computers

Advanced Services Stage

Beyond first two years, we recommend to match or exceed the highest service levels in countries with similar per capita GDP and similar economies, particularly oil producing countries:

1. Introduce a modern digital infrastructure for telephony to all regions of Iraq based on project phasing plan
2. Introduce a high-speed IP-based infrastructure to support voice and data services and cover major population areas in Iraq. This backbone should consist of:
 - a. An optical backbone for metropolitan area networks based on approximately 7 Network Operation Centers (NOCs) distributed thorough Iraq and connected to provide fail-over and redundant network capabilities.
 - b. A distribution (last-mile network) that consists of a hybrid infrastructure of wire-line and wireless (including satellite)

The subcommittee established the following guidelines for goal setting in the Advance Services Stage

- Service levels should be proportional to the country's per capita GDP of countries with similar economies.
- Regulate the airwaves and information distribution channels to enable the private sector to contribute to the building of infrastructure
- Coordinate activities by a government agency (or IDRC) to oversee projects and treat them as public works projects and for job creation at the same time. A preferred list of equipment vendors with proven records in implementing and managing complex projects must be prepared in advance with the assistance from the IDRC technical department
- Establish strong enforcement body to prevent abuse and maintain transparency in all projects.
- Establish publishing houses and encourage university researchers, writers, and artists to write books and publish all types of articles and issue specialized magazines and periodic
- Establish centers for translating works produced in other countries of the world.

The telecommunication subcommittee for future of Iraq recommends the following target level of services in 5 years (per 100 for telephone & computer services):

Year	Daily newspaper	Telephone main lines	Cellular phone subscribers	Personal computers
Now	20	3	-	-
2007	200	25	40	10

The telecommunication subcommittee for future of Iraq estimates the total spending in the next 5 years on telecommunication infrastructure, hardware equipments and devices, software, services and distribution by the Government of Iraq and private businesses to reach close to 9 billion US Dollars, base on:

- o \$4.00 billion for telephony
- o \$3.5 billion for cellular telephony
- o \$1.5 billion for computers

This subcommittee also estimates the total spending on the digital/IP data network infrastructure in the next 5 years to reach approximately \$2.0 billion.

Iraq Freedom of Information Act

Freedom of expression is a cornerstone for any democratic society. Freedom of access to information safeguards a democracy. Free access to information distribution channels is crucial to the success of a democratic system.

In most of Middle Eastern countries, governments control the communication and information media. Freedom of the press is rare. In most of these countries the main role of the local media is transmitting official government statements. They are not allowed to criticize government actions.

There is no genuine Civil Society Institutions (CSI) in Iraq. Those that existed were overtaken by the regime. It is important to encourage private and independent establishments to lead the media sector.

We recommend the establishment of a "Freedom of Information Act" in the post-Saddam Iraq. Public service channels, both radio and TV that are not affiliated with the government or political parties, where all views are allowed can go a long way in liberating people and fulfilling their aspiration for freedoms as well as safeguarding the new budding democracy in Iraq.

Drafting new administrative laws and regulations for the operation of TV and radio stations, provided that there would be no restriction imposed on free expression and independent thinking. These regulations should focus on

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licensing procedures, technical aspects such as the use of transmission waves, how far the broadcast is allowed to reach, the percentage of locally produced materials (what percentage of external broadcasting is integrated to the local broadcasting), honesty and objectivity when dealing with the political issues, preventing using the media for political purposes or to promote fundamental and restrictive thinking, or to promote hatred or terror.

Encourage local initiatives for spreading democratic practices and thought, as there is a need to increase the sources and documentation of such information in the local languages throughout Iraq.

This Subcommittee recommends that

- a. Local radio and TV broadcast be restricted to civil organization and preventing their ownership by political parties or the government.
- b. Political parties should be allowed to use satellite as a vehicle to broadcast their political thought throughout the country.
- c. Any group should be allowed to publish in a newspaper or a magazine their ideas in written form or any other form of expression.
- d. Strong regulation should be developed against the publishing of obscene materials, slanderous expressions that infringe on the reputation of others without evidence and expressions whose target is to incite anger and acts of violence.
- e. Establish laws and processes for access to government information and records to ensure transparency and accountability in government. All citizens have the right to know.

Enforcement of Regulation

With freedom comes responsibility. To prevent the deterioration of the media outlets into forums for personal attacks on political opponents, strict enforcement of slander laws needs to be in place. An independent commission, representing a coalition of political parties should oversee the enforcement of such regulation enforcement.

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Inputs from UN reports

Jan 2003

Railways

The Iraqi Railways plays a great part in the transportation of food and agriculture products, beginning with the first stage of farming by providing fertilizers, seeds, etc. This kind of transportation from most of the cities in Iraq to different parts of the country requires special wagons and rolling stock.

Most of the transportation of food that arrive at Um-Qasr port under 986, especially grains and rice, are carried by railways to most cities of Iraq. The Iraqi Railways cannot fulfill its obligations to distribute the required quantities of food due to the lack of spare parts for locomotives and wagons, which are needed for this huge transportation task.

The number of operating locomotives has been reduced to 65, and the operating number of wagons reduced from 11000 to 1000, representing different kinds of wagons, because of this shortage of spare parts needed for major maintenance.

The Iraqi Railways need 365 locomotives per day to be in a position to assure a minimum standard of transportation service. Moreover, the condition of the present railway track system, totaling about 2500 KM, is not in a state of repair which permits the acceptance of this number of locomotives and wagons, because of the non availability of spare parts and materials for maintenance of the tracks, including spare parts for track-maintenance machines.

This situation affects the capacity and the safety of the rail transport system, and will only deteriorate further unless urgent measures are taken to halt the decline.

Ports

1. The port of Um-Qasr is now the only port in Iraq authorized to receive commodities imported to Iraq under 986. Since 1991 the port facilities have not been maintained and consequently they have now degraded to an extent, which is severely limiting the ability to handle humanitarian supplies. To prevent further degradation in the situation it is necessary to dredge the entry channels and repair the port facilities.
2. Dredging. Prior to 1991, the channel and wharf could accept vessels with a draught of 10.5 meters. Today that draught has been reduced to 8.5 - 9 meters, and as result larger vessels discharge in Jordan, (Aqaba), and goods are transported by road to Iraq a distance of 1350 KM. This adds 4 to 5 days to the transit time and increase transport cost by \$38-40 per metric tons. Dredging the channels and port will increase in the capacity of Um-Qasr will lead to an increase in the capacity and result in more vessels using the port. This will increase the rate of delivery of Humanitarian Supplies into Iraq and reduce the landed cost of goods by \$38 - \$ 40 per metric tons.

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3. **Port Facilities.** The state of port facilities has similarly degenerated. Mechanical handling equipment is old and inefficient; safety equipment, including fire fighting equipment, is obsolete and unreliable; auxiliary power, essential to provide 24 hours operation and for safety and security, is non-existent. The availability of tugs and pilot vessels imposes delays on berthing and accordingly on the speed of discharging humanitarian supplies. The speed of discharging has a direct effect on the receipt and ultimate distribution of humanitarian supplies, as well as the total cost of commodities. Any improvement in this area will have a positive effect on the humanitarian Programme.

Land Transport

To carry commodities from Umm Qasr and Trebli, different trucks (flat semi trailer, refrigerants, open trailers lorries of different kinds and capacities are required for this purpose. More than 10000 (ten thousand) trucks are required per year.

Public Transport

To overcome congestion in carrying public throughout the country (towns and rural areas), different kinds of busses are required (city and inter city mini busses, coasters, etc.). Since, trains could not meet the demand.

In IK there are more than 5,000 old buses that need to be replaced, and more also need to be procured. Or private companies should be encouraged to run a service of offering transport.

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Future of Iraq Project

Economy and Infrastructure Development Workgroup

DRAFT

**Investment Plan
For the
Water Supply and Sanitation Sector
In Iraq**

January 2003

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1. INTRODUCTION

Iraq has had an advanced system of water treatment plants and supply system. In the Center and South, the system is composed of 210 water treatment plants (WTPs) serving urban populations and 1,200 compact WTPs to serve rural population areas. In sanitation, one third of the population (in urban areas) is served by piped sewage systems with treatment plants and the rest rely on septic tanks aided by fleets of sewage tankers.

However, since 1991 the overall efficiency of the entire system has dropped to 50% of nominal efficiency rates due to the absence of human and financial resources, lack of spare parts, equipment, proper maintenance and lack of sufficient electrical power. The per capita share of water has dropped by up to a half in urban and rural areas. Water quality has also deteriorated during this time.

The deterioration in the quantity and quality of water available has contributed to an increase in the incidence of water-borne diseases among infants and children under five years of age. It has also caused an increase in the prevalence of malnutrition among the under-fives.

Many water treatment plants are malfunctioning due to a lack of spare parts, low maintenance and a reduced number of qualified staff. Electricity shortages and the deteriorating distribution network are also contributing to the decline in water services.

For the Northern part, before 1991, Saddam's Iraqi government conducted a deliberated destruction against Kurdish settlement. More than 4,500 villages were destroyed, and families were relocated by force into a newly created Collective Towns (CT). There were poor WATSAN services in those CT. After 1991, many of the destroyed villages were reconstructed and thousands of families returned back to their original places. But majority are still living in the CT.

During 1980 and 1990, some big projects were implemented to serve the big cities of Dohuk, Erbil and Sulimaniyah, like Chambarkat in Dohuk, Ifrac in Erbil, and Dokan in Sulimaniyah. However, after 20 years, these projects need rehabilitation and extension due to the increased number in the population and demand for water. Especially in rural areas where massive resettlement process is taking place, and other services are improving (like road network, electricity, ... etc).

Water supply had been improved in Iraqi Kurdistan (IK) with resources made available from the oil for food program, especially in rural areas. Many new construction, extension and rehabilitation of the existed water projects took place. Also there has been a good improvement at the Urban and Semi urban areas.

The sanitation services are similarly affected. In Baghdad alone the pumping stations for the sewerage network are functioning at less than 40 percent efficiency. This in turn is leading to a more rapid deterioration of the sewerage network as the pipelines, especially those made of concrete, are corroding faster due sewerage sitting and decomposing in these pipes. Effluent is now leaking from the pipe joints causing the lower soil strata to dissolve and the pipelines themselves to collapse.

Similarly, the state of Sanitation sector is very poor in the Kurdish Region. Currently, with limited support from 986, storm drain networks are implemented in the three main cities, where there is no Sewerage for Waste Water constructed anywhere. At the same time limited sanitation Works is done in the small cities and towns. At the rural areas, sanitation projects are Limited on just the construction of latrines for individual houses.

A new program is needed for an integrated plan for the sanitation sector with emphasis on recycling options and environment protection.

The drought and unavailability of efficient amount of rain during the years of 1999, 2000, and 2001, has increased the concern for water supply to the population. Decision makers should look toward making comprehensive plans to deal with the water issue on a strategic manner.

In the future the WATSAN sector should be given a priority. Parallel to that a campaign for community awareness toward water consumption and water protection should be implemented to ensure household water security.

Today, UNICEF supports the rehabilitation of the WATSAN systems using supplies and equipment procured under the Oil For Food Program (OFFP).

BASIC FACTS

Total Population with water access:

- For the Center and South: 93% of urban population and 48% of rural population. 79% total (15.75 million). Source: UNICEF/Care International (Preliminary Survey results 2001/2002).
- For the North: 97.4% of urban population and 85% of rural population. 93% total (3.2 million). Source: UNICEF (Survey results 2002).

The situation from 1990 – 1999:

- Decrease in quantity of water supply by more than 50 %
- Six-fold increase in water contamination
- Deterioration of raw water quality due to untreated sewage disposal and drought effects
- More than 90% cut in government budget allocation to cover local expenses
- More than 40% cut in number of personnel, loss of experience and expertise of 20 years
- Decrease in auxiliary machinery and equipment (garbage collectors, tractors, loaders, etc) from estimated 6,500 units to 700
- Two-thirds decrease (from 60 to less than 20) in operational workshops, with the remaining 20 in very poor condition.
- Water losses through the deteriorating network have more than doubled (from 15% to more than 35%)
- Frequent power cuts interrupting system operation by at least 10 hours/day.

Progress made from 1997 – June 2001:

- Rehabilitation of 35 Water and Sewerage systems benefiting 5.5 million people.
- On-the-job training of 1,300 technicians and operators
- Undertake a comprehensive sector assessment due for completion by June 2001
- Training of core staff for MIS operation in four local WES authorities

Partner Government Agencies: (for the center and south)

- Baghdad Water Authority (BWA)
- Baghdad Sewerage Authority (BSA)
- General Corporation for Water and Sewerage (GCWS) and local water and sewerage authorities

Partner Government Agencies: (for the north)

- Municipalities in Dohuk, Erbil and Sulimaniyah.
- Departments of Rural Water in Dohuk and Erbil
- Water and Sewerage departments in Dohuk, Erbil and Sulimaniyah.

Future of the program (Sustainability):

- The government at present does not have the financial and technical means to properly maintain water and sanitation systems. It is important to consider resources beyond what is being provided (equipment and supplies) under the Oil-for-Food Program.
- Capacity building of existing local water and sanitation workers.
- Establish/expand water and sanitation Management Information System
- Completion of a comprehensive study to set possible scenario for sector's mid-term and long-term rehabilitation and development.

Other agencies/organizations implementing a similar type of program

- UNPHS (United Nations Program for Human Settlements), especially in the north.
- UNOPS (United Nations Office of Project Services), especially in the north.
- CARE International in the center and south.
- International Committee of the Red Cross across the country.

2. OVERVIEW

a- The Situation in the Center and South

Iraq is a country where water resources are available in abundance. By the end of the last decade Iraq enjoyed potable water coverage of more than 95% in urban areas and 70% in rural areas. The advanced water system in center/south Iraq is composed of 220 traditional water treatment plants mainly to serve urban areas, 1200 compact water treatment plants (mobile) to serve rural areas, 90 well schemes, 130 boosting stations and hundreds of thousands of kilometers of water conveyance pipes. Water is mainly drawn from surface water bodies.

In sanitation, one quarter of the population (in urban areas) is served by piped sewage systems. These systems are composed of 14 sewage treatment plants, some 250 vertical sewage-pumping stations, and more than 1500 sewage and storm submersible pumping stations. 50% of the population relies on septic tanks supported by fleets of cesspool emptiers and the rest dispose of sewage directly into rivers, streets or open areas forming ponds of stagnant water and causing contamination and environmental hazards.

Due to the absence of human and financial resources, lack of spares, equipment and proper maintenance, the system's overall efficiency has dropped drastically over the last decade. At the same time, no new systems have been constructed to cater for the increase in population. This is over-stretching the weakened capacity of the existing systems.

Recent estimates showed that US\$700-800 million is required to rehabilitate the existing system. Rehabilitation, which cover supplies and cash requirements will entail an efficiency increase from a current 40-50% to an average 70%. Filling the gap to reach universal accessibility to Water and Environmental Sanitation services where the under-served and the un-served will also be covered would require several billions of US Dollars.

Problems that characterize the present situation of the sector can be summarized as follows:

1. The quantity of delivered water has deteriorated. The average per capita share of water has decreased due to reduced efficiency of the existing water schemes, increase in the Unaccounted For Water (UFW) and increase in population without having an increase in treated water quantity. (UNICEF/CARE survey in 1997 and preliminary results of 1999-2000 survey)
2. Contamination of water samples increased from an average of less than 5% to more than 25%. Moreover, contamination detection and containment systems are weak.
3. The quality of raw water has drastically deteriorated due to discharges of untreated sewage and other effluents' disposal into surface water bodies. The drought has even magnified the effect of this factor.
4. Auxiliary machinery and equipment such as garbage collectors, tractors, loaders, lorries, excavators, water and sewage tankers, jetting vehicles, personnel and transport vehicles, etc, have dropped from estimated 6,500 units to 700 (statistics of 1997). The number of repair workshops has dropped from more than 60 to less than 20. (Since 1997 and under the Oil For Food program many machinery and equipment were brought to the country and hence the numbers should be up).
5. The number and the quality of personnel - including managers and engineers, technicians, supervisors and clerks and operators drivers and laborers - has decreased substantially due to low income. For example, the current number of staff working for the General Corporation for Water and Sewage is 11,000 - compared to the approved number of posts, which is close to 20,000. Average years of experience dropped from estimated 20 years to 9 years. Exposure to training courses has dropped from 2 weeks/person/year to almost nil.
6. Water losses through the network have increased from an estimated 15% to more than 35%. The incidence of breaks in networks increased threefold. Illegal connections and misuse increase the total amount of UFW to 50%. The same applies for sewage networks.

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7. Power cuts, which directly affect system operations average more than 10 hours/day. The quality of electrical power (missing phases, altered frequency, etc) is also damaging electrical systems. Almost all the standby generators are old and out of order with capacity reduced to 30-50%. The effect of power cuts is actually longer than the duration of the power cut as re-commissioning of the plant and refilling the main pipes of the network normally requires extra hours.
8. Stocks of effective spares have been depleted. For example, the book value of effective spares in Nineveh governorate dropped from US\$391,200 in 1990 to US\$12,500 in 1999.
9. Increase in the number of collapses of sewer pipes. In Baghdad city for example there were 18,000 pipe' settlements and breaks during 1990 - 1997 compared to only 18 during the period 1985 to 1990.
10. Reduction in the water levels of the rivers, branches and tributaries due to the drought season. The dryness of the canals in some rural areas caused complete shut down of water projects. Water discharge in some of the main rivers such as Diala River decreased to 29% of its normal discharge. Maximum flow in the Tigris in the year 2000 is 46% of that in 1996. All of this has had a negative effect on water treatment efficiency.
11. Though the "Oil for Food Programme" (OFFP) Iraq is able to partially cover the supply side of the problem. Supplies that have so far arrived through the programme within the past four years (eight phases of the OFFP) amount to around US\$120 million. This is barely 20% of the required inputs. Moreover, the absence of the cash component is limiting the extent to which benefit is achieved from the arriving supplies. In many cases, spares and equipment are lying idle in warehouses for lack of sufficient cash for installation, purchase of local materials and labor, and operation.

b- The Situation in the North (Kurdish Region)

The impact of Saddam's policies of destruction and neglect to urban and rural settlement and needs for operation and maintenance in IK, and the sanctions on Iraq, has been particularly noticeable in the delivery of infrastructure services such as water supply, drainage, wastewater disposal and the management of solid waste. The current situation could be summarized as follow:

- Current limitations in institutional management capacity, low citizens' awareness on the appropriate use of services, and the absence of resources for funding their operation and maintenance has only compounded the problems in this sector.
- Provision and upgrading of urban infrastructure, particularly water supply, drainage and wastewater disposal, and solid waste ("Urban WatSan") cannot be isolated from broader urban rehabilitation activities. Therefore, programs for their improvement, while specific in nature, need to take into account integral urban rehabilitation strategies.
- UNICEF is the lead agency responsible for developing policy approaches and plans for WatSan sectoral action in the IK under SCR 986 in consultation with the Kurdish Authorities. UNICEF has made a general assessment of present conditions of Urban and Rural WatSan in IK. In the meantime, UNCHS (UN-Habitat) is proceeding with the implementation of integrated programs for housing provision and for the upgrading of rural and urban settlements. WatSan services are an integral part of such programs aiming at providing adequate and efficient shelter solutions to their target groups.
- There are presently clear gaps in the overall implementation of WatSan activities in IK that, if not attended in time, will jeopardize the impact and sustainability of actions in complementary sectors, namely:
 1. Absence of standards and performance criteria for WatSan services in rural and urban areas;
 2. Detailed assessment of WatSan conditions in medium size urban areas, and the setting of priorities for action on a city/town basis (from drinking water production to wastewater treatment);

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3. Detailed assessment of solid waste management needs and options in medium size urban areas, and the setting of priorities for action;
4. Upgrading local capacity for the management of WaSan services in rural and medium size urban areas, including the funding of operation and maintenance routines;
5. Setting of standards and criteria for the improvement/extension of WaSan services in large urban areas, pending the production of citywide plans.

3. GOALS AND OBJECTIVES

Center and South

1. Rehabilitate, repair and maintain water and sanitation facilities including water treatment plants, sewage treatment plants and pumping stations, and associated water supply and sewerage networks in center/south Iraq. Efficiency of rehabilitated/repaired/maintained facilities will increase by 10-30% depending on scope and size of works. Population will benefit from the enhanced services in terms of better quality and quantity of potable water and quality of sewage disposal and treatment.
2. Install new compact water treatment plants coming through the Oil for Food Programme. This will ensure proper water services to un-served rural areas and under-served urban areas in center/south Iraq. Procure more.
3. Install new compact sewage treatment plants coming through the Oil for Food Programme. This will ensure proper sewage disposal thus reducing contamination loads on water bodies.
4. Improve technical capacity of the local workers through exposure to on-the-job-training by the contractors who will undertake the rehabilitation works.
5. Ensure that supplies coming from the Oil for Food Programme are properly installed and functional. This will ensure optimum utilization of these supplies for maximum performance and healthy life span.

North

1. Construction of new, extension and rehabilitation of water projects in IK. Including, securing new sources, improvement in the old networks, capacity building and operation and maintenance. Consideration must be given to the Drought threat.
2. For Water Security, each household should receive:
 - a) For urban dwellers: 250 litter/capital/day
 - b) For semi-urban dwellers: 250-150 litter/ capital/day
 - c) For rural dwellers: 80-100 litter/capital/day
3. Improvement in water quantity should be parallel to improvement in water quality involving good action in purification aspect.
4. Establishing a comprehensive combined storm drainage and wastewater networks in the cities and towns, involving recycling with high technical level.
5. Constructing solid waste management plants with different scales in cities and towns.

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4. SETTLEMENT/MUNICIPALITIES DEMAND

4.1 Population

Iraqi Population per Governorate

Governorate	Population	Adults*	Children under one
Ninewa	2,521,260	2,155,412	65,848
Tamem	881,494	859,791	21,703
Baghdad	6,499,975	6,329,742	178,233
Salah al-Din	976,128	949,461	26,667
Diyala	1,271,310	1,239,573	31,737
Anbar	1,270,952	1,234,399	36,653
Babylon	1,468,730	1,374,081	34,649
Karbala	741,744	722,646	19,098
Najaf	950,222	923,087	27,135
Qadisiya	915,564	891,438	24,126
Muthanna	569,933	553,852	16,081
Basrah	1,981,901	1,922,659	59,242
Masan	848,322	817,591	30,731
Tbi-Qar	1,538,871	1,492,764	46,107
Wasit	938,734	915,174	23,560
Dabuk	817,376	799,130	18,246
Erbil	1,334,176	1,310,784	23,392
Sulaymaniyah	1,685,506	1,582,435	23,071
Total	27,072,198	26,373,919	698,279

4.2 Population distribution (only available for the 3 Kurdish governorates)

The present population in IK as reported by WFP is 3.707 million. Some 30% of it is reported to live in rural areas. Population is distributed as follow:

Governorate	Population in settlements Total: 3,707,850	Percentage of total in settlements
Duhok	807,005	21.1
Erbil	1,316,162	36.2
Sulimaniyah	1,584,683	42.7

The figures include urban, semi urban and rural area. More than 1.445 million lives in the main three cities are as follow:

Duhok city	220,000
Erbil city	703,022
Sulimaniyah city	522,636

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Another 1.1 million lives in other urban and semi urban areas. Bringing the total urban population to 2.6 million. The remaining 1.1 million live in rural areas. More detailed figures per Rural and Urban for each district:

ERBIL	RURAL	URBAN	TOTAL	
CHOMAN	39,996	10,235	50,231	4%
ERBIL	55,340	783,022	838,362	64%
KOISINJAQ	35,544	39,275	74,819	7%
SHAQLAWA	78,700	52,051	130,751	11%
SORAN	87,403	87,513	174,916	12%
MERGASOR	37,942	9,341	47,283	2%
	334,925	981,237	1,316,162	100%

DOHUK				
AKRE	91,420	44,120	135,540	17%
AMEDI	75,907	44,794	120,701	15%
SHEKHAN	20,254	77,371	97,625	12%
DOHUK	35,528	228,730	264,258	33%
SUMAIL	22,051	38,134	60,185	8%
ZAKHO	15,555	113,041	128,596	15%
	260,715	546,290	807,005	100%

SULEIMANIYAH				
CHAMCHAMAL	31,373	139,340	160,713	11%
DARBANDIKHAN	25,359	35,000	37,359	2%
DOKAN	26,596	52,882	77,478	6%
HALBAJA	41,122	106,270	137,392	9%
KALAR	20,183	89,162	99,345	7%
KHANAQIN	9,452		9,452	1%
KIFRI	4,899	20,099	24,998	2%
PENJUEN	32,016	20,196	42,212	3%
PISHDAR	38,126		37,126	2%
RANIA	45,601	100,004	133,605	9%
SHARBAZHER	52,218	19,480	70,698	5%
QALADIZA	40,294	641,264	670,558	44%
	377,239	1,207,444	1,584,683	100%

3,707,850

4.2 Prioritization/Selection Criteria

4.2.1 Water Supply

During implementation, we should prioritize our selection of intervention areas. Four criteria could be used: (i) population density, (ii) mortality, (iii) growth rate and (iv) service level. These criteria are indeed very good criteria to reflect the conditions and therefore the need for improvement on water supply in the Municipalities. Applying these criteria would result in a list of towns per Governorate with the highest need for improving the water supply situation in these towns.

In a next step the situation at the quarter level of the towns should be further analyzed using the collected data; after that priority setting at town level could be done.

Data on morbidity should be collected, more specific those related to diarrhea and hookworm. The first one is a common indicator for diseases associated with water quantity and water quality. The latter one is exclusively related to sanitation.

Population density and growth is the most important demographic criteria for prioritization. Apart from *Population Density, the Total Town Population and the Percentage of town population being Internally Displaced Persons (IDPs)* could be used for priority setting.

Population density is a key indicator for priority setting, because in dense populated areas there are fewer alternatives for water sources than in less densely populated areas.

The following table shows the weighing factors for each of the priority setting criteria. The water supply service level criteria score highest because they are most critical for the priority setting in water supply.

Table: Weighting factors for water supply

Priority setting criteria	Water supply coverage (% of houses connected)	Water service in total hours water delivery per week	Percentage of total population being IDPs	Total municipal population	Density
Weight factor/ Percentage	0.3 (30%)	0.3 (30%)	0.2 (20%)	0.1 (10%)	0.1 (10%)

When applying those five selected criteria for water supply to the collected WatSan data, a list of municipalities prioritized according to the need for intervention in water supply would be resulted.

4.2.2 Sewerage/Drainage

The following three key issues for sewerage reflect the need: i) demographic aspects (population density), ii) environmental and health aspects and iii) the presence and functioning of existing systems. Concerning Storm Water drainage the main issues are: iv) the adequacy of the present infrastructure and v) demographic and industrial development.

Regarding indicators for the discharge of sewage from the houses: the first indicator concerns the discharge of human excreta. The indicator chosen focuses priority on houses -without septic tank -, which discharge to an open sewer, directly into the street or into a leach pit.

Two indicators could be used to measure the present conditions: 1) the length of the sewer in km per square kilometer (km²) and 2) length of the sewer in kilometers (km) per 1.000 inhabits.

The first indicator measures the sewer infrastructure per unit of area in disregard of the habitation and other infrastructure. The second indicator however, relates the length of the sewer line to the number of people living in the quarter. This is highly relevant, as it does at the same, time implicitly points at the population density and the effects (peak run-off) on discharge and, drainage of larger areas covered with roads and houses.

Population figures, population migration and population growth or decline is key information in the process of prioritization of water and sanitation interventions. In addition to population density the town populations at anyone time is also regarded as an indicator as the overall population size does have strong influence on the need for human waste discharge and storm water removal from the inhabited areas.

Special attention should be given to the number of IDPs in the quarters, as percentage of the total quarter population, as it is them who are first and foremost a priority. For that reason, indicators have been used, which address population density, IDP- population (as % of whole population), and total town population.

The following table shows the weighing factors for each of the priority setting criteria.

Table: Weight of indicator in priority setting

Priority setting criteria	IDP population as percentage of total population	Population density	Total population in town	Uncontrolled discharge of human excreta	Uncontrolled discharge of household wastewater	Length sewer per square kilometer	Length sewerage infrastructure per 1,000 quarter inhabitants
Weight factor (percentage)	0.10 (10%)	0.25 (25%)	0.15 (15%)	0.20 (20%)	0.20 (20%)	0.5 (5%)	0.5 (5%)

4.2.3 Solid Waste Management

The criteria for improvements in solid waste management arise from the hazards to public health from the wastes left uncollected or kept in open while waiting for collection, and the subsequent effects of wastes lying around.

The possibilities for interventions which should be kept in mind when assessing the needs for, or improvements in, solid waste management vary according to the size, location and functional nature of the settlements.

The felt need of the inhabitants is often high in a small rural settlement, which may be categorized as a municipality, but that is best described as a rural village. In this kind of a settlement the felt need of an individual family is high, but the number of families is low. Resulting that the hazard to public health is mostly towards the other members in the settlement only and does not typically extend to other settlements. The intervention possible and needed will hence include only a small investment, if any.

When the settlement grows the potential danger that solid waste creates grows too. The biggest public health hazards occur in settlements, which have large population and commercial and industrial activities. A high population density will further intensify the need for proper solid waste management. This kind of settlement form a potential threat for public health also in other settlements, as the wastes, or harmful substances from them, are transported by flood waters or blowing wind from open spaces where solid waste has been dumped. The required investment to improve the situation is typically high. However, there also is a possibility for secondary benefits such as development of private sector and employment opportunities in material recovery or recycling activities, which will make the investment more justified.

In the biggest settlements of IK efforts have been made to solve the problems of neighborhood soiling by collecting the wastes and transporting them outside the city, but there has not been much of effort to stop the adverse effects towards the settlements downstream, or downwind. The result of the above is that the problem has just been transferred to another place, not eliminated.

The above-described categorization of settlements had a direct impact on the needs assessment. It had to address the real need instead of the felt one. However, it is necessary to take into consideration and respond to the felt need too in order to create demand and acceptance for the interventions.

The majority of the municipalities of IK are small, 64% of them have a population of less than 10,000. However, only 9% of the populations live in municipalities of that size. 38% of the populations live in municipalities of the size between 10,000 and 100,000 and 52% in the three cities a town of over 100,000 pop. In total the municipalities are sorted in four categories with corresponding score values.

The population density is an important factor when the public health impacts of solid wastes are concerned. According to surveys, the population density varies from 31,900 to 13 persons per km². The results are still considered indicative and population density is included in the tools, though reducing the effects of the extreme values and with less weight.

The present situation in the solid waste management in the target area varies. In some of the settlements, especially in the cities, wastes are collected and transported out of the settlement. The situation is not, however, satisfactory in any of the settlements and thus the quantity and quality of the facilities currently in use would not be fully justified to be included in the tool for the needs' assessment. However, to describe the service level of solid waste management from the point of view of the inhabitants (their nearest neighborhood) an indicator, cleaning frequency, was included in the analysis.

The following table shows the weighing factors for each of the priority setting criteria. The water supply service level criteria score highest because they are most critical for the priority setting in water supply.

Table: Weighing factors for solid waste management.

Priority setting criteria	Total municipal population	Density	Percentage of total population poor neighbor	Cleaning frequency
Weight factor/ percentage	0.3 (30%)	0.3 (30%)	0.2 (20%)	0.2 (20%)

4.2.4 Institutions and Operational Training (Capacity Building)

The Sanction regime, Iraq has been experiencing, have isolated the sector professionals, and decision makers, from the ongoing development of the sector outside Iraq. Globally there is a profound change in thinking, how the services should be provided and managed. The very latest way of thinking is expressed in a statement called VISION 21, A SHARED VISION FOR HYGIENE, SANITATION AND WATER SUPPLY and A FRAMEWORK FOR MOBILISATION OF ACTION. This document was produced by the Water Supply and Sanitation Collaborative Council for the World Water Vision In 1999 using global participation of all stakeholders through selected representatives in the South and the North, in developing countries, in countries in transition and in the industrialized countries of market economy.

The basic core principles of the Statement can be summarized as follows:

- **Building on people's energy and creativity at all levels** requiring empowerment and building the capacity of people in households and communities to take action, and applying technologies that respond to actual needs.
- **Holistic approach acknowledging** hygiene, water and sanitation as a human right, and relating it to human development, the elimination of poverty, environmental sustainability and the integrated management of water resources.
- **Committed and compassionate leadership and good governance changing** long-accustomed roles, leading to new responsibilities of authorities and institutions to support households and communities in the management of their hygiene, water and sanitation and being accountable to users as clients.
- **Synergy among all partners encouraging** shared commitment among users, politicians and professionals; requiring professionals within the water and sanitation sector to combine technical expertise with an ability to work with users and politicians and with the health, education, environment, and community development and food sectors.

The core points based on the above are:

- People come first
- A human right to basic services
- Entry-point to human development and poverty elimination
- Committed and compassionate leadership
- Synergy of action
- Hygiene and sanitation as a revolutionary priority
- Gender equity for lasting change
- The challenge of the urban poor
- Institutions as change agents
- Mobilization for affordable services
- Shared water resources management

The above explains the importance of the criteria developed in this report and also justifies the conclusion that the present technical personnel holding various positions in the service provision chain, starting from the top to the most junior technician, are in need of awareness raising and brush up training to bring up-to-date their professional skills. There is also a need to conduct a skills assessment study to form a base for a systematic awareness raising and training programme.

The administrative tradition in the region has not encouraged citizen initiatives. This tradition does not comply with the modern thinking of sustainable service provision for water supply, sewerage/drainage and solid waste management. The fact may also cause resistance of the decision-makers to allow a change in the approach of service provision management. Because of this it is important to convince them about the need for a change and the benefits of the bottom-up management style.

4.2.5 Awareness rising

Awareness raising of the users of the services is one of the key factors for sustainability of the services. At present, the level of understanding (and feeling) the importance of a water supply service is not questioned. There is a large-scale waste of potable water at the cost of the limited resources. Especially worrying is the situation where groundwater is used as the source. This has led to over-pumping, mining of the groundwater body. To avoid this, and naturally the unnecessary costs of pumping and purifying the water, an awareness campaign is needed. The action has to be repeated regularly as the memory of the public is limited.

Another point of concern is the wear and tear of the facilities caused by misuse, and sometimes also vandalism. The only known effective way to eradicate, or at least strongly reduce, this phenomenon is awareness raising and creation of feeling of ownership. This work must be continuous and, regrettably, combined with policing.

The users seem not to have any understanding on the cost of water supply service. Their thinking is tied to the traditional "free water as gift from God" pattern. To change this to facilitate cost recovery is a major task, as there is also reluctance to adopt something that creates costs to the users. Understandable, but not a reason to avoid introduction of this new idea. Social marketing is needed.

No real felt need for improvements in sewerage or solid waste management was observed. Drainage is a felt need. There is a need to create awareness on the health impact of lack of proper, functioning systems for the two, wastewater and solid waste management, which applies hygienic acceptable methods and facilities. Without strong inputs for this purpose, it is unrealistic to expect effective demand.

5. INVESTMENT STARTAGEY

5.1 Objective

The objective of the investment plan is to improve the service level of water supply, sewerage / drainage and solid waste services in Iraq to the National target level as indicated in the national WSS policy.

5.2 Proposed Investment Strategy

The plan is based on needs assessment (more accurately for IK). The needs assessment led to three priority order tables, one for each of the sub-sectors. Water supply, sewerage/drainage and solid waste management. This report, the investment strategy, transforms the above into an action plan.

The overall principle in this strategy is five-fold:

- Address all the three sub-sectors simultaneously in the chosen target municipalities.
- Improve the service level of the whole municipality in order to serve all population groups to avoid confrontation between them.
- Progress step by step towards the National standards through intermediate targets of service level
- Separate wastewater (sewerage) from storm-water and leave storm-water (drainage) improvements to be dealt with road/street improvement
- Examine the current institutional set-up and its capability to manage and operate the services in a sustainable way.

The action order to improve the WatSan services of the settlements/municipalities should follow the priority order based on summing up the three sub-sectoral priority orders. The reasoning behind this proposed priority order is that those municipalities, which suffer from a service level furthest down from the national standards, indicated through the criteria developed during this assignment, should be served first.

To make the physical improvements sustainable, an operational training program is needed. The term operational training includes in this context both institution building and operational training of the personnel responsible for service provision. This program must be based on thorough discussions at decision making level of the wanted and accepted organizational model, its structure and degree of autonomy as well as studies, which reveal the present's skills, the needed ones and the gap between them. The limited scope of the operational training -and also awareness raising -is reflected in the proposed allocation of additional 10 % to the estimated investment. A full-fledged capacity building and awareness-raising programme could require as much as 15 to 20 % on top of the investment.

An other prerequisite for sustainability of the services is an **agreement on cost recovery**. Either consumer charges or budgetary funding, or a combination of these two to cover O&M costs and replacement investments must be in place.

The foreseen large-scale investment programme will be an extra load on the institutions in charge of service provision. To build-up the public sector organizations (LA and municipalities) for managing and implementing the investment programme is not advisable, as the large investment programme is going to be an "one-off" exercise for all the municipalities (next time augmentation or rehabilitation is needed in 15 to 20 years), and to a certain extent also to the LA. A special implementation structure is proposed. It should consist of a **planning and design consultant**, who is capable also for the operational training and awareness-raising component, and that, can also act as the **engineer** of the construction project on behalf of the owner and a contractor. It is important to break the construction contracts into manageable lots to facilitate also use of local and national contractors and consultants. FIDIC contracting models are advised to guarantee transparency.

The prevailing mandate structure and time points to the need for a revolving planning system:

- ♦ Lot 1; planning and design-
- ♦ Lot 2; a construction task manageable in one year with clear further steps according to technical requirements;
- ♦ Lot 3 and onwards; continuation the same way until the whole municipality is served.

The limiting factor for the improvement volume is the availability of skilled implementers; it is planners, designers and contractors.

5.3 Rehabilitation Stage for Center and South

A) Water Treatment Plants Rehabilitation Stages

Rehabilitation per stage	*Supplies provided under OFFP	Locally purchased supplies	**Percentage of Total Rehabilitation cost
(1) Water Intake Assembly a. Installation of pumps with pipes modifications. b. Overhaul existing pumps. c. Wiring and control panels d. Repair strainers and intake pipes	a. Pumps b. Control panels, circuit breakers. c. Pipes and fittings	a. Pipes & fittings b. Wires • Strainers. • Spares	25%
(2) Sedimentation Tanks a. Repair of sludge scrapers including geared motors, scraper wheels, skeleton, etc. b. Repair of leaks from the tank. c. Maintenance of de-sludging assembly. d. Wiring and control panel	a. Motors and starters b. Control panel, circuit breakers	a. brushes, bushes, etc. b. Cement & additives sand. • Different types of lubricants. • Steel pieces • Rubber strips	15%
(3) Filtration a. Replacement of sand, broken pipes, nozzles, etc. b. Overhauling the inlet/outlet control valves. c. Overhauling the backwash assembly d. Wiring and control panel	a. Control panel and circuit breakers	a. Filter media (sand & gravel), Nozzles. Spares	15%
(4) Chemicals Dosing a. Repair/installation of chemicals dosers with fittings and accessories 1. Repair of Alum mixing tanks, Alum mixers, flash mixers and chlorinators. 2. Wiring and control panel	a. Alum dosing pump(s), b. Chlorinator(s) c. Control panel electrical accessories	a. Fittings & accessories b. Wires	24%
(5) Water Storage & Highlift Assembly a. Repair/installation of highlift pumps with required modifications and fittings b. Repair and cleaning of storage tanks; leaks, inlet/outlet valves, etc. c. Wiring and control panel	a. Highlift pumps b. Control panel c. Electrical Accessories	a. Brushes b. Ball bearings c. Cables & fittings d. Cement, adhesives, Sand, additives..etc. c. Wires	12%
(6) Repair of WTP Building a. Repair of leaks, roofing, plastering of damaged walls and ceilings, etc. b. Fixing of ventilation and cooling systems. c. Fixing of broken windows, fences, handrails, tiles, doors, etc.		a. Cement, sand, and gravel, brick gypsum, paint. b. Glass and putty c. Wooden panels d. handrails, tiles, doors, hinges, etc..	9%
(7) Repair of the Network This involves partial replacement of pipes segments that are defective and leading to waste of water.	a. Pipes	a. Pipes	NA***

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B) Sewage Treatment Plants and Pump Stations Rehabilitation Stages:

Rehabilitation Per Stage	*Supplies provided under OFFP	Locally purchased supplies	**Percentage of Total Rehabilitation Cost
1) Inlet Works a. Penstocks overhaul / repair b. Screens overhaul / repair c. Main Lift pump sets overhaul d. Overhauling suction & delivery valves e. Wiring & control panels overhaul	a) Pumps b) Motors & starters c) Contr. Panel circuit breaker elect. Access.	a) Pipes & fittings b) Wires c) Spares	25%
2) Grit Removal System a. Detritor motor & gearbox overhaul/repair b. Detritor scrapers repair/maintain c. Wiring & control panels overhaul d. Penstocks and valves overhaul/repair	a) Motors & starters b) Contr. Panel circuit breaker elect. Access.	a) Brushes, bushes etc. b) Steel pieces c) Wires d) Spares	10%
3) Pre - Aeration & Grease Removal System a. Aeration unit motor & gearbox overhaul/repair b. Grease removal assembly overhaul/repair c. Penstocks & valves overhaul/repair d. Wiring & control panel overhaul	a) Motors & starters b) Contr. Panel circuit breaker, elect. Access.	a) Brushes, bushes, etc. b) Steel pieces c) Wires	10%
4) Primary & Final Sedimentation a. Repair of sludge scrapers & revolving bridge wheels b. Scraper driving motor & gearbox overhaul c. Repair of peripheral concrete weirs, scum plates & scum collecting assembly d. Tank cleaning from accum. sludge & debris e. Wiring & control panel overhaul f. Penstocks & valves overhaul /repair	a) Motors & starters b) Contr. Panel circuit break Electric acce ssories	a) Brushes, bushes, etc. b) Steel pieces c) Rubber strips d) Wires	18%
5) Aeration System (for the Activated Sludge process) including Return Sludge Pump Sta. a. Aeration unit motor & gearbox overhaul b. Inlet & outlet control penstocks overhaul c. Screw pumps motor & gearbox overhaul d. Replace/repair screw pumps vanes e. Screw pumps greasing system overhaul f. Wiring & control panel overhaul	a) Screw Pump b) Motors & starters c) Contr. Panel Circuit breaker Electrical Accessories	a) Brushes, bushes, etc. b) Steel pieces c) Different types of lubricants d) Wires e) Spares	25%
6) Raw & Consolidated Sludge Pumping a. Pumping Sets (pump & motor) overhaul b. Overhauling suction & delivery valves c. Wiring & control panel overhaul	a) Pumps & motors b) Pipes, fittings c) Contr. Panel Elect. Access.	a) Brushes' bushes, etc. b) Pipes & fittings c) Spares	7%
7) Electric Generation a. Overhauling the generator diesel engine b. Replacing the existing compressor and also other defective parts by new ones c. Overhauling the control panel	a) Diesel Engine b) Compressor c) Electrical controls access.	Miscellaneous minor electrical & mechanical accessories	5%
8) Main & Subsidiary Sewers Network This work involves replacement of settled and damaged sewer pipes, manholes & appurtenant structures to prevent forming pools of stagnant sewage, creating a source of health hazard in addition to the aesthetic view	a) PVC pipes b) PVC Tee c) Manh. Cover d) Step Irons e) Gully grating f) PVC-lining for concrete pipes	a) Conc. Pipes b) Cement, sand, gravel & bricks	***

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* Availability of Oil for Food Programme supplies depends on allocation as per "distribution plans" Of the programme. If the program got suspended, those supplies have to be imported.

** The estimated percentage for the cost of each stage of rehabilitation covers the cost of modifications (if item is provided under the Oil for Food Programme), installations or overhaul/repairs and labor work. These estimates could drastically vary from one project to another depending on the specific situation of each location and the size of works required at each stage.

*** This depends on the condition of the specific network.

C) Compact Water or Sewage Treatment Plant Installation Stages:

Installation Per Stage	*Supplies provided under OFFP	Locally purchased supplies	**Percentage of Total Rehabilitation Cost
1) Civil Works a. Cleaning of site from debris. b. Back filling, compaction and leveling. c. Construction of concrete foundation and platform. d. Laying suction & delivery pipes & accessories.	a) Pipes & fittings.	a) Pipes & fittings b) Cement, gravel, sand and sub-base.	60%
2) Electro-Mechanical works. a. Assembly & installation of compact unit. b. Cabling. c. Commissioning and fine-tuning.	a. Compact WTP. b. Cables.	a) Cables and wires.	40%

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D) Locating sites:

The following is a list that shows the Water and Sewage Treatment Plants in Center/South Iraq, which require urgent intervention.

Governorate	Water Treatment Plant	Capacity (m ³ /day)	Est. Rehab. Cost US\$	Beneficiaries
Anbar	1. Old Falluja	10,000	20,000	50,000
	2. New Ramadi (Albu Faraj)	12,000	20,000	60,000
Babil	1. Hashimiyat Al-Qasim	7,200	12,000	40,000
	2. Nahyat Saddam	4,880	8,000	20,000
	3. New Mahawil	6,000	10,000	15,000
Baghdad	1. Al-Latifiya	2,800	4,000	15,000
	2. Old Al-Mada'in	20,000	25,000	100,000
	3. Al-Tarmiyah	1,690	5,000	10,000
	4. Al-Yousifiyah Villages	7,200	15,000	50,000
Basra	1. Al-Dair	4,000	8,000	12,000
	2. Old Al-Shuaiba WTP & Cus	36,000	31,000	160,000
	3. Old Al-Suwaip	3,600	8,000	10,000
	4. Old Al-Midaina	3,600	10,000	12,000
	5. Al-Nashwa Unified	10,000	20,000	30,000
Diala	1. Kan'an	8,500	15,000	25,000
Karbala	1. Hai Al-Hussain	50,000	55,000	90,000
	2. 7 Nissan project	100,900	50,000	250,000
	3. Old Al-Hindyah	5,000	10,000	30,000
	4. Aim Al-Tamir (WTP & BSs)	11,200	20,000	60,000
Missan	1. Ali Al-Gharbi	8,000	14,000	10,000
	2. Al-Salam	2,000	4,000	20,000
	3. Qal'at Saleh	3,200	6,000	15,000
Muthana	1. Al-Warka'	11,920	20,000	50,000
	2. Salman	400	2,000	3,000
	3. Samawa Ground WS tank	72,000	40,000	150,000
	4. Al-Khidhir	4,320	9,000	10,000
Najaf	1. New Najaf-Kufa	180,000	50,000	500,000
	2. C.U complex (6 in Al-Abaciyah)	7,200	13,000	30,000
	3. Al-Mishkhab	11,800	12,000	50,000
	4. Al-Manadhira	10,000	18,000	40,000
Ninawah	1. Al Mosul Old left Bank and Extension	83,360	40,000	370,000
	2. Al-Kuwair	7,698	5,000	10,000
	3. Alqoush	17,600	7,000	30,000
	4. Hammam Al-Aleal	4,800	5,000	20,000
	5. Al-Rasheediyah Old and Extension	10,500	12,000	25,000
Qadissia	1. Old Diwaniyah	12,000	13,000	50,000
	2. Diwaniyah Unified (Project No.6)	91,000	50,000	240,000
	3. Shafiayah & Al-Malaab BS	94,000	45,000	250,000
	4. Sader Al-Daghara	4,600	10,000	15,000
Salaheldin	1. Old Tikrit	14,000	25,000	60,000
	2. Balad (Old & New)	17,600	20,000	50,000
Tamim	1. Debis	70,400	40,000	250,000
	2. Al-Hawija	9,600	20,000	14,000
Thiqar	1. Al-Bat-ha'	3,000	8,000	15,000
	2. Al-Fuhoud	8,000	13,000	30,000
	3. Al-Fajr	1,000	3,000	5,000

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Wasit	1. New Suwaira 2. Shaikh Sa'ad	25,000 7,200	18,000 12,000	80,000 30,000
All governorates	Installation of 5 compact water treatment plant @ US\$15,000 each.	23,000	75,000	60,000
Total Cost for the Rehabilitation of (48) Water Treatment Plants + Installation of 5 Compact units			880,000	3,171,000

Governorate	Sewage Treatment Plant	Capacity (m ³ /day)	Est. Rehab. Cost US\$	Beneficiaries
Basrah	Basrah STP	74,000	55,000	250,000
Karbala	Kerbala STP	116,000	50,000	150,000
Baghdad	Installation of two sewage compact units	28,800	70,000	90,000
Thiqar	Nasseriah STP	48,000	40,000	110,000
Total Cost for the Rehabilitation of (3) Sewage Treatment Plants and installation of (2) sewage compact units.			215,000	600,000

Total estimated cost will be US\$ 1,450,000.

Other costs

Allocation	Percentage of total cost	Amount in US\$
1. Physical rehabilitation costs of water treatment plants.	58%	880,000
• Physical rehabilitation costs of sewage treatment plants and installation of sewage compact units.	15%	215,000
• Installation of compact water treatment plants.	7%	105,000
• Operational costs, covering hiring site engineers @ 750US\$/engineer/month, transportation to and from project sites and partial coverage of project staff salaries.	15%	225,000
• Emergency	5%	75,000
Grand Total	100%	1,500,000

TOTAL BUDGET REQUIRED FOR THE MOST IMMEDIATE NEEDS IS US\$ 6,121,000

4.5 Investment Plan for the Northern Governorates

A) Plan volume

The planned investment volume is governed by the difference of prevailing service situation and the National normative level of service provision. The other factor is the number of population in the settlements. The factor governing annual investment rate is the capacity of available contractors to implement the programme. It is assumed that the absorption capacity of the LA and the municipalities will not limit the investment programme as it is foreseen that a strong operational training component for operating and managing will be running parallel with the construction period and the extra skills base for managing the investment programme will be recruited (consultancy option of construction management). -

The total cost, estimated at present day value sums up to USD 264 million. Dividing the total amount needed for the three components gives the following investments:

- For water supply improvements USD 110 million
- For sewerage improvements USD 81 million
- For solid waste management improvements USD 73 million. (Incl. also Duhok, Erbil and Suliemanyah cities)

The cost of drainage improvements are excluded, as they are proposed to be dealt separately in connection of road/street improvements, as the removal of waste water from the storm-water will bring in the major part of the health benefits.

The estimated total investment in US dollars per Governorate and sub-sector is presented in the table below:

Governorate	Water supply	Sewerage	Solid waste management	Total investment
Duhok	33.258.000	21.955.000	14.832.000	70.045.000
Erbil	33.155.000	23.257.000	27.612.000	84.024.000
Suliemanyah	43.513.000	36.234.000	30.351.000	110.098.000
TOTAL	109,928,000	81,446,000	72,795,000	264,167,000

Taking the population figure (urban and semi-urban) obtained in this study, in the Needs Assessment phase, the total investment per capita will be USD 158 and a sector-wise per capita investment USD 66 for water supply, USD 49 for sewerage and drainage, and USD 23 for solid waste management.

An investment strategy, which addresses the high priority municipalities during the first ten years (years 1-10), the medium priority municipalities during the next five years (years 11-15) and the low priority municipalities during five next years (years 16-20) leads to the following calculation on the total investment (in USD) need per Governorate:

Governorate	High priority (Y.1-10)	Medium priority (Y.11-15)	Low priority (Y.16-20)
Duhok	46.894	22.800	0.351
Erbil	34.106	47.828	2.096
Sullemaniyah ...	77.456	31.230	1.411
Total investment	158.456	79.058	3.858
Annual investment	15.9 million	15.8 million	0.8million

On top of the above a sum of 10% should be added to cover the costs of the operational training needed to safeguard sustainability of the improvements. The limited scope of the capacity building- and also awareness raising -is reflected in the proposed allocation of additional 10 % to the estimated investment. A full-fledged

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capacity building and awareness-raising program could require as much as 15 to 20 % on top of the investment.

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**Role of the Iraq Government in Employment
and Job Creation**

FUTURE OF IRAQ

**ECONOMY AND INFRASTRUCTURE
WORKING GROUP**

United States Department of State

August 6-7, 2002

December 2-3, 2002

January 29-30, 2003

Any new war or military confrontation in Iraq could cause further damage to the Iraqi infrastructure and existing weak economy. Furthermore, this would exasperate the high unemployment rates already existing in Iraq. The post Saddam government has to immediately consider economic initiatives to create new jobs through labor intensive projects to serve as an economic stimulus and address the low employment rate. This will be extremely important in that many of the unemployed want to experience an immediate improved difference in their financial status shortly after the collapse of Saddam's regime. Many of the currently unemployed are completely dependent on the food rations granted to them on a monthly basis by the government. Besides these food rations, every Iraqi seeks new job opportunities that will enable them to provide their households' with incomes and provide more food, better clothing, and improved health care for their families.

It is rather unfortunate that no accurate statistics are available about the labor force in Iraq or the unemployment rate amongst Iraqi men and women who are able to work. The United Nations Development Program's latest estimates claim that "at least 50% of the able-bodied labor force in Iraq is unemployed or underemployed."¹ The Iraqi Ministry of Labor and Social Affairs estimates the unemployment rate to be approximately between 30-40%. In addition to this, the number of the disabled

¹Helping them Help themselves. UNDP Program Story, www.iq.undp.org/Programme/undp-programmePro%201Story.htm

in Iraq increased substantially after the two wars that Iraq has been through during the last twenty years. The UNDP estimates that the number of handicapped and disabled ranges from between one to two million, while unofficial estimates show that figure to be substantially higher. The present government contributes the low employment rate on the current sanctions imposed on Iraq in the aftermath of the Gulf War. Other factors contributing to Iraq's weak economy and high unemployment rate include:

- 1- Most of the privately owned manufacturing facilities are closed due to lack of raw material and spare parts. It is estimated that eighty percent of private businesses closed down following the Gulf War.²
- 2- Large government industries that employed thousand of people have been damaged during the Iranian and Gulf Wars. Examples include: the petrol chemical complex, the phosphates and fertilizer industry, the sulfur industry, mechanical, electrical and some of the construction industry.
- 3- The drastic reduction in government spending on services to the public.
- 4- Government spending on construction has been reduced to a minimum and the only exemption is Saddam's personal projects and some repair work to roads and bridges.

The issue of finding jobs for the disabled people was addressed by the UNDP and the Ministry of Labor and Social Affairs in Iraq, and in cooperation with the International Labor Organization. This was accomplished by establishing a community based rehabilitation program funded by the United Nations. This project offered the disabled the technical advice and the training to enable them to start their own private

² Statistics provided by UNDP

businesses such as tailoring, shoe repair, food processing, and offering computer services. These businesses were funded through interest free loans averaging \$300-\$600. Though this program was rather limited, it is considered a great success. This program's work could be used as a foundation or model by any post Saddam administration in order to create immediate jobs for the disabled and the unemployed in general.

Job Opportunities within Iraq

Due to the wars and lack of infrastructure investment, there are many labor intensive projects that may be undertaken in order to greatly improve upon and make Iraq a modern day twenty first century country.

River Cleaning

A major priority from an environmental and safety perspective is the cleaning and clearing of the Iraqi rivers. The rivers have become extremely polluted and pose a great health risk to the Iraqi people. This pollution is due to the lack of a functioning sewage system. The sewage systems were crippled and shut down during the Gulf War. They were never repaired due to a lack of materials. Therefore, raw sewage was simple let out into the Iraqi rivers. The clearing of the rivers will involve various tasks. Besides clearing physical objects that are obstructing the rivers, an effective sewage system must be established. This can be done by repairing the sewage facilities that have been shut down or have been running at minimal usage over the past years, and by also building new facilities so that there are sewage treatment facilities available throughout the country. The clearing of the rivers will provide greater opportunities in Iraq. Cleaner major rivers will greatly increase the rivers' palatable water, which is badly needed in all Iraqi cities.

Furthermore, clean unobstructed rivers will increase capacity to transport goods up and down the rivers and increase business, particularly between Baghdad and Basra. In addition, clearing the small rivers will help bring irrigation to the valuable agricultural grounds throughout the country.

Construction

There will be tremendous amount of construction work needed in the post-Saddam era. This work will provide an abundance of work in Iraq immediately following the regime change. It will provide a great opportunity for men and women to begin earning a decent living and providing for their families. This will be essential in illustrating to Iraqis a fundamental shift immediately following the regime change which will strengthen support for any new government. If the Gulf War provided any indication as to the magnitude of damage that will be caused in Iraq during an attack to remove Saddam, then immediate work will be needed on a majority of the roads and bridges. Many roads and bridges will be destroyed during allied bombing and will need to be repaired or replaced in order to get the Iraq's infrastructure in place. In addition to repairing the roads and bridges, the railways will need to be repaired in order to aid transportation throughout the country. The railways need new parts and the soil needs to be stabilized in numerous locations in order to have an efficient rail system. Low-income housing will also need to be constructed throughout the country. There will be a large influx of refugees returning to Iraq and there will have to be affordable housing for them. Also, many people had housing confiscated during Saddam's regime. They will be looking to the new government to either return their homes to them or provide them with alternate housing.

Hospitals and Schools

"Iraqis, like us [Americans], do not want to live on welfare. They are a country rich in Intellectual resources, yet many must find employment driving taxis"³

Many of these resources can be put to great use in Iraq's hospitals and schools. However, the hospitals and schools have been neglected over the past years. Many schools are in a horrid state with shattered windows and stolen doors. They must be repaired and modernized before they can begin running on a full scale basis. Modernizing the schools, such as computer labs, will provide Iraq's youth the new opportunities and show them a change in the country's direction. School repairs will provide many job opportunities in that every aspect of the schools need to be renovated. The work will utilize bricklayers, painters, carpenters, electricians, plumbers, landscapers, etc. Hospital modernization and restructuring will also afford new employment opportunities to Iraqi's. Firstly, it will provide jobs during the reconstruction of hospitals and then employ new doctors and hospital staff to run these now functional medical facilities. These initiatives will result in generating new employment opportunities and the average Iraqi will benefit from an improved healthcare system, something that was greatly lacking under Saddam's rule.

Electricity and Water Treatment

Excluding Baghdad and a few other major cities, electricity has been a major problem. The typical household barely receives ten hours of electricity a day outside of the major cities. The whole electrical grid will need to be redone or replaced, as it is already in poor condition and will probably suffer more damage during an attack on Iraq. Effective water treatment is also needed

³ Facing the Tragedy in Iraq, Campaign of Conscience,
<http://www.afsc.org/conscience/news/severns.htm>

everywhere throughout Iraq. People still boil water in many places and in some locations there is not running water. In major cities such as Basra, the port city in Southern Iraq, the water treatment facilities have been ruined and bombarded several times over past ten years.⁴ This left the raw sewage running throughout the streets, and treated water became such an expensive commodity that most families cannot afford with their meager salaries.

General Appliances Manufacturing

Saddam poured billions of dollars into the production of military equipment. This involved the construction of numerous facilities to build the equipment. A cost efficient way to manufacture general appliances for the Iraqi public and create many jobs would be to convert a number of these pre-existing facilities into manufacturing plants for the appliances, such as refrigerators, microwaves, dishwashers, washers, dryers, etc. This will boost Iraq's economy and employ many people. It will also provide appliances that are affordable for a majority of the public.

Aviation

Air transportation will be a critical need for restructuring Iraq and facilitating Baghdad's links with rest of the world. Below is a description of Iraqi aviation today: "At the moment, Iraqi Airways doesn't have a lot to offer its passengers. With a fleet that consists of just three planes—a Boeing 747 (a gift to Saddam Hussein from the royal family of Qatar), a Boeing 727, and a timeworn Russian-made Ilyushin 76—it offers limited domestic service. A flight or two a day from Baghdad to Mosul in northern Iraq, or the port city of Basra in the south, comprises the entire flight schedule. By Western standards fares are dirt-cheap—one recent round-trip ticket went for the U.S. equivalent of \$16.60. But the routes require pilots to pass through the country's no-fly zones, and the travel experience may leave something to be desired. After paying a nominal departure tax,

⁴Campaign of Conscience

passengers are subjected to three x-ray luggage searches and one manual bag inspection. Then, as in most Third World countries, passengers must march out onto the tarmac and up a flight of stairs in order to board the aircraft. The fact that Iraqi Airways is flying at all is a testament to its employees' dedication and persistence. Just before the U.S. and allied forces evicted Saddam Hussein's troops from Kuwait and imposed a no-fly zone over most of Iraq in early 1991, the carrier was forced to cancel all flights indefinitely. To save its planes from destruction, the fleet was dispatched to foreign airports—mainly in nearby Jordan—where they remain impounded today. The lack of flights and planes didn't deter the 800-person staff from keeping Iraqi Airways alive during the 1990s. Maintenance engineers preserved their skills by assembling and disassembling a single Pratt & Whitney J93D-7 engine hundreds of times—for much of the decade it was the only commercial jet engine in the country. The carrier's 120 pilots took regular refresher courses on a single flight simulator after two other simulators were cannibalized for parts. Without tickets to sell, agents peddled bus tours and copy services to businessmen, while the airline's caterers substituted banquets and weddings for in-flight meals. Most employees held down second and third jobs to survive, dreaming of the day they could don their aqua uniforms and return to the air. That day came on August 17, 2000 finally re-opened.

Tourism

Tourism will bring hard currency to Iraq. The demands of the tourists for better public service as well as customer service will stimulate the improvement of the country's infrastructure as well as its services sector.

Opportunities for Women

Iraq has historically had one of the highest female literacy and high school graduation rates in the Middle East. There is a large

base of highly skilled and educated female labor force that can be crucial to Iraq's restructuring efforts. Today, most female College and High School Graduates are employed by the government and to a certain extent the private businesses. Any new government should seriously consider creating programs promoting financing and grants for women owned businesses to promote the entrepreneurial expansion of this sector.

- Professional business expansion in fields such as Medicine, Law, Engineering, and Computer Science.
- Service Industry: Private Education, childcare, Catering, Travel, and Consulting.

In addition, to create a fundamental shift of the position of women from the Saddam regime to a democratic post-Saddam regime, new, high position opportunities must be created for women within the new government. This will serve as both a utilization of a highly skilled sector of the population that has been both ignored and under utilized and well as role model for new role of women in the future Iraq.

Infrastructure projects

The need for investment for the infrastructure projects on order to provide new work opportunities is apparent. Therefore, Labor-intensive criterion should be considered in identifying these projects at least for the first two years.

Family Farming

The new government must immediately encourage the development of family farming and a diversified agricultural sector. By encouraging people to emigrate from the cities back to the countryside, through long term, low interest loans and proper training on the introduction of modern agricultural technology. This will definitely increase Iraq food production and make it less dependent on food import that will require

scarce hard currency. The emigration from the cities to the farm land will reduce the severity of the housing problems and congested services a phenomenon shared by all major Iraqi cities.

Credit Guarantee For Entrepreneurs

Create a credit guarantee fund or agency to guarantee about 75% of new loans banks make to expand their markets dramatically by financing new ventures of previously discouraged entrepreneurs and talented minorities excluded from the economic mainstream under the guidance of mentors/technicians with financial incentives to motivate and guide them in preparing workable business plans and adopting optimal technologies and business practices.

New Services

The emergence of new type of services into the Iraqi communities such as internet service providers, content providers for software or programming in local languages, Educational services-distance learning and others.

The abilities to introduce new product in the new free open Iraqi market will expand the demand for goods and services and those generate new employment opportunities to many people and businesses.

Foreign Workers

The government must act urgently to impose restrictions on foreign workers. This would create new job opportunities for Iraqis as well as to reduce the demand (consumption of foodstuffs and other goods and services) pressure.

In order to implement the above-mentioned tasks, new government departments must be established with the help of Iraqi experts now residing outside Iraq. This would be in addition to the local expertise available. To finance these projects the new Iraqi administration should be assisted in getting immediate loans from the International Monetary Fund, and other institutions and friendly governments.

Long Term Employment and Economic Stability

The key to a stable economic and political environment is the adoption of long term programs to promote a highly skilled workforce and build the economic infrastructure to promote investment and partnership of the private sector and government to build industries to promote manufacturing, job growth, and stability in employment. The following are programs that need to be explored to foster and grow such objectives.

Economic Empowerment System

This system was designed -and tested- to increase simultaneously the supply of capital and entrepreneurship in economies that have serious deficiencies in both these factors of production and as a result stabilize the economy. Recent findings show that the poor not only save more than had been previously thought, but they also have high rates of debt repayment. However, most Third World residents are not able to use their assets to create self perpetuating increases in productive capital which is the lifeblood of economic progress. By launching first a tailor-made economic empowerment system (EES) sponsored by private parties operating for mutual profit under transparent rules that are fair and beneficial to all concerned, we can establish a workable system of cooperative free enterprise triumph in Iraq.

With strong financial and moral incentives the proposed EES will pull together four distinct productive elements into

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covenants of hope and profit which they are free to enter and to leave at any time. Their sole purpose will be to optimize their economic resources. The productive elements will consist of potential entrepreneurs, bankers, mentor-technicians, and a credit guarantee fund.

Working together under clearly stated guidelines, this grouping of forces will achieve what was previously deemed impossible. They will enter markets that in times past had been inaccessible to them, adopt technologies most suited to their needs, generating continuing streams of private and social capital, boost their financial returns with reasonable safety, and enjoy a sense of belonging *buy-ins and ownership* of significant private enterprises bestow on them and their families.

Envisioned activities are mentoring and technical assistance to generate the best possible business plans, optimal financing, risk management, and computer-based system administration. The eligible borrowers' ability to compete on a leveled playing field for available financial resources will generate direct benefits to the borrowing entrepreneurs, to the consumers of the goods and services they produce, to the lender-investors who earn handsome profits in financing the proposed projects, and indirect benefits to the community mainly in the form of additional fungible capital and additional resources for social service projects a growing economic pie may be expected to generate.

In addition to the Economic Empowerment System, other programs that should be considered include:

- Create free trade and special economic zones

- Encourage Western countries to establish their factories in Iraq (these factories should be a mix of high-tech and other manufacturing) taking advantage of cheap labor and low currency

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- Encourage assembly lines with partial manufacturing
- Develop highly mobile and educated labor force
- Privatization

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Government Economic Policies and Entrepreneurial Visions for New Iraq¹

A Framework for Open Discussion

Iraq needs a political as well as economic overhaul, along with a new social compact to allow its various ethnic, religious, sectarian, and cultural groups to live in harmony with one another and regional neighbours. In addition to sound, realistic, and effective economic policies, the anticipated "transitional government" of new Iraq needs entrepreneurial energies and economic/business proposals for identifying investment opportunities and increasing production and employment.

This paper addresses the prevailing Iraqi acute economic problems after the fall of Saddam regime on two co-ordinate policies and visions. First, the need for effective government economic policies that is based on the reality of the existing three major economic and development imbalances. These gaps are the prevailing deficit of the annual budget, the balance of payment deficit, and the necessity for public investment. Secondly, it is essential to reactivate the role of private sector through increasing simultaneously the supply of capital and entrepreneurial where Iraq has serious deficiencies. An important assumption related to this notion is that low-income groups save in assets more than foreign investment. Therefore, the prospect of foreign capital allocated for investment to be pioneered by the majority of Iraqis would be an important element of the anticipated future economic success.

In a free democratic Iraq, one may assume the co-existence of different but dynamic and interacted sets of government policies, different political agenda, private business interests, and individual initiatives as well as full consideration of economic and social public objectives. For the reconstruction of Iraq after the fall of Saddam regime, however, concerted and different kinds of efforts are urgent to alleviate the current economic and financial crises in the short run. In the longer run, the Iraqi government should start to create favourable environment for achieving high economic growth and employment as well as rapid social development. In practice, such huge endeavor can not be realized without wide participation of the concerned parties. Even at the professional level, it is still difficult to assess adequately the magnitude of the prevailing financial, economic, social, political, and environmental problems of Iraq. Moreover, no one can anticipate the extent of infrastructure and resources damage of the likely war for removing the dictatorial Saddam's regime.

However, creating the conditions for wide practice of individual liberties as well as the environment for free efficient market economy, require more than financial resources, enforcing the law and order, and building the necessary institutions. It also needs a well-defined government economic policy and development strategy as well as to encourage rigorous private business and entrepreneurial visions. In reality, to arrive at such clear and widely accepted policies that reflect the interests of government, political parties, private

¹ This paper is based on the authors views and suggestions for the "Economic Policy Guidelines for the Transitional Government of Iraq", "New currency, Fiscal and Monetary policy" and "Tax Policy". The paper main's claim is the introduction of many concepts (policies) to the new economic culture of Iraq in which both the government policies and the private business initiatives cooperate to increase economic growth and employment as well as to maintain the requirements for social development. Reference is made to the following discussion papers submitted earlier to the economy and infrastructure working group members as part of the activities of the Future of Iraq Project sponsored by the US State Department. These papers raised many controversial issues and have different arguments that should be considered as the detailed sources for this paper and for further research and discussion.

Al-Saadi, Sabri " New Currency, Fiscal and Monetary Policy for the Transitional Government "

Al-Saadi, Sabri " Tax Policy for the Transitional Government "

Sandi, Rubar, " Remaking Iraq: Private Sector Revitalization & Privatization "

Sandi, Rubar, " New currency, Fiscal and Monetary Policy, Tax System "

Sandi, Rubar, " The New Iraqi Banking and Financial Sector Structure "

sector, and satisfy the individuals, is a complicated and long time – consuming political, economic, social, and cultural processes.

In tackling these issues, politicians, economists, and entrepreneurs, all being practical people, have different approaches, interests, policies, and measures. This is not a drawback. Conflicting interests can be reconciled through peaceful dialogue and negotiations. This is why free Iraqis have to express their views, opinions, and initiate their proposals on how to deal with the current problems and how do they visualize their future.

In the context of the activities undertaken by the "Future of Iraq" project sponsored by US Department of State, attempts are made to minimize the differences among the participants though not to artificially compromise the essence of their opinion. However, in dealing with the advocated economic policies it was possible to have general consensus between different views on the major issues confronting Iraq after the fall of Saddam's regime.

It is our belief that regardless whether we have political mandate or not, the duty of all free Iraqis is to express their views and opinions on how to tackle the current problems and how they imagine their future to be. Our role as professionals is to provide enough alternative policies and analysis that may help the (new) decision-makers to determine their priorities.

It is a historical time that Iraq and the Middle East are witnessing these days as we anticipate that the whole political, economic, social, and cultural environment is about to change. This is why the current debate on the future of economic policies of Iraq is significant. However, to avoid running into open- end discussion, we think it essential to have a framework of economic priorities supported by analysis of the macroeconomic, fiscal, monetary, policies and structural reforms, investment priorities as well as entrepreneurial initiatives and private sector experiences.

It is for this purpose that we have prepared this paper.

Since there are many sources for our economic views and development ideas, namely, the theories, actual experience in Iraq or/and elsewhere, access to data and information, and the individual capacity of analysis and vision, it is bound to have different assessment to the economic priorities and the policies among any group of economists or politicians. However, our prior assumption is that the future of Iraq should be based on economic, social, and political liberties. In particular, individual economic freedom in terms of ownership of property, competition, work, and trade should be guaranteed. Given this assumption, there is no harm to find our views and proposals on the right or the left side of the issues. This is the reason why we prefer to have a framework for our discussion rather than to reconcile the differences by avoiding its debate or utilizing the language trick.

Iraq: A Promising Developing Country

As it is well known, Iraq is endowed with huge economic and human resources as well as having an important geopolitical position in the Middle East. It has the second highest proven crude oil reserves of the world and accumulated rich economic, social, and culture experience. It was the land of the early "Sumer" civilization on earth. However, under the rule of the existing dictatorial regime of Saddam Hussein, Iraq lost much of its resources and has been rapidly deteriorating in all aspects of life. Looking for survival, all Iraqis believe that there would be no solution before removing the oppressive dictatorial Saddam's regime.

To advocate remedies to the current economic problems, an objective analysis of the causes of the existing interrelated political, economic, and social crises is necessary. For this purpose, the following issues should be highlighted and considered.

- Iraq is a developing country in terms of low level of GDP and GDP per capita, lack of infrastructure, and widespread market imperfections. In addition, Iraq has certain political, social, and cultural features that should be considered in any new economic and development policies. This is especially important in the first few months after the fall of Saddam's regime.
- Public oil wealth is very significant in Iraq. It constitutes one of the three main elements of the political economy, i.e. oil, development, and democracy. It is therefore important to be aware of the strategic role of oil revenues role in the reconstruction and development of Iraq and the government fiscal policies.

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- Competition should be encouraged in the redevelopment of Iraq's oil resources. Large international oil companies should be encouraged to facilitate locally owned enterprises in the service/support sector so as to disseminate widely the oil profits through contracts as well as direct employment
- Also, it is a naive notion that the foreign companies will dominate the decisions on oil policy, production, investment, and revenues. Iraqis are ready and welcome any foreign assistance and advice related to oil investment and production. However, they are sensitive to any imposed oil policy without their consensus although the majority of Iraqis accepts that it is in their strategic benefits to maintain the flow of oil in the world market. Therefore, careful attention should be given to the opinion of the Iraqi professionals still living in Iraq and to the current laws and regulations regarding oil industry before taken any hasty and externally imposed decisions.
- Careful consideration should be given to the time dimensions of the implementation of new proposals, policies, measures, and structural reform programmes.
- Priorities have to be determined within a consistent economic framework. The implication on time - schedule of implementation should be carefully assessed before the embark on the anticipated economic reform programme.
- As Iraqis need for new economic culture where free private business, individual independence, competition, and entrepreneurial initiative should prevail, the government policies should not ignore the need for minimum social security and services such as basic education, public health, unemployment benefits, income support, and minimum pension for elderly people.

Iraq is endowed with abundant economic and human resources. However, in the last three decades, Iraq under the rule of the ruthless and oppressive dictatorial regime of Saddam Hussain experienced extraordinary economic deterioration resulted in acute economic, financial, social and environmental problems. Specifically, Iraqi economic, social, and environmental infrastructure heavily damaged especially after 1990. The long political repression, bad government economic management at different levels, lack of private sector initiatives and entrepreneurial visions, and widespread market imperfections have been major contributors to the current economic and financial crises.

Since 1964, the activities of the private sector in Iraq were discouraged by the domination of the public sector. More significantly, since 1968, the role of public sector dominated the investment, production, and foreign and domestic trade activities. However, rational and institutional public investment decisions have been gradually diminished. As a matter of fact, Iraqi governments failed, with different degrees, to establish constitutional and institutional apparatus for its economic and public investment policies.

In (new) Iraq, the challenge is how to utilize public oil revenues for promoting economic and social development as well as advancing democratic practices in a free market economy. Since Iraq is in urgent need to erect and develop its infrastructure as well as to revive the economy, public investment constitutes the main engine for economic growth and social development. The vehicle of such essential endeavor is IDRC.

Government Economic Policies

In the case of Iraq, three main sets of government economic policies should be highlighted.

- The first is the macroeconomic, fiscal and monetary policies. The aim of activating these policies is to maintain economic stability by controlling inflation through the government annual budget and the balance of payments. At present, oil revenues constitute

the major contributor to the total revenues of the (ordinary) annual budget of the government. For the future, taxes should play an increasingly important role in public finance. In this respect, some social aspects of the government policies, such as income and wealth redistribution, will be considered. That is to say, guidelines are needed for government expenditure allocations. Apart from the psychological, technical and artistic aspects of issuing new currency, the supply and the value of the currency are to be determined by the fiscal and monetary policy. The success criteria of the fiscal and monetary policy should not be subject to speculation before the application of the first annual or temporary budget.

- The second set of policies is related to the economic structural reforms. Parallel with the administrative, financial (including tax system), and legal reforms, the government should implement radical reforms for banking system, financial and exchange market, ex-post evaluation of public enterprises, privatization, free trade, and free flow of capital. The ultimate aim of these reforms is to liberalize the prices from government influence and unnecessary interventions in the anticipated free market economy mechanism. Therefore, issues such as the unification and liberalizing foreign exchange rates should be considered as part of the reform programmes. To ensure successful implementation of these reform programmes, careful time schedule and continuous assessment and adjustments of the impact of these programmes are crucial.
- The third set of the government policies is the public investment in the infrastructure of Iraq. The IDRC sub-group has extensively tackled the issues related to the public investment objectives, resources, institutions, and activities². It should only be mentioned here, however, that while public investment policies should be formalized as part of the government economic policies, discussion on certain infrastructure projects such as electricity, water, communication, are to be presented and considered as normal technical and economic pre- feasibility or/ and feasibility studies.

Private Sector and Entrepreneurial Initiatives

Saddam's totalitarian regime has not allowed any large scale economic endeavours in the private sector. Small and medium sized businesses have continued to operate in niche roles throughout the country, subject to expropriation or exploitation by government officials --if profitable. Many private sector enterprises serve in some adjunct role to support large state owned/controlled industries and are awarded as concessions to Saddam's supporters.

Iraq urgently needs private business resources and entrepreneurial initiatives for dealing with its acute economic and financial problems as well as for sustaining high economic growth and employment in the long run.

The challenge for the new Iraq will be to foster economic and regulatory conditions that allow new, voluntary, individual business initiatives and entrepreneurial activities, under free, legal, competitive market conditions. Dismantling the current illegal structures and enterprises, removing ruling party cliques from ownership/control, and privatising some state run enterprises, are the principal economic challenges for planners supporting new free market economics

The private sector will help in mobilising resources to contribute to economic growth and employment. In particular, the following private sector activities are essential.

- Identifying investment opportunities. Institutionally, the IDRC would be the center for high level coordination between the government economic authorities and the private sector institutions. It is anticipated that the IDRC would be qualified to develop the new model of economic growth and development for new Iraq.
- Provision of emergency assistance by private initiatives and enterprises independent of the structures' owners/managers of the Saddam regime.

² See the report: Iraqi Development and Reconstruction Council, Future of Iraq Project, US State Department.

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- The imagination and experience of the informal sector (black market) can be nurtured to provide a new generation of entrepreneurs and enterprises. The role of the informal sector will be required following the fall of Saddam regime.
- Mobilization of financial resources from domestic and foreign sources for government and private sector.
- Steps have to be initiated to bridge the gap between the national economy and world economy through the private sector activities.
- Assessment of practical and detailed problems such as financial, institutional and lessons from privatization, free trade and foreign capital flow experiences in other countries have to be utilized.
- Special attention should be given to the causes of the reform experiences and failure in the neighboring countries.

Crucial Issues; Foreign debt, War Reparation, Investment, and Privatization

Nothing new in repeating that investment is the engine of economic growth and development and finance is required for increasing investment. It is also known conclusion that in Iraq non-oil production activities are low and per capita income is low too. Therefore, it is straightforward proposition that oil revenues, domestic capital and foreign capital should be mobilized to increase investment and production. However, Iraq is facing huge financial problems, non-commercial debts and war reparation, as a result of the armament and foreign policy adventures of the dictatorial regime. The free Iraqis have always been aware of the implication of such problems. Yet, they have faith in the positive and realistic attitude of the international community that would help them to waive these debts and adopt forgiveness policy. While it is not difficult to provide different scenarios for alternative financial policies and economic implications, Iraq after Saddam needs at least two years of time to achieve economic and political stability and maintain the minimum improvement of the standard of living. Therefore, while the Iraqi economists engaged in their serious analysis of the implications of these problems, they are not in favour of considering them, at this stage of time, as financial input of the future economic policies.

Assessment of the investment requirements for reconstruction and development is another urgent issue. Except for rough estimates of certain infrastructure projects, attempt to assess the magnitude of investment required for reconstruction and development of Iraq after the fall of Saddam's regime is bound to have technical and data limitations. However, initiative for preparing an Action Plan for the Reconstruction and Development for Iraq is in the mind of many Iraqi professionals and businessmen.

Iraqi experience revealed that since 1970's many public enterprises have been constitute financial burden on public finance and they were binding constraints on economic growth and development. However, for political reasons Saddam's regime failed to solve this problem. In dealing with this problem, two main issues have to be addressed. First, some public enterprises are essential in Iraq. Second, privatisation should be part of the economic structural reform that aim to establish the conditions for free efficient market economy and is not a mere source of public finance. Therefore, it is essential to have ex-post evaluation of the public enterprises as a first step for the identifying public enterprises for privatisation. At this stage, criteria for privatisation should be determined. Also essential, the implementation privatisation programme should be part and parcel of the economic structural reform policies of the government.

Conclusions

- Iraq has the potential for not only achieving high rates of economic growth and employment, raise the standard of living substantially, and improve the quality of life, but also be a successful economic and development model in the Middle East. One of the

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necessary conditions for such promising anticipation is to have efficient and practical government economic policies as well as private sector initiatives and entrepreneurial visions.

- In particular, the transitional government of Iraq may consider the suggested policies and propositions given in the referred papers on "new currency, fiscal and monetary policy, tax reform, and revitalisation of private sector and privatisation" in its assumed programme of action. It should be mentioned that all given proposals related to the government economic, fiscal and monetary, and tax policies are based on the Iraqi experience. The given new ideas and notions are based on the business and entrepreneurial experience of the Iraqis in different countries.
- Better economic conditions in Iraq serves a second purpose of focusing the attention of a people struggling to find their place in the new order on self improvement ventures which give them a stake in peace and stability.
- Within the given framework and based on likely new findings, information and data, after the fall of Saddam regime, it would be much easier for the free Iraqi decision-makers to deal with the current economic and financial problems. Moreover, for medium and long term prospects, the given views and proposals would help to develop the Iraqi model of Economic Growth and Development
- Finally, if economists may do well to reflect on whether they have the right to *prescribe solutions for other peoples' problems*. Advisors to governments and leaders in other areas serve best when they confine their role to clarifying issues and presenting alternatives. This means that economic policy in Iraq is best determined by means of mutual advice, through mutual discussion, on an equal footing. Unfortunately, the Iraqi *traditional political parties, both right and left, and new political groups* should have their clear political programmes and economic and social policies. Even the so-called liberal, democratic, and independent elements - currently in the process of development to political parties - should also pace their efforts to develop their programmes and policies. It is extremely essential for Iraq that the political authorities and all active political parties should have clear policies and future visions for how to influence the dynamics of the three main elements of the political economy of the country, namely, oil, economic and social development, and democracy.

Supporting Iraqi Women

Even from ancient times, Iraq has been a leader in the field of women's rights. King Hammurabi, ruler of Babylon from 1792-50 B.C., created the world's oldest known set of laws, and his code endeavours to provide justice for all people, including women. Today, Iraq is still considered to be at the forefront of women's rights in the region, with legislation and regulations that promote the status of women and the principle of equality and equity between the sexes.

However, as is often the case in times of crisis, women are bearing the brunt of years of war and sanctions in Iraq. The past decade had seen a decline in educational opportunities for women, a jump in female illiteracy and rising poverty. Despite these difficulties, Iraqi women are using their powers of creativity to face the challenges confronting their country. They are assuming additional responsibilities at work and at home in order to provide and care for their families. UNDP is an active and committed partner in the advancement of Iraqi women as they take on new and diverse roles in national development, in areas such as politics, the economy, the legal system and the health sector. UNDP is working with Iraqi women to overcome obstacles to their full empowerment, and build on gains already made.

Key Statistics:

- **The labour force participation rate in formal economic activities is 10.3 percent for women and 43.4 percent for men.**
- **Women hold eight percent of seats in the National Assembly.**
- **Female adult illiteracy is 56.2 percent (36.1% for males).**
- **More than 50 percent of pregnant women are anemic.**
- **Women make up 34.4 percent of university and polytechnic students.**
- **Thirty-eight percent of doctors are women.**

Current UNDP Projects in the Field of Gender

The National Committee for the Advancement of Iraqi Women

UNDP is building the capacity of the NCAIW to achieve its goal of mainstreaming gender-related issues into the socio-political life of Iraq. The \$70,000 project includes training in gender analysis and gender sensitive policies, as well as the creation of a strategy to incorporate gender indicators in data collection.

Improvement of Nursing Services

This project provides training for 100 percent of nurses working in coronary, respiratory and intensive care units at general hospitals and cardiac surgery centers. The \$50,000 project also includes the "training of trainers" in these critical fields.

Rehabilitation of Cancer Care and Control Services

UNDP is working to reduce cancer related deaths in Iraq, particularly from breast and cervical cancer. With funding of \$268,000, UNDP is providing educational and advocacy materials, diagnostic equipment and training for health care professionals.

Support for Disadvantaged Women

This \$561,000 project is providing disadvantaged women with vocational training in sewing, knitting, needlework and computing skills. UNDP also offers micro-credit loans for women to set up their own small businesses. So far 54 women have taken out two-year loans of about \$400. The pilot project in Baghdad, Basrah and Diyala governorates includes the rehabilitation of training and production centers of the General Federation of Iraqi Women, so that this important partner can continue to support and empower disadvantaged women.

Vocational Training and Micro-Credit for Women Prisoners

This \$164,000 project includes the renovation of a work area, equipment and training for inmates at the Iraqi Women's Prison in Baghdad. Participants earn between 40-150,000 (\$22-83) Iraqi dinars per month from the sale of their products. UNDP also renovated the health center and a crèche for children living with their mothers at the jail. UNDP provides small interest free loans for freed inmates to set up their own businesses. The women are given help to create a sound business plan and counseling to ensure they reintegrate into the community with dignity.

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Transforming Iraq's Military Industrial Complex

Current role and function

The Military Industrial Complex serves various functions in Iraq's totalitarian machinery. It has become the focal point for Saddam's directed research projects in death and destruction. It also serves as the professional resources for all state directed industrial development programs. It consumes a large part of the national budget and energies through its various activities. It employs some of the best and brightest of Iraq's professional engineers and managers. It is a safe haven for many educated Iraqi's who want to survive under Saddam's rule. It is, in part, a sinecure for cronies of Saddam and central to his corruption and maintenance of power. In many of its function it serves Saddam directly and confers status and privilege on his servants. As in many totalitarian states, the military industrial complex extends Saddam's power and control over an otherwise unemployable, educated cadre who would be dangerous to his state if not kept busy. Some MIC components and functions may serve only these purposes.

Immediate appraisal and refocusing -post Saddam

Initially all personnel and programs, save those connected to military support and weapons of mass destruction development and operations, should continue to function under the control of the interim government. A review of budgets, programs, assets and personnel of all non-military programs should be conducted by a special commission to evaluate the utility and effectiveness of these outlays through the MIC. Programs and functions, along with personnel that can be logically separated from the umbrella of the MIC should be identified and reassigned or amalgamated with similar functions under civilian control. Personnel should be screened to identify capable, experienced managers and assigned to augment deficient areas of government services, education, health care, sanitation, transportation, housing, agriculture, food distribution, and even banking and finance. These sectors, among others, could benefit from experienced leadership and the reallocation of resources to these sectors which have been neglected during the last 12

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years. A commission should make specific recommendations to the interim government on ways MIC personnel could be reassigned to these new challenges and assist in the reorganization of Iraq's government. Key will be the maintenance of salaries and prestige for these managers and perhaps a special executive corps could be organized to utilize this manpower flexibly and pragmatically. Unqualified Saddam cronies should be identified and insulated from causing harm to Iraq's redevelopment. Some elements of the MIC may be suitable for privatization and these components should be included in private sector initiatives and new ventures. A commission to examine the private sector initiatives that may become part of the new, more permanent and democratic Iraqi state, should examine the assets and capabilities of the MIC to see what components might be reformed as private sector entities.

Transforming Iraq's Military Industrial Complex

Longer term restructuring

The MIC, its organization, functions, assets, personnel and budget should not become a part of the new, democratically elected government of Iraq. The statist concepts underlying its creation and operations in Iraq should have no supporters in the new Iraq. No nascent strongman or revolutionary should be able to utilize the organizational powers of a MIC. Some functions, those not absorbed by the central government through its departmental functions, should be devolved to augment similar provincial level capabilities or privatized. Experienced managers and technical personnel should be reassigned or retrained to allow this educated manpower to be used on critical and urgent government programs which will allow them to contribute to the rebuilding and revitalization of Iraq. Assets not required for continuing government operations should be sold.

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Military Industrial Corporation

A Proposal For Transfer

The proposed conversion, elimination, modification, and or utilization of all existing facilities within the MIC complex should navigate a number of significant stages expanding a long period of time where some of its activities may overlap, some may remain independent, and still others may start and stop according to measurements taken as precaution whether dismantling or restructuring; transporting and storing site resources considered classified and of extreme environmental hazard.

Like all other proposals one must consider the need for varied expertise in said preparation. Each site to be independently researched as to content; geographical location; engineering and design layout; equipment components; existing storage and safety; whether to convert, eliminate, modify, and or utilize the existing facility stating proposed structural additions, modification, or destruction; how and at what cost; prior energy utilization and potential availability; waste disposal; conditions of infra-structure; personnel and all specifics; re-training associated costs at all levels and necessity; interim basic and intermediate costs to maintain human transference; development of new basic administrative functions to be later linked to a larger network supporting the overall recovery and economic renewal of the nation; development of small teams with task-specific reorientation and reassessment of each component step, while reporting directly to a Central Committee structured to monitor regional activities, progress, and narratives together with accounting and auditing support, human and medical, legal and paralegal assistance, with departments charged with policing, patrolling, and maintaining order, conflict resolution, and overall security of facilities under change.

Likewise, an important consideration would take place at the onset regarding human resources. Moreover, a need to classify and create interim facilities grouped by type of re-training offered, length of time requirements, training and management of facilitators,

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curriculum proposals, overseeing departmental accretion, and linkage to a Central Committee whose expanding tenure will require the development, on an as needed basis, of additional departments charged with regional authority and specific functions. Activities resulting in by-monthly administrative meetings and reports to be sent upwards to the interim government agency in charged of the overall country development, its objectives, economic and political, social, health and humanitarian needs, educational integration with emphasis on global activities and open market.

At each segment of a varied component proposal, its relevant costs shall be furnished together with an assessment as to impediments, and potential delays that could bear consequence on the emergence of the overall plan.

Lets understand that we will be working with a dynamic set of rules, objectives, and time-specific and goal oriented schedules, subject to revision, amendment, and or change where and when necessary.

As the facts become evident and the ponderousness of its reality emerges little by little, and as we adapt the appropriate response to each emergent information, utilizing modern technology and adequate management on each event as presented, the synergy associated with said effort shall be continually surveyed for signs of fatigue and burnout, quality relations and environ impact, performance and attitude, and personnel health, as well as the on going need for personnel security.

Keeping mind of the motive fueling all changes, and developing a new theme to serve as axis of common and logical basis for orientation, emerging information shall translate into the building blocks structuring the new Iraq.

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A culture representing an amalgamation of diverse people, with built-in diverse bias acting as counter weight to any proposal for change and unification. A social order where gender has remained divided and imbalanced liken a bird that flies with one wing, continually circling, remains myopic and focused in limited social ways.

A system of belief, the basis of which presents any prospect of union with the challenge where antagonistic viewpoints, its two main Branches, remain actively antagonistic and potentially violent towards the other. This assessment can not be viewed alone in a global community where other belief systems are recognized as social tools of mass management with their degree and number of adherents responding with varying affective resonance to their respective belief systems specially when they all accord an exclusive arrangement that lacks the bridge for tolerance and cooperation, where instead these are used as expansionist tools of conversion, and economic empowerment for clergy depending solely on said belief system for their survival.

On the other hand, as education filters itself downwards we ameliorate these extremes, at times with the prize of disbelief in the very belief system their ancestors practiced. We find then an emergent growing group bereft of restrictions, with little behavioral boundary to limit the insatiable appetite for glory, power and wealth.

There is then a delicate road we need to travel. No one group can be said to possess the know how to successfully address all requirements. This transfer can be a first attempt at planting seeds for a true world community in that part of the world. If we are careful to avoid the pitfalls brought about by blind ideology and materialistic science. A balance than can be made possible from the start with the cooperation of diverse people, including the afflicted under a tyrannical ruler. Everyone can contribute, yet we must build a road of trust, and this may ask to forgive and forget mistakes, atrocities, neglect, and so much more than can only serve to deviate and damage results than form part of the building blocks of a nascent world community.

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We must not forget the citizens, old and young alike while pursuing this transformation of MIC facilities. Though indirectly related, these two parallel interests must remain focused and aligned to that Common Axis of Logical orientation, rules developed during interim activities that lead to mid-term objectives.

Long-term planning shall evolve as an after-thought, once each and all elements of the reconstruction are in place. Prolonged term planning and emphasis on future growth, economic maintenance, and stability shall serve as fine tuning and further procurement enhancing international relations, tourism, continuing education, media development, unification of tribal sectors, and the emergence of a culture reflected in its arts and sciences reacting as well as becoming fuel for further enhancement projects of global interest intricately woven in Iraqi culture worthy of global consumption, and slow dependence on self and nation, with less and less international involvement in its politics and in accordance with sovereignty accorded to a country under international rule of law.

Returning to the MIC industry, we diverted temporarily and engaged the private sector purposely. We want to emphasize the fact that the entire process transferring military design to serve civil society should not disengage itself from its ultimate motive of service to a new community under the umbrella of a global commonwealth.

Each facility must be viewed ultimately within the scope of social service be it industrial or educational, be it as a viable new instrument of economic development or as mechanism that converts and distributes goods and services locally or abroad. Each study will in the end fully describe the most efficient way to utilize existing technologies, structures, human resources, inventories, and any presently unknown cache of resources requiring special handling and treatment.

In closing, we acknowledge the limited initial impact this short missive addressing generalities and conveying a general overview with little attention to detail and wanting of precise answers.

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We acknowledge herein the restrictions created by a despot and a tyrant whose hands have wrought a regime of concealment and terror to a region of the world. Much will be uncovered, as we survey each and all components of Iraq's landscape and field of activities, be these military, economic, structural, services, commercial, banking, educational, agricultural, administrative, judicial and legislative, research and development, environmental contamination, pollutants and impact on land, rivers, lakes, on the air quality of its cities, and the ocean.

A true assessment can only result from an evaluation the day after said regime is removed. Once the smoke has settled, the country's landscape shall emerge naked for all to see. Nothing short of this fact can presently serve to guide us in recovering a nation tragically engulfed in wholesome deprivation for over two decades. The extent and measure of such policies of abuse, psychological manipulation, mass indoctrination, and the dismissal of basic human rights, dignity, and freedom, coupled to a systematic delivery of fear can not be adequately determined from a distance, and will require medical specialties trained to address long term victimization of the populace in some ways resembling survivors of world war camps of the past; and, in new ways as yet unpredictable in tangible behavior becoming self evident as the months begin to mark the end of a regime that has no equal in human history.

There is no time to place blame. There is little time for disunity or disagreement based on politics or personal agendas. There is a serious issue worthy of attention and requiring immediate action.

We propose the formation of an early team created for the study, and preparatory employment of personnel addressing the components and steps needed to initiate immediately an extensive research into this vast MIC field of activities, with its inherent operational costs as progress is realized.

We will follow this brief engagement with an overview of cost specific ideas and bring

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them to the attention of those in charge of oversight review and disbursement. Thereafter, office space and administrative essentials shall benefit the endeavor, equipment and other peripheral regulation implemented within guidelines meant to finalize such complete submission.

Most of these sites were hit during the Gulf War, and some of these facilities are no longer operational but are maintained to begin again as soon as the International community decides on Iraqi's future.

Others sites have changed its production identity and focused on civilian needs. As presented, MIC facilities cover most of Iraq's territories, employing tens of thousands of the most advanced and sophisticated professions and expertise where most of them have contributed in the reconstruction campaign of Iraq's infra structure during the period of 1991 thru 1997. Please refer to the partial list provided.

We believe that such working force should be utilized in any future plan.

We want to thank the State Department, and Members herein present for their undivided attention and opportunity given to present this early set of viewpoints focused on the Military Industrial Corporation presently engaged in work on nuclear, biological, and chemical weapons, in addition to general purpose work including, but not limited to, military and civilian products and services.

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The Future of Iraq Project

Economy and Infrastructure Development Working Group

“INDUSTRIAL CITY OF IRAQ-ICI”

A Preliminary Proposal Related to the Subcommittee for*:

- **Conversion of the Iraqi Military Industry to Civil Purposes**
- **Job Creation**
- **Promoting Free-Enterprise/Privatization**
- **Boosting Economic Development in Iraq After Saddam**

Washington D.C.
January 28, 2003

***A detail plan can be provided upon request.**

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ICI Corp.

Industrial City of Iraq Corporation

A Preliminary Proposal to Boost Economic Development In Iraq After Saddam

Preamble:

In order to rehabilitate the new Iraq during the crash plan and beyond, the new government will be confronted with highly complex tasks. Specialized organizations will be required for the major tasks of restructuring the government and the economy, developing the new constitution, forming the new legislative, judicial, and executive bodies, as well as the enormous task of providing food, water, shelter, healthcare, energy, transportation, communication, and other public emergency necessities.

The critical objectives of restructuring and rehabilitating of Iraq will require not only a dedicated government, but also a highly committed, specialized, and well-focused private sector to assist the new government in achieving these objectives. In addition, the new government during the crash plan will be preoccupied with political and organizational restructuring. Thus, the government will not be capable to address many vital economic issues in a timely manner. The private sector will be able to assist the government in this regard.

Private sector by nature is highly flexible, adaptable, aggressive, entrepreneurial, and innovative. The new government can capitalize on these merits to effectively respond to the new demands of the people and to manage the enormous changes that will inevitably take place during the restructuring and the rehabilitation process.

In order to effectively capitalize on the potential power of the private sector and to manage economic development in a timely manner, the government will need to promote and back a number of large-scale business entities, which in turn will provide support and goods and services to not only millions of individuals, but also to thousands of small and medium size businesses.

The purpose of this proposal is to introduce a plan to build an **industrial city** through an international public corporation and its subsidiaries, whose primary role will be creating jobs, generating hard currency through non-oil exports, providing goods and services to the public, and boosting economic development in Iraq after Saddam.

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A. ICI Advantages:

1. As the Iraqi military, military industrial enterprises, and security services agency will be downsized, several hundred thousand new jobs will be immediately required. ICI will be one of the few institutions with the potential to address the unemployment issue caused by **military restructuring**.
2. ICI will be the first Iraqi experience in forming and running a free-trade zone, which will help the over-all economy of Iraq.
3. ICI through its subsidiaries will hire more than **220,000** people within the first five years, which will result in employment of nearly **1.5 million people nationwide**. It is also estimated that this project will annually generate nearly \$5 billion worth of revenues, which will substantially boost the Iraq's GNP. Net non-oil export of \$1 billion a year generated by ICI will also dramatically boost the Iraq's economic development.
4. ICI will help reduce population pressure from high-populated areas, such as Baghdad.
5. ICI will supply many diverse products and services to other cities, towns, villages, and industrial complexes in the area, in addition to the future project, such as Western Desert oil-field exploration, and agricultural projects.
6. The shortage of textile as well as many other products in Iraq will be satisfied through the products supplied by ICI subsidiaries.

B. The Company: Industrial City of Iraq Corporation (ICI) will be formed as an Iraqi international public corporation, backed by the new government of Iraq after Saddam.

C. ICI Mission: The mission of this public corporation is to found, establish, and manage an industrial city in a permanent free-trade zone with the purpose of economic development, increase of Iraqi non-oil exports, and more importantly, creating job substitutes for several hundred thousand Iraqi military, military industrial, and security service personnel. ICI and its subsidiaries will operate as independent and profit-seeking corporations to benefit their employees, shareholders, and the Iraq's economy.

D. ICI Business Philosophy: ICI will be committed to excellence, entrepreneurship, free enterprise, innovation, human development, and integrity. ICI will encourage innovation and support and form joint ventures with entrepreneurs, domestic and foreign investors in many business areas, including

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but not limited to manufacturing, import/export, healthcare, education, travel and entertainments, retail, real estate, energy, technology, and telecommunication.

E. ICI Business Activities: ICI as an international public corporation will raise funds and form multiple subsidiaries, each specializing in a specific field of business. While the main focus of the industrial sector will be production and marketing textile products, several other subsidiaries will be formed to offer support not only to ICI textile industry, but also to build and run ICI City.

F. ICI Job Creation and GNP Growth Potential: As indicated below, ICI through its subsidiaries will hire more than 220,000 people within the first five years, which will result in employment of nearly 1.5 million people nationwide. It is also estimated that this project will generate nearly \$5 billion worth of revenues, which will substantially boost the Iraq's GNP. Net non-oil export of \$1 billion a year generated by ICI will also dramatically help the Iraq's economic development.

G. ICI Subsidiaries:

- 1. ICI Textile Industries Corporation:** The core business of ICI will be textile industry. ICI Textile Industries Corporation as one of major subsidiaries of ICI will engage in establishing and running textile mills to produce, market, and export various textile products with estimated annual revenue of \$2 billion, of which 70% will be generated from exports. The company will satisfy a major portion of domestic textile product demand, substantially reducing import of textile products and saving the economy \$600 million annually. This company will employ 76,000 people within the first five years, and as a result creating 760,000 jobs nationwide.
- 2. ICI Real Estate Corporation:** The second important business activity of ICI will be the construction of the City. ICI Real Estate Corporation independently and/or with partnership of other domestic and foreign companies will conduct the initial engineering and architectural design of the City, and also engage in land development, construction and marketing of houses, retail shops, schools, hospitals, and other civilian building needs. This company plans to build 50,000 of housing units and 1,000 shopping units and related civil services annually for the first five years, which will result in the employment of 50,000 managers, engineers, technicians, and construction workers. As a result, it is estimated that some 250,000 jobs will be created nationwide. Estimated annual revenues generated by this company are \$600 million.

The planned housing units are designed to provide housing for (1) more than 220,000 ICI employees and their families (2) entrepreneurs and their families, who will migrate from other parts of Iraq to establish their businesses in the City, and (3) settlers from other countries.

- 3. ICI Manufacturing Corporation:** While the main manufacturing activity will be textile, other small and medium size manufacturing activities will stem from the construction of the City. ICI Manufacturing Corporation independently and/or with partnership of other domestic and foreign entities will be involved in setting up and running assembly plants, and manufacturing plants for dyes, chemicals, packaging, printing, industrial machines and parts, paints, bricks, cement, wood products, ceramic products, concrete products, plastic and metal products, wires and cables, switches, air conditioning equipment, tools, etc... This company will produce diverse products that will be used not by ICI City population, but also will be exported nationwide and some to neighboring countries. It is estimated that in the first five years some 25,000 people will be hired, which will result in the creation of 250,000 jobs nationwide. Estimated annual revenues by ICI Manufacturing are \$400 million.
- 4. ICI Trading Corporation:** ICI will inevitably need a subsidiary specializing in export of ICI City products, and also the import of the goods needed for other ICI subsidiaries. Similarly, trading activities will be conducted independently and/or with partnership of other domestic and foreign entities. This firm will be trading some \$5 billion worth of goods world-wide annually by importing the needs of ICI subsidiaries and exporting products produced by ICI companies. It is estimated that ICI Trading will hire 3,000 employees, which will result in employment of some 15,000 people nationwide. Estimated annual net revenues by ICI Trading are \$250 million.
- 5. ICI Energy, Water and Telecom Corporation:** The City will also need a subsidiary specializing in the supply of energy, water, and telecommunication. Similarly, these business activities will be conducted independently and/or with partnership of other domestic and foreign entities. It is estimated that this company will hire 15,000 employees within the first five years, which will result in employment of some 150,000 people nationwide. Estimated annual revenues by this company are \$450 million.
- 6. ICI Healthcare Corporation:** As the City grows, the need for adequate and quality healthcare will also increase. This subsidiary's mission will be to independently and/or with partnership of domestic and foreign entities provide quality healthcare for the entire ICI City population by forming and running hospitals, clinics, and other medical facilities. ICI Healthcare will hire 10,000 employees within the first five years, which will result in employment of some 50,000 people nationwide. Estimated annual revenues by this company are \$300 million.
- 7. ICI Bank and Insurance Corporation:** In order to provide commercial banking and mortgage loans, as well as health, auto, property, life, retirement, and other insurance and financial products, this subsidiary will specialize in banking and insurance products and services independently and/or with partnership of

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domestic and foreign entities. This company will hire 3,000 employees within the first five years, which will result in employment of some 15,000 people nationwide. Estimated annual net revenues by this company are \$200 million.

8. **ICI City Management Corporation:** This subsidiary will provide educational facilities, security, traffic management, garbage collection, landscaping and park management, and other city support needs. Revenues for city management will be generated through collection of property taxes and fees. The City will hire 20,000 employees within the first five years, which will result in employment of some 100,000 people nationwide. Estimated annual revenues by the City are \$500 million.

H. ICI Location: ICI will be located 100 miles west of Baghdad, within the Rumadi Governorate, close to the major Baghdad-Jordanian Border Highway. This area is flat rich with water wells and close to the Euphrates River, overhead electrical lines and telecommunications towers. Some 200 square kilometers of land will be required for this project.

I. ICI Funding: Within the first five years, the capital expenditure for this project to build the industrial city, import machinery equipment and raw materials, and working capital is estimated at \$10 billion, out of which \$5 billion will be funded through international loans and secured by ICI's assets and backed by Iraq's government. The balance will be acquired through equity financing and joint-ventures, which will include funds to be invested by foreign and domestic investors in ICI, as well as profits generated by ICI subsidiaries, such as sales of rights and royalties, land sales, houses and office building sales, rent, and export of ICI products.

J. Iraqi Government Support Requirement: In addition to guarantees to be issued by the government of Iraq in order to fund the project through foreign lenders, it is necessary to provide permanent tax relief to all businesses operating at ICI Free-Trade Zone, as well as non-taxation policy on all goods and services imported and exported from ICI. Furthermore, the government should provide land, water, energy, security, and law enforcement to ICI. In order to encourage foreign investment, the government should also offer guarantees to such investors.

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Future of Iraq Project

Economy and Infrastructure Development Workgroup

Subcommittee on
Iraq Development and Reconstruction Council
IDRC

**Recommendations to the
Post-Saddam transitional government of Iraq in preparation for a free
society under a constitutional democracy**

**IDRC Recommendations – v3.0
December 11, 2002**

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Introduction

The work of the Iraq Development and Reconstruction Council (IDRC) has spanned a period of turbulent changes in the circumstances surrounding the existence of Saddam's regime in the past thirty-four years. The Iraq Economy and Infrastructure Development working group dated October 26, 2002 commissioned this study.

The IDRC council was asked to examine all aspects of the Iraqi national economic development, infrastructure, reconstruction, important political conditions such as stability, political and social freedom, revitalization of private sector, and individual's economic freedom as part of free market economy.

The IDRC council has addressed the most important economic development and reconstruction problems considering the future of Iraq after a regime change. We expect most of the anticipated changes are required, rapid, and challenging. Moreover, our conclusions and recommendations must fit into a future of Iraq that will continue to change in directions to benefit all of the Iraqi people.

The IDRC council is mandated to identify and recommend development and reconstruction projects that are very specific and appropriate for the immediate circumstances for Iraq after Saddam and during the transitional period to meet future development needs that are politically feasible both domestically and internationally.

IDRC Principal Purpose

The IDRC is an independent council, its principal purpose is to set the development of sound public policies and promote public understanding of issues of national and international importance to the Iraqi people and to the transitional government to drive policies, programs, and structure. The IDRC must engage actively in the process of the development and supervision of the economic, social, and environmental infrastructure projects and determine specifically the types, resources and total cost of these projects.

IDRC Mission

The various advanced scenarios for the liberation of Iraq and the outcome, whatever the course of this transformation, will leave a Government power vacuum at all levels, financial and economic uncertainties, and general concern about stabilization and the organization of a new transitional regime to replace the old. A coordinating independent council, the Iraq Development and Reconstruction Council (IDRC), operating through specialized subcommittees, is proposed as the

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focal point for resolving many of economical and social problems that must be dealt with coherently during the transitional period which is estimated to last between 24 and 36 months.

The IDRC is to initiate the vision and set the framework for economic development and reconstruction of new Iraq, its governance, and its economic and cultural renaissance.

The Council would operate through subcommittees dedicated to resolve serious and controversial economic and social issues and concerns and may inherit an implicit political role during the transitional period.

Considering the wealth of Iraq in economic and human resources, its potential and importance to the stability of the gulf area, the middle east region, and the economic and social damages inflicted during two wars and by Saddam's oppressive regime, a radical and aggressive measures must be planned and ready to be executed from day one to guide the transitional Government.

During the transitional period, it is essential to establish the following:

- 1- The IDRC should derive its power from the highest authority established in Iraq after a regime change.
- 2- The IDRC decisions must be fully transparent.
- 3- The IDRC operates as an independent decision-making council with specialized subcommittees that have the power to influence major decisions on economic development and reconstruction projects.
- 4- The IDRC, in the short-term, should consider its mandate temporary; it should work to devolve its authority and functions to a more permanent structure in a new constitutional arrangement. The democratically elected government and parliament will modify the IDRC responsibilities and authorities.
- 5- The IDRC responsibilities so as to focus on investment for developing the economic, social, and environmental infrastructure projects.

IDRC Goals & Objectives

The IDRC must deal with the various short and long term needs for coherent problem solving and provide coordination for the new Iraqi transitional Government, Arab and international agencies. It is clear that one of the IDRC functions is to deal, identify and anticipate infrastructure and economical problems as they arise. It will serve as an important interim coordinating body during the time when political and Government structures in Iraq undergo the process of regime change. Oil policy is an essential part of the economic policy and oil revenue plays a strategic role in the future development of Iraq. Any attempt to have sound and effective economic and development

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policies should assume that oil policy in terms of production, investment, and trade is an integrated part of the economic policies.

The IDRC must take the lead on working with the appropriate Government ministries and agencies in the preparation of a two-year transitional development plan. Expert IDRC members and other consultants should produce seven main inputs into the development plan:

- 1- Conduct a base-line assessment with full analysis of the current Government structure and report on gaps and duplications
- 2- Identify the most depressed regions of Iraq that require immediate development quantitatively and qualitatively
- 3- Identify the depressed sectors per-region that requires immediate development and attention. Hence health services (including vaccination), food, education, electricity, clean water, irrigation & agriculture, relocation of families to their original towns and cities will have a high priority for all regions of Iraq and will require immediate attention.
- 4- Identify and prioritize infrastructure and reconstruction development projects, assess needs, identify internal and external resources, and estimate time and cost required
- 5- Conduct a full analysis of the competitive position of the Iraqi private sector and of Iraq's regional social needs, and identify priority areas for growth
- 6- Identify priority sectors for Government actions to encourage the country's competitive position regionally and stimulate investment and growth
- 7- Identify major environmental and pollution clean up projects through out Iraq

IDRC Structure

Iraq is endowed with abundant economic and human resources. However, in the last three decades, Iraq experienced extraordinary economic deterioration resulted in acute political, economic, financial, social and environmental problems. Specifically, Iraqi economic, social, and environmental infrastructure heavily damaged after 1990. In addition to the political conflicts, bad government economic management at different levels has been major contributors to the current economic crisis. Therefore a strong and effective Iraqi Development and Reconstruction Council structure must be established with a clear defined mandate and responsibilities to start work immediately after a regime change.

The IDRC must be composed of qualified Iraqi experts from inside and outside Iraq, many of whom may now be in exile or outside of the current regime, and must be assisted by experienced technocrats whom may or may not be Iraqis. It is urgent that the Council should organize its structures, subcommittees and responsibilities to be ready to deal effectively with the

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circumstances of the regime change.

The Council should elect its officers, establish a small secretariat to coordinate its work, and empower subcommittees that are composed of specialists to identify specific infrastructure projects and provide a road map with action plan for each sector and region. The Council's work should be inclusive of all elements of the Iraqi society and impart a sense of "ownership" to those already familiar with the problems and likely to develop workable solutions. The Council, through its subcommittees should interface with international organizations and humanitarian NGO's to coordinate, utilize and focus the contributions of these entities on Iraq's development projects.

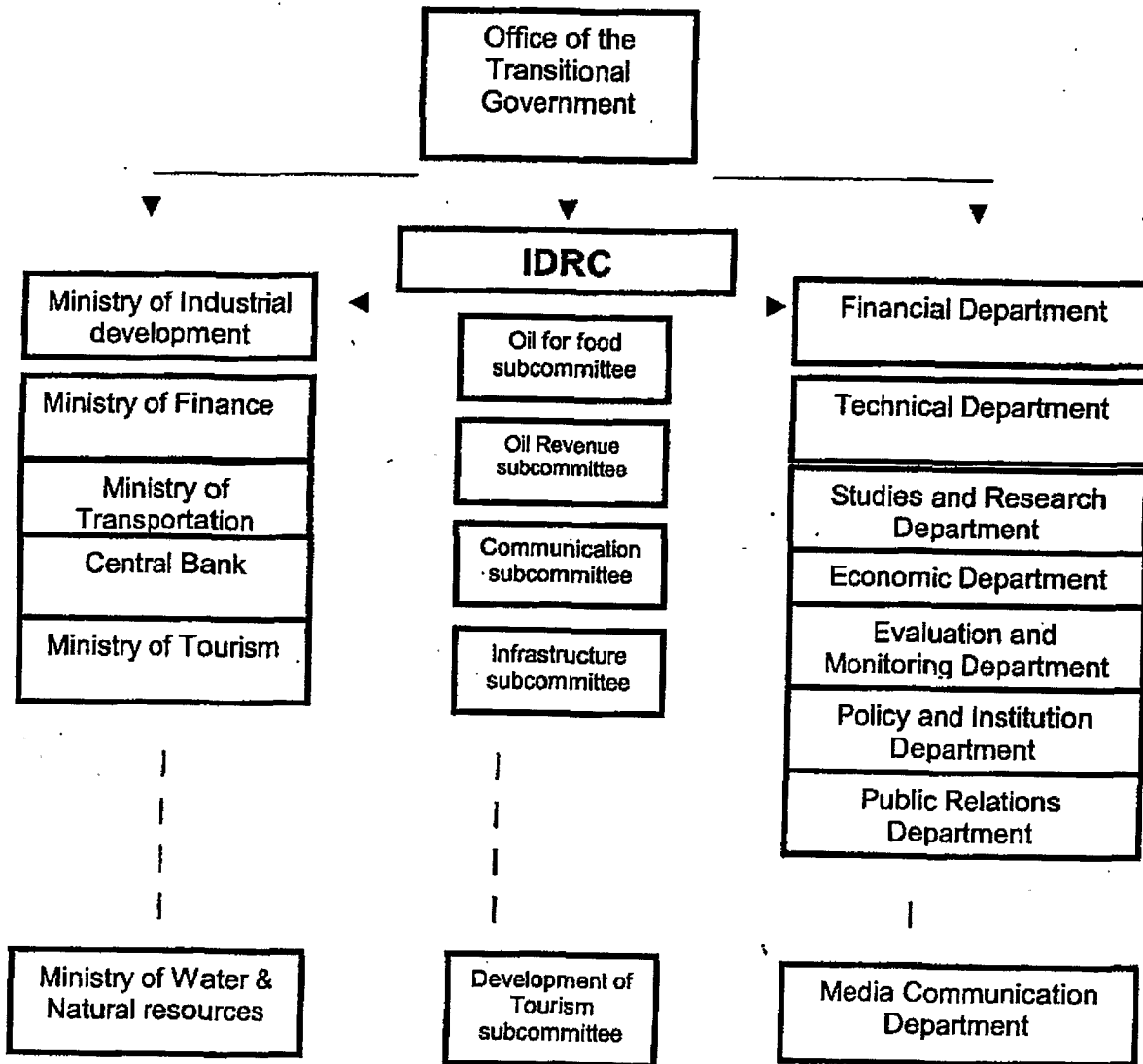
Several subcommittees have been established as part of the economy and infrastructure development of the future of Iraq and as part of the internal structure of the IDRC, and they are:

- 1- Oil for food subcommittee
- 2- Electricity subcommittee
- 3- Media Communication & Telecommunication Subcommittee
- 4- Economic Policy subcommittee
- 5- Military Resource Recovery and Staff Conversion subcommittee
- 6- Oil Revenue Strategy subcommittee
- 7- Infrastructure subcommittee
- 8- Oil Policy and Program subcommittee
- 9- Investment and Privatization subcommittee
- 10- Local Currency subcommittee
- 11- Banking Reform subcommittee
- 12- Taxation subcommittee
- 13- Iraqi Debt Resolution subcommittee
- 14- Environmental and Pollution Control
- 15- Development of Tourism industry

IDRC Structural Diagram

Below is a draft diagram shows the proposed internal structure of the IDRC. To the left and the middle it shows the "operational" aspects of the IDRC structure, which includes the 15 subcommittees and the appropriate Government ministries and agencies that will interface with (the diagram shows some but not all of the ministries and subcommittees). To the right of the diagram, it shows number of specialized departments that will assist the Council and the subcommittees in the "decision-making" process.

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IDRC Duration

The IDRC should accept its independent strategic role and perform its functions through out the specific subcommittees during the transitional period of transforming Iraq to a democratic country and reintegrating it into the community of nations.

The IDRC must be in a position to perform its planning, operating and decision-making role flexibly and pragmatically.

The anticipated duration of the IDRC is as follows:

- 1- The IDRC will operate in a "transitional" role as a council for a period of 24 months after a regime change to allow for a proper political transitional period to elect leaders
- 2- The IDRC will continue to operate for unspecified period after to ensure proper execution of the development and reconstruction projects started during the first 24 months and will transform into a "permanent" IDRC with defined functions and roles due to parliamentary law.

IDRC Activities

The IDRC commission should immediately engage in developing a long range plans for the future economy of Iraq by identifying several major projects. The IDRC should carefully review the availability of resources, current Government structures and organizations, oil revenues, and the longevity of infrastructure development projects that are focused on improving the life of the Iraqi people long after the transition to a new elected Government.

The IDRC through its subcommittees will focus on several important projects that have a high priority and require immediate actions. For example projects in the health services (including vaccination), food supply and continuation, education, electricity, oil for food, clean water, irrigation & agriculture, relocation of families to their original towns and cities. Other, economic infrastructure projects and investment and privatization activities should receive special attention to encourage economic development, private initiatives, investment, and similarly broadly based employment and ownership programs.

The IDRC will direct the transitional Government to organize its finances to promote local initiatives and encourage the entrepreneurial spirit specifically in the geographically neglected regions of Iraq during Saddam's regime.

A strong and focused IDRC council can provide a viable blueprint for the future of Iraq.

The IDRC identified activities require immediate execution plans:

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1- Initiate a Policy & Strategy study

The IDRC must drive an immediate plan to seek experts to conduct studies of the social and economic situation in the country. These urgent studies must be short and limited to three months at most with the following objectives:

- a. A base-line analysis of the social and economic situation in Iraq
- b. A need analysis based on supply and demand for the basic social and economic services in Iraq with foreseeable trends
- c. An assessment and analysis of the current Government institutions
- d. Analysis for development and relocation of existing services, creation of new ones, either through existing government structures or through promotion of other stakeholder initiatives
- e. The Identifications of depressed regions and public and private sectors

These analyses should assist IDRC and its subcommittees in targeting major "Development Projects" toward improving the socio-economic opportunities in selected areas of Iraq.

2- Identification and selection of public infrastructure projects

Although the Government of Iraq has failed to maintain economic growth and social development, the available technical capacities and accumulated feasibility studies are invaluable in the process of identification of investment opportunities in general, and public projects in particular. However, since rational economic selection of public projects have to be made independent of the current conflicting interests of the Iraqi political parties or social group, the role of IDRC is essential to undertake this task.

Infrastructure projects may be classified into three main categories:

- 1- The first is economic (physical) projects such roads, dams, communications, electricity, and water for drinking.
- 2- The second is the social infrastructure projects such as public schools and hospitals.
- 3- The third category is the environmental public projects such as sewage, sanitary, combating pollution of WMD, reviving the marshes of the south, clearing minefields in the North and the eastern border of the country.

The role of IDRC is to identify and prioritize these projects and determine the best technologically advanced and Iraqi-friendly vendors, institutions, and companies that are suited to execute large and complex projects.

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Investment decisions in infrastructure development projects are one of the most important functions of the IDRC. The technical department of the IDRC should compile a list of highly specialized Iraqi-friendly vendors and companies with long history of successfully managing and executing large-scale projects and make the list available to the IDRC council and its subcommittees.

3- Preparation of public investment guidelines

Initial proposals of public investment should be emanating from the concerned ministries and government departments. IDRC should initiate directives to the ministries for assessment of the existing infrastructure and the required investment for upgrading and new ones.

The IDRC should issue clear guidelines to assist the Government ministries in preparing their lists of proposed projects. (Guidelines should be in accordance with the IDRC authorities- details have to be given later)

4- Mobilization and allocation of financial and human resources

The development and reconstruction of Iraq after a regime change will require the mobilization and allocation of financial and human resources. Such resources as:

- 1- Oil revenues, the main source of public finance and foreign currency, should be allocated mostly to finance major identified infrastructure projects during the transitional period.
- 2- The private sector should actively contribute to the financial requirements or invest in certain projects.
- 3- The IDRC should identify ways and means for more financial and investment contribution from Arab, regional, international financial institutions.
- 4- The IDRC should have the capacity to negotiate with and arrange for the participation of private sector, domestic, and foreign institutions.
- 5- The IDRC must:
 - a. Identify methods for manpower development and benefit from the experiences of countries such the United States of America, Britain, Japan, Germany, Ireland and Korea.
 - b. Identify manpower planning and investment in education and training programs that are essential to increase productivity
 - c. Identify programs that will immediately impacted by such training, like public health, nutrition programs, vaccinations, family planning, agricultural development such as reconstruction of irrigation, and development of labor rights for men and women.

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5- Preparation of indicative plans

For Iraq, it is essential to implement a well-define economic and social development strategy. The IDRC must direct the new Iraqi transitional Government to the core of such strategy of diversify its economy and lessens its dependence on crude oil exports in the medium and long- run. Such strategy needs to be explicitly translated into sector wise development policies as well as the identification of investment opportunities and implementation of projects in different sectors. The Economic subcommittee is tasked with publishing such guideline

6- Implementation of certain economic structural reform programs

The IDRC council working with the transitional Government ministries should be responsible for the implementing of the Government policies including the targeted economic reform programs, such as privatization program, where the IDRC will provide the essential independent, non-biased political power with impartial views and interests as well as the capacity of technical competence. The Investment and Privatization subcommittee within the IDRC is tasked with preparing the contents of the investment and privatization reform program and its aggressive pace of implementation.

Resources

It is a well-known fact that the Iraqi oil revenue is the main source of finance of almost all of Iraq major projects. The following are some of the resources that IDRC council and its subcommittees plan to utilize and recommend to the transitional Government after a regime change:

1. The IDRC must relay on some early estimates of oil revenues to determine the number and total cost of the proposed infrastructure projects in Iraq for the first 24 months after a regime change.
2. The IDRC will invite foreign capital to invest in the required Iraqi Infrastructure projects and will explore all Arab and international financial support.
3. The IDRC will direct the transitional Government economic policies to reactivate "free market economy" and encourage private sector to increase economic growth and employment. Iraqi, Arab, and International (specifically American and British) private sector investors and financial institutions should be invited to participate in financing, investing, and executing these projects.
4. The IDRC must prepare clear guidelines in accordance with the Iraqi transitional government economic policy to conduct the required loans and joint ventures.

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Decision making process

The independent IDRC Council is an essential and strong part of the new transitional government institutions.

The IDRC must participate in the development and reconstruction decision-making process with the following:

- 1- The IDRC should determine the financial resources and capacity for the investment program
- 2- The IDRC should initiate tentative estimates for the required investment and suggest sources of finance
- 3- The IDRC direct the transitional Government on the type and total cost of the proposed infrastructure projects
- 4- The IDRC through its expert subcommittees will submit a prioritize list of infrastructure projects taken into consideration the Iraqi financial limitations in the first 24 months
- 5- The IDRC will be responsible for the implementation of immediate economic reform programs such as the privatization program
- 6- The IDRC should have complete authorization to carry out these tasks and present its results and findings to the new Iraqi transitional Government.
- 7- The IDRC will be accountable to the transitional Government for its decisions
- 8- The elected Government by the Iraqi people after the transitional period may necessitates certain changes on the nature and timing of implementing the reform programs. Therefore, the IDRC should act accordingly.

Short Term Plans

The following is a list of the first and highest priority actions that will be taken by the IDRC in the first 180 days after a regime change:

- 1- Identify, organize and assign responsibilities of the IDRC council board members
- 2- Identify and organize the 15 major subcommittees identified
- 3- Determine the IDRC major roles and responsibilities to the transitional Government
- 4- The IDRC must conduct a full review of the Iraqi current "state of the country" status to include:
 - a. Identify and prioritize major infrastructure projects that require "immediate" execution. The specialized IDRC subcommittees have identified several specific infrastructure projects. A detailed reports were produced from the following subcommittees: Electricity, Media Communications and Telecommunication, Oil

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for food, Economic policy, Oil Revenues, Military Resources Conversion and others.

- b. Select members from the IDRC and the appropriate subcommittees to oversee and supervise each major project and assign a time-table to provide solutions and recommendations

Conclusions

The Iraq Development and Reconstruction Council (IDRC) is an independent Council comprises of experts from inside and outside Iraq and initiated as part of the future of Iraq project.

The IDRC envisions the appointment of a specialized board and subcommittees to identify major infrastructure projects, and develop recommendations.

A shadow IDRC board and members of the 15 subcommittees listed above in this report have been working together for the past six months to speed up the process, conduct initial studies, discuss and draft reports in advance of the anticipated regime change in Iraq and as part of the future of Iraq project.

Existing Iraqi government structures, other qualified Iraqi experts from inside and outside Iraq must be included in the IDRC and its subcommittees to utilize their expertise. However, the selection of these individuals, as potential candidates for the Council and its subcommittees, must be determined well in advance of the regime's change to ensure the success of the IDRC operation.

The IDRC should be the creation of the Iraqi's and the appointments perceived as originating from the new Iraqi transitional Government. The work of the various subcommittees, as general guidance, can be prepared in advance by qualified individuals, academics, technocrats, and politicians, both Iraqis and non Iraqis so as to accelerate their organization and effectiveness – post liberation from the current regime.

The IDRC can operate immediately, in a shadow mode, to make key decisions, in advance of any regime change, so as to fulfill, immediately, the critical components of their mission.

Existing Iraqi government structures should be preserved and reformed, pending such restructuring as may be required by the transitional government and the new constitution.

The IDRC should organize its structure and subcommittees to deal effectively with the circumstances of the regime change. It should consider its mandate temporary and work to devolve its authority and functions to more permanent structures in a new, popularly elected Government operating under new constitutional arrangements.

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The IDRC Council should elect its officers, establish a small secretariat to coordinate its work, and empower its specialized subcommittees to deal with specific infrastructure development projects and other problems and concerns that require immediate solutions.

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THE BUILDING OF A NEW BANKING STRUCTURE

Financial Architecture is intuitively associated with planning and constructing a solid foundation. There are prerequisites for a stable construction that require an architect to consider the static's of the building and its foundations. A market economy is such a foundation, along with the free movement of capital and functioning exchange rate regimes.

A solid building rests on strong pillars to whether possible storms. One of the pillars of the financial system is a resilient and solid banking system; it has to be able to withstand shocks.

Even massive pillars have to be inspected by experts from time to time and it is not always obvious to outsiders that parts of the structure have to be mended or rebuilt-the exterior façade can hide a rotten interior. Surveillance plays an important part in detecting weak spots in the framework. The system needs stabilizing elements from within, built-in incentives are crucial in setting up a sound and credible financial system. Incentives for good corporate governance and sound practices within the financial community can discipline the market and therefore strengthen the system. Stable and well functioning financial markets are in the interest of the Central Bank; therefore a proper monetary transmission process and a sound payment system with a sound banking system provide ample reason for central bankers to care about the financial architecture. In order to properly create the new design for the financial system we must review the past, therefore a review of the history of Banking and Finance in Iraq is warranted.

HISTORY OF BANKING AND FINANCE IN IRAQ

In 1931, the Iraq Currency Board was established for note issue and maintenance of reserves for the new Iraqi Dinar. This board pursued a very conservative monetary policy, maintaining very high reserves behind the dinar. The dinar was further strengthened by its link to the British Pound. In 1947 the government-owned National Bank of Iraq was founded, and in 1949 the London based currency board was abolished as the new bank assumed responsibility for the issuing of notes and maintenance of reserves. The National Bank of Iraq continued the conservative monetary policy, maintaining 100% reserves behind outstanding domestic currency.

Commercial banking became a significant factor in foreign trade during the British mandate. British banks predominated, but traditional money dealers continued to extend some domestic credit and to offer limited banking services. The expansion of banking services was limited due to the limited use of money, the small size of the economy and the small amount of saving; banks provide services for foreign trade almost exclusively. In the mid 1930's the Iraqi government decided to make credit available to other sectors of the economy. In 1936 the government formed the Agricultural and Industrial Bank. In 1940, this bank was divided into the Agricultural Bank and the Industrial Bank, each with substantially increased capital provided by the government. The government established the Rafidayn Bank in 1941 as both the primary commercial bank and the central bank,

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but the National Bank of Iraq became the government's bank in 1947. The Real Estate Bank was established in 1948, primarily to finance the purchase of houses by individuals. The Mortgage Bank was established in 1951, and the Cooperative Bank in 1956. In addition to these government owned institutions, branches of foreign banks and private Iraqi banks were opened as the economy expanded.

In 1956 the National Bank of Iraq became the Central Bank of Iraq. Its responsibilities included the issuing and the management of currency, control over foreign exchange transactions and the regulation and supervision of the banking system. It kept accounts for the government and it handled government loans. Over the years, legislation has considerably enlarged the Central Bank's authority.

On July 14, 1964, all banks and insurance companies were nationalized, and during the next decade, banking was consolidated. By 1987 the banking system consisted of the Central Bank, the Rafidayn Bank, the Agricultural, Industrial and Real Estate Banks. The Socialist Bank was established in 1991 to provide interest free loan to civil servants and soldiers with more than three medals from the 1980-88 war with Iran.

In 1991 the government amended the 1976 banking law to allow the formation of private sector banks. The first private sector bank was Dijla (Tigris) Bank, with capital of US\$320Million; shares were issued to private sector local businesses and investors. This opening of the private sector has produced limited results as it still heavily relies on the state.

New Financial Structure Concepts

When the opportunity for economic reform arrives, probably not until some months from now, the most urgent task will probably be to re-establish a stable currency and to implement a new financial system. The new financial system is to be characterized by strength, stability and resilience supported by consistency in government policies and strong banking supervision. The starting point for the new system will be to submit a new **Red Book** that will be produced by the Central Bank of Iraq. This document will be sent to the Secretariat of the Committee on Payment & Settlements Systems of the Bank for International Settlements. The complete process and information required for the submission of the Red Book is attached to this document as Attachment #1. The financial system will need to be set up into two parts: the system of payments for current activity, and long term savings. The payments system needs to be unquestionably solvent and liquid so as to avoid economic paralysis; remove minimum liquidity requirements immediately, allow or encourage immediate "offshorization" of the banking system, the idea here being to allow a type of competition that will help preserve the property rights of depositors. The initial goal will be to establish a banking system with the main role being in finance and credit being taken care of by commercial banks and savings banks. Banks will be charged with the responsibility to provide most of the country's investment capital which will come from savings accounts which will be fully secured up to a specific amount. The thinking here is that people will more likely trust their banks to make investment decisions in companies rather than place money in the stock market as

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their savings will be protected by some form of government insurance. The new banks of Iraq will function as universal banks, able to offer a full range of banking, saving, foreign exchange and investment services to their depositors and clients. They will hold funds or other assets, broker securities, underwrite equity issues, give advice on asset placement, and manage accounts and so on. Many of the smaller savings banks will be owned and operated locally or regionally and operated under public statutes, or cooperatives that perform such special services as agricultural, crafts or mortgage lending. One important component of this new system will be to have a Postal Bank that will employ many thousand Iraqi citizens but it will also provide a local payment option for paying monthly bills such as utilities and will handle small personal financial transactions.

The money or credit circulating with a nation is not the property of the banks which make the loans; it is a resource created, authorized and supported by the nations Central Bank and Government. Strict rules will need to be applied to this new application of the nation's credit flow, and as part of this flow should be directed constructively into the national infrastructure projects and to key regions that are experiencing high unemployment. Whatever the system, it is important that we should have the right quantity of exchange medium, or nowadays, credit, to satisfy the needs of the economy in its current or potential level of activity. Indeed it is by regulating the amount of credit available that the level of economic activity can be controlled. To expand the economy we increase loans, overdraft and credit facilities to business and consumers. The quantity of credit flowing through the system in countries following the western monetary management model is commonly regulated by the Central Bank, in Britain's case the Bank of England for example or in the USA, the Federal Reserve. The Central bank has three techniques for regulating the quantity of credit: open market operations, bank rate and reserve requirements. The Central Bank can expand or reduce credit availability to the commercial banks through what is called "open market operations". The Central Bank expands credit by giving itself a loan facility for the total amount of the desired expansion. The Bank then purchases government securities in the open market, from individuals or banks. The Central Bank pays for them by writing checks against its loan facility. These Central Bank checks are then paid into various commercial Banks, thus expanding the total amount of money or credit in the system. What has happened is that the government securities have been converted into ready cash or a credit balance. To reduce the nation's money supply the Central Bank sells government securities in the open market. The payment it receives in exchange is then cancelled from circulation, thus reducing the total amount of money or credit in the system. The commercial or main street banks themselves create credit by making loans to their clients. But the amount of loans they are permitted to create is not without limit; the commercial banks cannot simply create more and more loans indefinitely. The total amount of loans which each commercial bank can create is proportionally related to the reserves that each bank holds. The commercial banks are required by the Central Bank to retain a certain proportion of reserves in relation to their loans. And this proportion can also be changed by the Central Bank as a third technique for regulating the overall credit supply. To summarize, the economic machine is driven by the continuing circulation of credit with business can invest and trade with its consumers. This credit is created and re-created by the commercial banks as they provide loans to their clients, pyramiding on top of their permitted reserves, preferably to the fullest extent of the reserve requirement.

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The first order of business is that a High Banking committee be established and made responsible for implementing specific provisions of the new code of Money and Credit. The commission would decide on penalties to be imposed on banks, financial institutions and brokerage firms that violate the code of Money and Credit, do not comply with banking regulations, or submit incomplete or false reports or information. The commission may also impose penalties on the auditors of these institutions. This Banking Committee would be composed of;

A governor of the Central Bank, as Chairman of the committee;

A Vice Chairman selected by the Central bank

The head of the Treasury Department

A high ranking judge, with at least ten years experience, to be appointed by Presidential decree.

A member of the Banking commission, nominated by the Association of Banks

The Chairman of the National Deposit Guarantee Institution

The Banking commission would be established as an administratively independent body composed of five members who, upon proposal by the Head of Treasury, are appointed by the Presidential team for a five year term. These members would be:

A specialist in banking and finance, or a university professor as chairman

A member nominated by the Association of Banks in Iraq

A member nominated by the National Deposit Guarantee Institution, and

Two other, freely selected members.

The Banking commission main function would be to control and supervise banks, financial institutions, money dealers and the brokerage firms with regard to bank laws.

The establishment of the **National Deposit Guarantee Institution** would be the next order of business. It is suggested that this entity would be a joint stock company, with banks participating in half of the capital and the government in the other half. The main objective of this group would be to protect smaller depositors.

This guarantee would cover resident and non resident deposit accounts in all currencies, except for foreign currencies deposits held in branches abroad as dictated by Law. The annual premium is paid on credit accounts excluding own funds, payment orders and interbank operations. It is suggested that this company be managed by a board of directors totaling 7, three of whom would represent the government and the remaining four are elected by member banks in a general assembly.

Capital formation would come from contributions made by each bank member and this amount will be calculated after the numbers of banks are known. In addition the government will contribute an equal amount. Shareholders will have the right to share in corporate profits and in the general assembly vote. They will have to abide by the Institution rules and to pay the annual premiums imposed on guaranteed banks.

The main purpose of the Institution is to compensate depositors of failed banks to the guaranteed ceiling and this ceiling would be pre-established as it is in the USA. There will be several rules such as complete records and descriptions of accounts and proof of ownership and the bank will then calculate the sum of compensation due to each depositor.

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The next step in the process will be to establish the criteria for creating new commercial banks in Iraq:

- License applications
- Documents enclosed with application
- Resolution of the Central Bank
- Payment for the shares
 - Payment in Cash
 - Payment in kind
- Meeting of the assembly
- Registration at the commercial registry
- Registration of the list of Banks

The New Financial Markets & The New Providers

Who Is In The Banking Business Today?

The new government will encourage foreign banks and foreign companies specializing in new financial products to become part of the New Iraq financial system. New products and new providers will significantly change the way that consumers and businesses conduct their financial affairs. Companies like General Electric reveal the unlimited possibilities that a non-bank company can play in the development and growth of new products to satisfy the requirements of the consumer and business. Competition from non-bank companies forces the traditional banking institutions to think outside the box and develop new products tailored to the consumer. These non-bank companies are currently operating in the securities business, insurance industry, mortgage lending, capital equipment financing, credit cards, consumer loans and Mutual funds all of which are highly regulated markets in the U S and Europe. The use of new technology will help to accelerate the expansion of new products and to reinvent financial markets in the New Iraq.

The New Iraq financial system will embrace the competition between bank and non-bank companies as the fundamental government policy will create freedom of movement of capital whereby, consumers are free to access financial services from any institution or market. To promote this level playing field the government must ensure that all domestic banks and non-bank financial institutions will have equal access to the basic financial infrastructure for the development of their

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products and services. All financial institutions must be able to access the central payment system and be encouraged to develop and invest in new technologies. Some of these ideas that should be considered are: creation of a tax holiday for foreign investors, tax write-offs for loan provisions, encouragement for significant bank capitalization and provisions of liquidity through repos.

In closing, in order for Iraq to have a well prepared banking system capable of attacking the new challenges with restructuring of the economy, the economic policy should:

1. Accelerate the growth of economic potential of banks, by allowing the accumulation of their own capital and release their reserves attributable from bad debts from State owned enterprises;
2. Defend banks from the interference of the state agencies that does not meet the requirements of existing banking laws, create the reliable system of insurance of banking deposits and contribute to the formation of high confidence in banks by legal and professional persons;
3. Create an effective legislative and regulatory basis for the activity of banks which would ensure a positive protection against risks and achievement of a high degree of stability of operations.

Creating a financial system that allows for banks and non-bank companies the opportunity to become economically powerful and have the opportunity to operate in a stable manner will greatly benefit the New Iraq as viewed by its domestic citizens and the citizens of the world.

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ATTACHMENT #1

Topics to be covered in the **RED BOOK** application are:

- 1.0 Institutional aspects (to provide readers details of the banking system of Iraq).
 - 1.1 General legal aspects
 - 1.2 Role of financial intermediaries
 - 1.3 Role of the Central Bank
 - 1.4 Role of other private and public sector bodies
- 2.0 Summary information on payment media used by non-banks
 - 2.1 Cash Payments
 - 2.2 Non-Cash payments
 - 2.3 Recent developments
- 3.0 Interbank exchange and settlement circuits
 - 3.1 General overview
 - 3.2 Structure, operation and administration of major large value systems
 - 3.3 Main projects and policies implemented
- 4.0 Special use of interbank transfer system for international and domestic financial transactions
 - 4.1 Exchange and settlement systems for international transactions
 - 4.2 Exchange and settlement systems for securities transactions
- 5.0 The role of the Central Bank in interbank settlements
 - 5.1 General responsibilities
 - 5.2 Provision of settlement (credit) facilities
 - 5.3 Monetary policy and payment systems
 - 5.4 Main policies and projects implemented

Annexes

Detailed descriptions on specific aspects (legal issues, operational aspects), could be provided in separate annexes.

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Selected References

List of publications or articles that provide additional information

Statistical tables

The tables are standard with only minor variations between countries where this is unavoidable. It is useful to provide a methodology/sources section at the end of the tables to explain how the data has been compiled. The Secretariat will use the country tables to expand the cross-country comparative tables.

Purpose and problems for financial systems

Purpose: To bring together savers/investors and borrowers

Money and Capital markets

Money market, short term debt instruments

Capital markets, long term debt instruments, equity instruments

Financial Firms, Acquire funds from savers, then select investments to make borrowers to lend to;

Key Services

Information
Risk sharing
Liquidity
Payment mechanism

Problems

Transactions costs and Market failures

Transactions costs: obstacles to getting savers and borrowers together
Information gathering and analysis; accounting systems, Legal Costs: e.g.
Associated with establishing/identifying property rights
Inappropriate government policies
Corruption
Customs

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Market Failures

As compared to perfect competition
Many buyers and sellers such that no single one can control
Full (and the same) information for buyers and sellers
Free entry and exit
Private cost= social cost

Solution: Roles for financial institutions and markets:

Adverse Selection:
Direct disclosure of information
Good borrowers have an interest in doing this

Government Regulations
Collateral: more likely that bad borrowers will be unwilling to take much risk in putting up collateral; **role for financial institutions**

Specialization in information gathering and analyzing—good borrowers will pay for this, savers willing to pay. **Role for financial institutions**

Moral hazards:

Legal contracts/restrictive covenants on use of funds

Close monitoring of the use of funds—but individual savers can't do this;
Role of the financial institutions