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Iraqi Economic Reconstruction and Development

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Executive Summary

The US aid effort in Iraq has not accomplished most of its sectoral goals, and more importantly, has not effectively initiated the reconstruction of the country's economy. After three years of struggle, the expenditure of more than $ 20 billion US aid funds, $ 37 billion Development Fund for Iraq (DFI) - UN accumulated from the oil for food program's revenues and the seizure of bank accounts- and death of thousands of US and other coalition soldiers and tens of thousands of Iraqis, Iraq is producing less oil, has less electricity and less water than it did during the Saddam period. After studying the modern Iraqi economic history as a background, this work analyzes why.

Insurgency has been a major obstacle to an effective reconstruction. However, shortcomings of the US aid planning and execution indicate that even if there was not an endemic insurgency in Iraq, the reconstruction would still be ineffective.

While planning the reconstruction, US authorities did not conduct a survey of the country's capabilities and needs, and did not develop a strategically integrated national development plan for Iraq. It did not realistically plan to deal with the challenges posed by a state-run economy and corruption, what effectively had become a "command kleptocracy."

The Iraqi economy had been run by the government from its independence from Britain in 1932 until the US-led coalition occupation in 2003. It was heavily militarized, and shaped around the need to favor the areas and factions favorable to the regime. The Coalition Provisional Authority's efforts to introduce rapid liberalizing reforms were mixed to the point of being chaotic and did not help establish a properly functioning financial and business sector. This was the direct result of the lack of any continuity and coordination within the CPA effort, but it was also the result of a lack of any comprehensive development plan for the country.

The lack of a coherent plan and strategy help created compartmentation and clusters within various US agencies in charge of the aid effort, increasing the lack of coordination. Additionally, the US aid planners did not carry out an adequate physical survey of the country's infrastructure, analyze present and future requirements, allow for the impact of underfunding since early in the Iraq-Iraq War, dependence on obsolete equipment, or realistically address the problems in converting to US-planned and supplied systems. Coalition efforts also relied heavily on increasing oil exports, but did not properly analyze the problems in Iraq's oil infrastructure.

The failure to plan for security in the face of a rising insurgency made things far worse, but shortcomings in aid planning of the reconstruction were exacerbated by inefficient execution. The US personnel in charge of the reconstruction often lack experience and basic competence. They had no experience in dealing with the scale of effort involved, command economies, or operating in a counterinsurgency environment.

They were not familiar with Iraq, did not speak Arabic and usually were not be deployed in the country long enough to build competence and rapport. Besides, most Iraqis were excluded from the reconstruction of their country. Until 2006, all projects were given out to non-Iraqi multinationals that did not employ many Iraqis. The contracts were given out mostly without competitive bidding and were in the form of "indefinite delivery-indefinite quantity". These

multi-billion-dollar projects were not audited either. The first audit body was set up only months before the CPA's tenure came to an end.

The $20.9 IRRF is expected to expire at the end of 2006. The transition of the reconstruction effort will be problematic. Most US agencies are not ready for the hand-over, the Iraqis do not have technical and financial capability to sustain the ongoing projects and completed assets. This is the biggest threat to the long-term effectiveness of the US aid effort, but the problem is greatly compounded by the fact that the transition must occur in mid-war and without a stable Iraqi government or credible Iraqi plans for economic growth and development.

Upon the assessment of these deficiencies, this report recommends the following to increase the effectiveness of the effort to reconstruct Iraq's economy:

Protecting oil assets

- Focus priority on oil asset protection by strengthening the security measures, especially in the north of Iraq.
- Create strict physical buffer zones in various forms for off-shore terminals, pipelines, refineries, oil installations and strategic pipeline conjunction points.
- Introduce high technology to increase the effectiveness of surveillance systems to enhance infrastructure security, namely unmanned aerial vehicles (UAV), electronic motion detectors and video cameras.

Increasing project effectiveness

- Expand initiatives such as the Project Partnership Agreement (PPA) to incorporate both Iraqi ministry officials and local companies.
- Make available the funds necessary to ensure the sustainability and maintenance of completed and ongoing projects in 2006-2007.
- Put pressure on contractors to complete delayed projects.
- Replace all cost-plus contracts with fixed price contracts.
- Fully adhere to and implement the findings of SIGIR audits.
- Collect cost-to-complete data to allow auditors to assess funds spent and funds available.

Refineries

- Increase labor and facility productivity to make full use of existing refinery capacity.
- Eliminate fuel subsidies incrementally, done in strategic coordination with increases in refined products to prevent social outbreak.

Electricity

- Convert all remaining indefinite delivery- indefinite quantity (IDIQ) projects to projects with measurable targets.
- Increase the number of Direct Contracting Initiatives.
- Use the remaining US fund slated for electricity generation to the build new power plants that do not rely on fuel.
- Expand the Rapid Contracting Initiative for electricity distribution, especially for the outstanding Baghdad Essential Services contract.

Creating competence of US employees

- Increase the duration of tours of US personnel deployed in Iraq to at least one year.
- Introduce orientation periods for newly deployed staff.
- Create a “civilian corps” composed of USAID, DOD and others agency staff with experience in political and economic reconstruction as well as community building.
- Amend the OPM rules that govern the deployment of federal workers abroad to include an exception for the civilian corps to be stationed in the field to adequately fulfill the requirements of their mission.

Planning for the transition to Iraqis

- Create a database of all assets funded with US money.
- Activate the Sustainment Coordinator.
- Make a uniform financial assessment necessary for the hand-over of assets to Iraqis.
- Prepare a report of short and long term financial cost findings from the assessment needs to be submitted to the Iraqi Planning and Finance Ministries with a breakdown of individual project and assets, to assist the Iraqi government to budget for these costs.

Non-US aid:

- Encourage allies to:
    - Follow through with their donation pledges –most important assistance.
    - Forgive at least part of Iraq’s debt and extend reparations relief if they have not yet done so – especially the Gulf States, Saudi Arabia and Kuwait in particular.
    - Cooperate with the Iraqi government on the training of Iraqi security forces in Iraq.
    - Train Iraq’s oil workers and exchange best practices.
    - Support different fractions, especially the Sunni to engage politically.

Learning lessons for the future

- Make the completion of an all-encompassing capability and needs assessment the first step in future reconstruction planning.
- Produce an all encompassing and strategic national development strategy after the completion of comprehensive assessment.
- Set up a coordination body to determine the projects necessary to implement the national development strategy, combining experienced staff from agencies participating in the effort and experts from the local community.
- Determine and award projects only on the basis of an integrated national development plan.

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Introduction

With all the challenges facing Iraq, why focus on the country's economy? The insurgency is the most immediate problem both the Coalition and Iraq must deal with. Ethnic and sectarian divisions and the subsequent challenges to peace, security, and political progress are the most important problems facing Iraq. However, the success or failure of Iraq's economy will play a central role in each of these issues, and be an important determinant of their outcomes.

Large datasets of Cross-county empirical analyses indicate a correlation between economic development (e.g. GDP per capita, GDP growth, and secondary education) and lower risk of civil conflict[1]. These results have multiple interpretations[2]. While this empirical finding confirms that economic well-being influences conflict outcomes in the "average case"[3], the case of Iraq in its current transitional stage is likely far more sensitive to economic conditions than the average country at an average time. Given the country's dependency on oil and resources that are unequally distributed in regions dominated by different sects, economic development strategies are a sensitive matter in Iraq at any time.

Economic progress is even more important during this transitional stage, with various groups, including the government and sectarian/ethnic actors, competing for control and authority over their respective constituencies. After decades of economic collapse and political oppression, the rapid and decisive removal of Saddam Hussein from power by coalition forces has altered expectations for economic progress while raising the likelihood of inter-sect competition for power and authority – an environment that makes economic activity particularly important to the prospects for peace.

This work examines the Iraqi economic reconstruction from a macroeconomic perspective. It analyzes the reasons for the overall ineffectiveness of the aid effort, points to areas of improvement and proposes policy recommendations. It starts with presenting the economic background of Iraq by studying the modern economic history of the country from 1920s until the occupation of coalition forces in 2003 in the first section. It continues by investigating the reforms made during the CPA in the second part. In part three, the work tries to depict a picture of Iraq after the CPA on a sectoral and political economy basis. Section four analyzes the US aid effort, presents its success, failures and submits policy recommendations. Finally, part five studies the status of non-US foreign aid to Iraq.

Section I: Iraqi Economy until March 2003

Building a sound Iraqi economy is a key prerequisite for creating a stable and democratic Iraq. While Iraq's proven oil reserves are the second largest in the world, after those of Saudi Arabia, there are major obstacles to reconstructing Iraq's shattered economy and reintegrating it back into the international community as an independent economic power.

Lack of proper hard infrastructure, low living standards, inefficient public sector, lack of a functioning private sector and the large international debt are only some of the major problems that remain to be addressed. These problems are the legacies of both Iraq's previous governments and the actions taken since the fall of Saddam Hussein and it is important to understand what went wrong before the US invasion to appreciate the true nature of the present issues, and to craft the right solutions for them.

A. 1921-1958: The Hashemite Monarchy

Britain established a colonial monarchy in Iraq in 1921 under the rule of King Faysal I, a prominent member of the Hashemite family. In 1932, Iraq became an independent country yet Britain maintained its colonial influence over Iraq, actively participating in its affairs through bilateral treaties, particularly regarding defense, trade and foreign affairs.[4] Considerable British influence continued until the military coup of 1958 and the consequent proclamation of Republic of Iraq.

Although oil exploration dates back to the latter part of the nineteenth century, oil was first struck in commercial quantities in 1927. The multinational Iraq Petroleum Company (IPC) obtained three concessions from the Iraqi government that covered the total area of Iraq. British Petroleum, Shell Petroleum, Compaignie Francais des Petroles, Exxon and Mobil were the partners of IPC.[5]

The Growing Impact of Oil

Iraq's oil revenues largely benefited these concessionaires until the price revolution of 1952. According to the concessions, the Iraqi government received a fixed payment per unit of production, which in practice did not exceed 5 % of the actual revenues. In 1952, the new agreement between the Iraqi government and IPC entitled the government to receive 50% of the profits from oil exports, as well as the right to receive up to 12.5% of the net production, which it could sell at any price.[6]

The significance of the new system for the Iraqi economy was that for the first time the government acquired a direct interest in crude oil prices.[7] With the United States becoming a net importer of oil in 1948, and the worldwide increase in demand for crude oil, Iraq expanded its oil output. Revenues the Iraqi government received increased from $ 0.22 per barrel in 1950 to $ 0.84 per barrel in 1952.[8]

Iraq's oil production accelerated from 0.091 million bpd in 1949 to 0.697 million bpd in 1952. The resulting increase in oil revenue, which went from ID31 million to ID74 million during the same period, prompted the government to channel oil revenue for development purposes. This policy was reinforced by the World Bank, which made a $12.8 million loan to Iraq conditional upon the creation of an autonomous agency for development.[9]

Economic Development Planning

The result was the "Development Board", established in 1950, which produced multi year plans with emphasis on three major fiscal priorities:

- Agricultural development, including irrigation and flood control,
- Transportation and communications,
- Construction.

The Board set ambitious development goals for the four periods from 1951 through 1961. It envisioned large capital investment for agricultural, transportation, communication, building, housing and other basic industries. The outcome, in terms of development however, fell short of the goals, and real expenditure lagged considerably behind planned figures. Real revenues received tended to be very close to planned revenues. While the Board planned to spend ID 312 million during the period 1951-1958, actual expenditure was only ID 178 million, or 57 % of the anticipated amount. Real revenues for the period, on the other hand, were close to 93% of projected revenue.[10]

The Board's overemphasis on agriculture, and lack of focus on industry and human resources, alienated two increasingly important constituents: the educated elite and the workers.[11] The educated urban elite and the agricultural workers were disenfranchised by the system, and later provided political support to the military coup in 1958.

The land tenure system promoted a large financial and social gap between the landowners and laborers. The Iraqi monarchy did not change the system, and even supported it under the planned development programs with grants to the agricultural sector. While the Board's allocations for agricultural sector did not yield much productivity, due mostly to the land tenure system, the industrial sector suffered even more greatly from lack of attention. The Board not only allocated a small share of funds for industrial development, but also failed to achieve its modest goals in actual implementation.[12]

The Monarchy's Successes and Failures

The Iraqi Monarchy's economic policy outcomes can be summarized as follows:

- Increased dependency of the economy on oil
- Consolidated and strengthened the feudal base of the economy
- Neglected industrialization
- Failed to develop a public sector to exercise leadership in the economic growth
- Created corruption in the bureaucracy.[13]

These economic practices laid the foundations for Iraq's modern economy and many of the problems faced by the Iraqi economy in 2005 are partly legacies of the monarchic period. The heavy reliance on oil revenues in the Iraqi budget for the years 2005, 2006 and 2007 can also be found in the 1940s and 50s. Additionally, the monarchy's strengthening of the feudal base of the economy not only discouraged efficiency, but also prevented the formation of a large private sector, still a minor part of Iraq's economy as of 2005. Moreover, the Hashemite Monarchy put in place a strong central government with a large bureaucracy that was open to corruption and neglected industrialization and agriculture.

Strikingly, several of these issues are identical with some of the major macro economic challenges that Iraq faces in 2005. Some important policy conclusions that can be drawn from Iraq's experience before the military takeover in 1958 can be summarized as follows:

- *Reduce economic dependence on oil and do not neglect industrialization*: The dominant industry of the Monarchy's economy was the oil sector. This capital- intensive industry did not create employment opportunities for Iraqis, whose number increased from 3.5 million in 1932 to 4.8 million in 1947[14]. Growing population and lack of employment due to lack of investment in labor- intensive sectors, such as industry, created increasing numbers of unemployed Iraqis, and led these individuals to support the military coup.

- *Get the agricultural policy right*: Although the monarchy invested heavily in agriculture, it only reinforced the inefficient and unfair tenure system and disfranchised the agricultural workers, who constituted 80 % of the workforce in 1953.[15] These individuals, as a result, welcomed the end of monarchy.

- *Create incentives for local private sector:* The 1921-58 regime did almost nothing to break the feudal economic base, which hindered the financial opportunities for entrepreneurialism and thus the creation of a private sector. This in return highlighted the authority and control of the central government.

- *Control and supervise the central authority:* The monarchy's emphasis on the central government gave Baghdad hegemony over the country's resources. Yet the lack of supervision over the officials with the power created wide spread corruption. According to many Iraqis at the time, a few officials were eating away most of Iraq's revenues and the government. This perception was one of the chief factors to trigger the coup.

B. 1958- 1968: Military Rule

A coup took place in July 1958 that had the support of the majority of Iraqis, partly thanks to the economic policies of the Monarchy. The coup did away with British installed rule, and brought a new style of government to power with new economic objectives. It came in the midst of the Development Board's fourth general program, and ushered in a new era of development planning in Iraq.

Development in the Qasim Era

General Abd al-Karim Qasim, who led the coup d'etat of 1958, proclaimed the fully independent Republic of Iraq, terminated the country's ties with the West, and began a process of alignment with the Soviet Union. The new regime set out to introduce numerous changes to reorient and broaden Iraq's economic priorities. The main changes in economic policy included:

- Undertaking agrarian reform that established ceilings on land ownership.
- Introducing more generalized social programs.
- De-linking the Iraqi Dinar from the British pound sterling by leaving the sterling area, establishing economic relations with the Soviet Union and East European countries, stressing the importance of industrial development.
- Initiating the long process that eventually led to the nationalization of the oil industry and the creation of a national oil sector.

The new regime replaced the Development Board with the Provisional Economic Plan (PEP), which increased the allocation for the industry and housing sectors. PEP's plan allocated 12.2 % to agriculture, 12.5% to industry, 26% to transportation and communication, 49% to housing and building. Actual spending, on the other hand, was again different from the targeted figures. Agriculture received 42%; industry 52%, transportation and communication got 36.5%, while building and housing received 53.4% of the designated funds.

Qasim's socialist regime sought to strengthen the industry as a means of eliminating class related income differences due to the oil dependent nature of the economy.[16] While his agrarian reforms did not take their full effect until 1963, they succeeded in raising the capital of the Industrial Bank and extending more protection to domestic industry. The PEP's allocation for industry was nearly 2.5 times what was allocated to the sector in the last six year plan drawn by the monarchy.[17]

The military rule of General Qasim also made serious attempts to develop a national oil sector. By enacting Law 80 in 1961, the government expropriated all parts of the oil concession area that were not actually utilized by the foreign owned companies –the IPC group.[18]

Development after the Arif Coup

A series of ethno- sectarian and regional differences caused considerable civil unrest throughout the first military era, and led to the 1963 coup by Generals Abd al-Salam Arif and Abd al-Rahman Arif. The new administration took a more moderate position in relations with the West, yet retained close ties with the Soviet Union.

The new government continued to use Qasim regime's PEP until it designed its own Five Year Plan (FYP) in 1965. The FYP of 1965 was the most articulate and sophisticated of all the plans that had been drawn up since the inception of development planning in Iraq since 1950. The Plan articulated overall quantitative general objectives and provided an outline of target specific economic and social goals and an outline of conditions for the success of the plan, stressing also the importance of the role of fiscal, monetary, trade and wage policies.[19]

However, the FYP, which was in place from 1965 to 1970, only had an impact similar to that of its predecessors. Total actual expenditure was less than 55% of designated targets. All sectors failed to reach their expenditure goals. In agriculture, which had suffered a decade of stagnation prior to the plan's period, actual spending failed to reach one third of planned investments. (Planned to receive ID 173.6 million, actually received ID 53.6 million) Both the industrial and the housing sectors received 53% of their goal allocation, while the transportation and communication sector was able to spend 60% of its allocation.

The plan failed to reach its sector based spending targets, yet was able to increase employment level by 427 000 compared to the projected 262 000 in the five year period. Yet the GNP in the five- year plan period increased by 29% instead of the projected 45%. Similarly, the total increase in output was 31% instead of the planned 48%.[20]

The FYP helped decrease the oil dependency of the national economy from 22.8% of GNP in 1964 to 20.4% in 1969 –but oil continued to represent 85% of the value of all Iraqi exports. This period also witnessed the introduction of modern technologies in industry, power generation, transportation and communications. Average personal income increased by 12 % in real terms in five years, despite the increase in population.[21] Consequently, the World Bank to categorize the country as an upper middle- income level country until the sharp economic decline in 1980.

The FYP was in its fourth year when the Ba'ath Party seized power in 1968. The new regime allowed the Plan to complete its course while a new five- year plan was being prepared.

C. 1968- 2003: Ba'ath Party Rule & Saddam Hussein

The Ba'ath Party overthrew the Military regime in 1968 and one party rule was quickly established. The most important element of the Party's early years of political economic policies was the ideology of Arab Nationalism, which had many elements of social economic policies similar to that of its military predecessors. Until the war with Iran, Iraq's rich oil revenues allowed the Ba'athist administration to continue its socialist model without suffering from trade offs between solvency and fiscal priorities such as welfare benefits, infrastructure development and military modernization. [22]

The start of Baa'th Party regime marked a significant turning point in Iraq's economic policy. The Party ruled Iraq from 1968 until the US occupation in 2003. The Ba'ath leadership started its economic shift with doing away with the military rule's multi- year economic plan and later proceeded to devise its own plan shortly after it established firm control over Iraq's economy in 1970.

The economy also became harder to track. Starting in 1973, numbers and figures of the national economy became progressively less available for public use, and economic data became more secretive. The legacy of the Party's rule is in its key decisions under Saddam Hussein's leadership, to increase military spending throughout late 70s, declare war on Iran in 1980 and later invade Kuwait in 1991. These are the main reasons for Iraq's heavy debt burden, lack of infrastructure, high rate of unemployment and the country's overall deteriorated economy.

The National Development Plan 1970- 1974

The new government took two years to formulate its first National Development Plan (NDP), which covered the period of 1970- 1974. This plan was unique in Iraqi economic history in that it was the first development plan to be drafted, implemented and allowed to run its full course under the same political power structure. The plan was also novel in that it was able to draw upon a wealth of studies, planning, technical experience and administrative competence that Iraq had never been able to attain over the previous decades. Another advantage the Ba'athist NDP enjoyed was that it came at a time when oil prices were increasing sharply following the conclusion of the Tehran price agreement of 1971 and the oil price explosion of 1973-74.[23]

The NDP had both general economic and social objectives, and detailed sector specific objectives with clear deadlines. Despite the new regime's rhetoric of revolution, socialism and radical changes, the Plan was a faithful continuation of past development plans, especially the 1965-69 plan. The implementation of sector specific goals was also similar to the performance of NDP's predecessors where none of the targets were fulfilled. (See Figure 1)

The agricultural sector received 73% of its planned budget, while industry, transportation and communications, and building and housing sectors got 84.3%, 67% 40% respectively. The shortage of spending on key economic industries came despite the overall increase in GDP and national revenues. Due to the increase in the oil prices, the share of oil in GNP increased from 26.4% in 1970 to 60.4% by 1974. By contrast, the roles of agriculture and manufacturing in the GNP declined to 6.9% and 5.2% respectively as of 1974.[24]

Figure 1

NDP: Target and Actual Values of Certain Economic Indicators, 1974 (ID Millions)

Economic Indicator	Target	Actual	Percentage Actual to Target
GDP	1163	3347	288
Oil Extraction	409	2023	495
Total Exports	465	1943	418
Total Imports	263	906	344
Agriculture	317	232	73
Manufacturing	401	176	44
Construction	174	69	40
Transportation & Communication	186	124	67
Electricity & Water	35	14	40
Private Consumption	684	1047	153
Public Consumption	321	477	149
Employment (Thousands)	3165	2800	88

Source: Arab Monetary Fund, *National Accounts of Arab States* 1971-82 (Abu Dhabi, 1983); World Bank, *World Tables*, 3rd ed.; United Nations, *Monthly Bulletin of Statistics*.

Development Planning After 1974

The Ba'ath Party's decision to expose economic planning to the approval of the "Revolutionary Command Council" (RCC) brought multi-year planning to an end. This meant that the precious practice of economy under the control of technocrats was replaced by economy under the control of Ba'ath Party leadership. Following the NDP, there were three annual investment programs for 1975, 76 and 77. At the end of 1977 annual investment plan, RCC declared its adoption of the National Development Plan to be effective through 1980. Unlike the previous years, the government did not make its objectives or allocations public; hence there is no detailed data regarding this plan.

Despite the shortfalls in economic data for this period, data are available that indicate the following growth rates for certain sectors between 1975 and 1980:

- GDP: 11%
- Mining: 6.5%
- Agriculture: 2.6%
- Industry: 14.2%
- Construction: 15.8%
- Transportation and communications: 20.3%
- Government services: 13.2%.[25]

One key economic development in Iraq from 1976 to 1980 was the rapid increase in expenditures of “other items”. As Iraq’s oil revenue increased from ID 3,1 million in 1976 to ID 8,9 billion in 1980, the “other allocations” section in the budget increased from a mere ID 61 million in 1976 to ID 1.6 billion in 1980.[26]

Although no public data are available on the breakdown of these expenditures, experts assert that the majority were spent on military industry and armament. Iraq’s military spending increased from ID 341.4 million in 1971 to ID 921.4 million in 1974 –the last year that public data on military spending was available. Defense and police forces expenditures reached 53.3% of the GNP in 1974.[27] (See Figure 3) One can conclude from the pattern that it is not unnatural for Iraq to be spending most of its resources on armament five years before Iran-Iraq war started.

Overall, the Iraqi government spent $ 14.2 billion on economic development in the 1974-80 period. Heavy industrial complexes such as the petrochemical complex in Basra, the iron and steel mill at Khor al- Zubair, the development of sulphur and phosphate extraction and processing and the fertilizer industries were developed during this period.[28]

The second half of 1970s also witnessed a high rate, i.e. growth in oil output, oil revenue, national income, per capita income, industrial growth, construction, public and private consumption. Iraq also had a balance of payments surplus of $ 40 billion of foreign exchange on the eve of the decision to invade Iran. The development process that Iraq had been practicing for the previous thirty years came to a halt with the start of the War in 1980 and continuously regressed after this date (See Figure 2 for the changing GNP and regression across major sectors).[29]

Figure 2

Changing Composition of GNP, 1970-1989

Average Growth Rates of Selected Economic Indicators

	1970-80	1980-85	1985-89
GDP	11.7	-8.1	-1.7

Government Consumption	13.6	-1.3	-4.4
Private Consumption	13.2	-7.6	-4.6
Gross Fixed Investments	27.6	-0.3	-1.5
Exports	4.4	-8.8	-1.1
Imports	22.5	-8.2	-2.9
Agriculture	1.4	6.3	-6.7
Industry	10.2	-7.3	11.4
Construction	28.4	-7.8	-16.2
Transportation & Communication	19.9	-12.4	1.8

Source: United Nations, National Accounts Statistics: Main Aggregates and Detailed Tables, 1989, Part I (New York, 1991)

Iran- Iraq War: Demise of Economic Development

Before the Iran-Iraq War, Iraq was one of the more prosperous and advanced countries of the Arab world, thanks to the Iraqi development efforts that had begun in 1950s. It was an upper middle- income economy with a substantial middle class, considerable technical capacity, some female participation in education and economy and decent standards of education and health care.[30] Iraq after the war witnessed regression in all these segments. By 1988, Iraq had an impoverished economy in crisis and the minor economic turnaround following the Iran- Iraq War proved to be trivial when compared with the economic disaster that engulfed Iraq following Saddam Hussein's decision to invade Kuwait in August 1990.

Iranian and Syrian retaliation to Iraq's attacks on Iran caused the suspension of up to 2.5 million bpd of Iraq's export capacity. The war, which the Iraqi government thought would be short, instead took eight years and had major economic consequences which can be regarded as another set of root causes of Iraq's current economic problems. At the end of the eight year-long war, Iraq's total monetary losses were calculated to be $ 452.6 billion. These losses included:

- $ 91.4 billion in potential GNP losses: losses incurred in the oil sector as well as, industry, agriculture, energy, telecommunications, housing and health sectors,
- $ 197.7 billion in oil revenue losses,
- $ 78.8 billion losses in foreign exchange reserves due to the loss of $ 35 billion in original reserves, plus the accumulated interest earnings for the duration of the war,
- $ 80 billion potential losses in foreign exchange reserves resulting from high military spending.

The scale of war's negative effects on the Iraqi economy from an oil revenue perspective is indicated by the fact that Iraq's total national oil revenue from 1931 to 1988 was some $ 179.3 billion, According to the Ba'ath regime, its spending during the eight years of the Iran-Iraq War totaled 254% of all the oil revenue that Iraq had received in previous fifty-seven years.[31]

More generally, war forced the diversion of virtually all of the country's discretionary revenues to pay for the the cost of the conflict. In 1980, Iraq spent $ 19.8 billion, 38.8% of its GDP on defense. As shown in Figure 3, US Arms Control and Disarmament Agency (ACDA) data indicate the share of military spending absorbed between one-half to two-thirds of GNP during late 80s.[32]

Figure 3

Military Expenditures and GDP, 1970-1989 ($ billions)

	Military Expenditure (Milex)	GDP	Ratio of Milex to GDP
1970	.7	3.6	19.4
1975	3.1	13.8	22.5
1980	19.8	53.6	38.8
1981	24.6	37.3	66.0
1982	25.1	43.7	57.4
1983	25.3	42.5	49.5
1984	25.9	47.6	54.4
1985	19.0	49.5	38.4
1896	11.6	47.9	24.2
1987	14.0	57.9	24.2
1988	12.9	55.9	23.1
1989	12.9	64.4	20.0

Source: US Arms Control and Disarmament Agency, *"World Military Expenditures and Arms Transfers"* (Annual)

The same ACDA figures indicate that military spending absorbed 75% of Iraq's oil income in 1980. In subsequent years, the government spent several times the country's annual oil revenues on its war expenditures. During the 1981-85 period, military spending amounted to $119.9 billion, or 245% of the same period's oil revenue, which was a total of $48.4 billion. In other words, while oil revenue averaged $9.7 billion a year, military spending was $23.9 billion per year.

The $71.5 to $80 billion gap between spending and revenues was financed by grants (or loans) mostly from Saudi Arabia and Kuwait, as well as from other forms of credit agreements with various governments.[33] This led to massive financial claims to Iraq's resources by other nations. Under Saddam, the Government of Iraq claimed maintained that these funds, especially those from the Sunni Governments of Gulf States should have been supplied as assistance rather than loans, to help it in its war with the Shia Iran. The practical result, however, is that foreign debt repayments are a major problem that the new Iraqi government must deal with and one explained in more detail in the following chapters.

The growing economic burdens of the Iran- Iraq war, did however, cause Saddam Hussein to deviate from the strict socialist policies of his party and adopt more pragmatic economic regulations. In 1987, the government:

- Abolished a law that guaranteed full employment and laid off thousands of government workers – including many foreign nationals.
- Transferred other civil service workers to factory jobs.
- Took steps to privatize government owned enterprises (GOE) including Iraqi Airways, bus companies, gas stations, agricultural enterprises, department stores and factories.
- Announced that it would offer inducements for foreign companies to operate in Iraq through relaxing restrictions on foreign direct investment.

- Removed price controls on commodities.[34]

These measures helped, but scarcely coped with the cost of the Iran-Iraq War. In the aggregate, war with Iran lasted eight years, produced close to a million casualties, drained the Iraqi economy of its surplus from oil revenue, caused the direction of resources away from economic development towards armament and forced the government into borrowing $ 80 billion mainly from Gulf States. During 1980-88, the Iraqi economy lost $ 178.3 billion in armament, incurred $ 91.4 billion in potential GNP losses, and suffered from a total of $ 197.7 billion due to oil export limitations. Iraqi economy in the aggregate wasted $ 467.4 billion on the War with Iran as well as incurred this $ 80 billion foreign debt.

Invasion of Kuwait: Destruction of Economic Development

Iraq effectively defeated Iran in the summer of 1998, but by this time the Iran–Iraq War had crippled Iraq's economy to the point where it was characterized by inflation, partial demobilization, unemployment, heavy debt burden, low oil revenue, currency depreciation, non- responsive private sector, stagnant output, falling living standards, general impoverishment, and lack of funds for reconstruction.

Yet the Iraqi government did not focus seriously on Iraq's economic challenges following the end of the War in August 1988. Increasing military expenditures, overdependence on comparatively low oil revunes, and a lack of improvement of unemployment were some of the factors that caused a 9% decrease in real GDP in 1989 over the 1988 level.[35] The Iraqi government realized that it could not finance its ambitions or meet its debt obligations, and needed drastic inflows of revenues, which it could not attain with its oil exports, given the price of oil in the world market.

This need for more oil revenues was a key factor that led the Ba'athist government to invade its oil rich, small and defenseless neighbor: Kuwait. Iraq's ambitions for Kuwait's natural resources become obvious when the Iraqi deputy prime minister for the economy said that Iraq would now be able to pay its debts in less than five years; that the "new Iraq" would have an oil production quota of 4.6 million bpd instead of 3.1 million bpd, and that the oil income would reach $ 38 billion per year "when the two economies were integrated".[36]

Rather than enable Saddam Hussein's Regime to buy its way out of its mistakes, however, the Iraqi occupation of Kuwait resulted in a new war that ended in a major military defeat by the US led coalition. This defeat shattered the already weak Iraqi economy, and damaged its infrastructure, labeled Iraq as a pariah state, and exposed the country to stringent economic sanctions.

A UN embargo following the invasion caused Iraq's oil production to decline from a peak of 3.3 million bpd level before the invasion to only 0.5 million bpd level in the months following the Security Council's decision. The six week bombing campaign by the US-led coalition forces, which started on January 1991, then destroyed some of the civilian infrastructure and the economic disruption caused by the war affected power stations, transportation and telecommunication networks, oil facilities, iron and steel plants, bridges, hospitals, storage facilities, industrial plants and civilian buildings. Coupled with the economic regression caused by sanctions, the picture of the economic situation in Iraq was grim, as stated by the UN envoy, “the recent conflict had wrought near- apocalyptic results”.[37]

Estimates differ sharply as to how much of Iraq’s problems actually were the result of the Gulf War, and how many stemmed from years of dictatorship, the strains imposed by the Iran-Iraq War, and the regime’s mismanagement of the economy before, during, and after the war. The Arab Monetary Fund estimated the value of the Iraqi assets destroyed during the Coalition campaign to be $232 billion.[38] This analysis grossly, if not incredibly, exaggerated the physical damage done by the bombing. Aerial and satellite photography showed that Iraqi claims were exaggerated or false in case after case. Nevertheless, the war did damage the economy, and the Iraqi government compounded these problems both by failing to organize an effective recovery effort, and failing to honor the ceasefire in ways that would encourage aid and investment and allow exports.

Iraq’s economy at the end of the Gulf War was characterized by:

- Declines in real GDP that had begun in the 1980s
- Chronic hyperinflation
- Wholesale depreciation of its currency
- Virtually non-existent foreign investment
- Accumulation of a crushing debt burden
- Damaged or destroyed petroleum, transportation, power and industrial infrastructure.

Post Gulf War Sanctions and Oil for Food Program Period

The end result of Iraq’s failures to comply with the forms of the cease-fire was a new UN embargo that isolated the Iraqi economy from all kinds of international transactions and brought the country’s economy to near collapse. UN Secretary-General’s envoy asserted that the Iraqi people could “soon face a further imminent catastrophe, which could include epidemic and famine, if massive life-supporting needs are not rapidly met."[39].

Negotiations between Iraq and the UN to allow limited exports of oil in return for basic foodstuffs and medication throughout 1991 did not bear fruit until 1995. At this point, the Security Council adopted resolution 986, which established an "oil-for-food" program, that provided Iraq with the opportunity to sell oil to finance the purchase of humanitarian goods, and various mandated United Nations activities. The program was intended to be a "temporary measure to provide for the humanitarian needs of the Iraqi people, until the fulfillment by Iraq of the relevant Security Council resolutions".

Although the program was established in April 1995, its implementation only started in December 1996, following the signing of the Memorandum of Understanding (MOU) between the United Nations and the Government of Iraq on 20 May 1996. The first Iraqi oil under the Oil-for-Food Program was exported in December 1996 and the first shipments of food arrived in March 1997.

In the initial stages of the program, Iraq was permitted to sell $2 billion worth of oil every six months, with two-thirds of that amount to be used to meet Iraq's humanitarian needs. In 1998, the limit on the level of Iraqi oil exports under the program was raised to $5.26 billion every six months, again with two-thirds of the oil proceeds earmarked to meet the humanitarian needs of the Iraqi people. In December 1999, Security Council removed the ceiling on Iraqi oil exports.

A total of 72% of all Iraqi oil export proceeds funded the humanitarian program, of which 59% was earmarked for the contracting of supplies and equipment by the Government of Iraq for the 15 central and southern governorates and 13% for the three northern governorates, where the United Nations implemented the program on behalf of the Government of Iraq. The balance included 25% for a Compensation Fund for war reparation payments; 2.2% for United Nations administrative and operational costs; and 0.8% for the weapons inspection program.

There were nine United Nations agencies and organizations involved in the program: FAO, UNESCO, WHO, ITU, UNICEF, UNDP, WFP, UNOPS, UN-Habitat. By 28 May 2003, $28 billion worth of humanitarian supplies and equipment had been delivered to Iraq under the Oil-for-Food Program, including $1.6 billion worth of oil industry spare parts and equipment. An additional $10 billion worth of supplies were in the production and delivery pipeline.

During the sanctions regime, Iraq was almost completely dependent on imports for basic foodstuffs and medicine. Although the Program was essential for maintaining the mere livelihood of an overwhelming majority of Iraqis, it could not prevent Iraq from being reduced to a low- income economy as of 2000. The sanctions regime strangled all economic activity in Iraq other than oil production. Since the only item Iraq was allowed to export was oil, all other industries, agriculture in particular, were abandoned.[40]

According to UN Statistical Yearbook, Iraq's GNP in 1989 was $ 26.9 billion, it reached a low of $ 6.5 billion in 1996. Population growth for the same period, on the other hand, was an increase from 17.5 million to 21. GDP per population for this period declined from $ 1, 537 per capita to $ 343.[41]

While data on the impact of these economic problems are highly suspect because of the Iraqi regimes effort to use them as political and propaganda tools, the claimed impacts were striking. By 2000:

- Life expectancy in Iraq fell to 61 years from 63 in 1989.
- Mortality rate for children under five rose to 12.1% from 9.5% in 1980.
- Primary school enrollment rate fell to 88% from 100% in 1980.
- Secondary school enrollment rate declined to 20% from 57% in 1980.
- GDP fell to $31.8 billion from $66.2 billion in 1989 (further declined to $26.1 billion in 2002). [42]
- GDP per capita dropped to $770-1,000 in 2001 from $3,600 in 1980.[43]

Iraq's Economy at the Time of the US Invasion

By the time the US-led coalition rolled into Baghdad, the country's economy was in a state of complete stalemate dating to the beginning of the Iran- Iraq War in 1980. Under the pressure and destruction of war and the subsequent economic sanctions, Iraq's development and growth was reversed in all sectors, dependency on oil revenues had increased, foreign debt, hyperinflation and unemployment were at their peaks, and there was very little economic infrastructure left.

Iraq was also overproducing oil, with little regard to the damage being done by the deteriorating condition of its oil fields. There was significant optimism in the international community for Iraq's economic reconstruction based on the estimates of its oil reserves. What the coalition on the ground found was run down oil fields due to excessive oil production and water injection, lack of proper technology and maintenance. As will be discussed in detail in the section on the status of oil revenues, the deteriorated oil fields inherited from Saddam's era is one of the major challenges of today's economic development in Iraq.

Section II: March 2003- June 2004: CPA Controlled Economy

The US led coalition occupation of Iraq in March 2003 led to the lifting of sanctions and a major effort to liberalize and reform the economy. The Security Council lifted civilian sanctions on Iraq on May 22, 2003 with the adoption of resolution 1483. The UN Secretary-General then appointed a Special Representative to work with the occupying forces in rebuilding Iraq; opened the way for the resumption of oil exports, with revenues deposited in a Development Fund for Iraq held by the Central Bank; and provided for the termination of the Oil-for-Food Program within six months, transferring responsibility for the administration of the remaining Program activities to the Authority. The Program was completely terminated as of November 2003.

The key initial developments, however, were US-led efforts within the Coalition to reshape the Iraqi economy using a combination of CPA-led policies, Iraqi funds, and US and other economic aid funds.

A. The Initial Picture

Starting in March 2003, the country witnessed efforts to abandon central government control over the economy, create independent financial and private sectors, bring physical infrastructure to humane levels, reduce unemployment and uplift the overall economy. These goals were designed to serve the overarching objective of creating a new and united Iraq with a liberal economy. The following sections will study the success and focus of these efforts.

Iraq's economy had heavily deteriorated. Decades of heavy state control over all kinds of economic activity, deterioration caused by successive wars, a decade of international sanctions and the looting that followed the invasion were some of the elements of Iraq's economic picture at the time of invasion. (See Figure 4).

Yet the US government set high – if not impossible -- goals for the immediate economic reconstruction of Iraq; to create a liberal, market based Iraqi economy.[44] According to Undersecretary of the Treasury for International Affairs John B. Taylor, the US hoped to turn Iraq into a "well functioning market economy that is growing, creating jobs, and promising for the future"[45].

Figure 4

GDP 2000- 2003

	2000	**2001**	**2002**	**2003**
GDP (USD billion)	31.8	27.9	18.4	12.1
GDP per capita ($ at current prices)	---	770	596	**449***
GDP per capita ($ at PPP)	3 500	3 280	2 980	2 270
GDP (% real change)	4	-6	-6.5	-21.8
Consumer Prices (% change pa)	5	16.4	19.3	29.3

Source: World Bank, Country Briefings: Iraq, Economic Data, May 25, 2004
***** The IMF threshold for Low Income Economies is $ 450

B. CPA Reforms

These efforts to remake the Iraqi economy faced two broad challenges; firstly transforming a centralized economy into a market economy, and secondly have to construct many elements of an economy that had deteriorated for decades, rather than reconstructing a war torn economy.

In general, post conflict economic reconstruction involves establishing a market based financial system, setting up functioning governing institutions, privatizing SOEs, rebuilding critical sectors of the economy, providing basic services such as education, power, water, health care and creating jobs as well as normalizing relations with the world, against a backdrop of basic security and functioning environment of law and order. Economic reforms are conventionally carried out along with a comprehensive legal and regulatory framework to oversee and coordinate the coherence of changes in various sectors.

The CPA's economic reform "package", however, deviated from the norm in several key ways:

- The state-driven command kleptocracy had to be transformed, not reconstructured,
- It sought major, if not premature. reform of the Iraqi financial sector.
- A heavy and ideological focus on creating a business-friendly investment climate the instant liberalization of labor and capital markets.
- Imposition of significant legal reforms as an occupying power.

Notwithstanding the shattered infrastructure, the Authority proceeded with its plans to transform Iraq's economy. Despite warnings from many economists against CPA's plans for post-soviet era type of radical economic reforms, known as "shock therapy", the Authority practiced many radical reforms.

Financial Sector

Among the Authority's reforms, those in the banking sector, the creation of an independent Iraqi Central Bank in particular, were the most plausible steps in turning the economy to a market oriented one. The US Department of Treasury placed advisors in Iraq's Finance Ministry and ran classes on banking standards and technology for bankers. Albeit not sufficient, these measures mark a significant change from the era of Iraq under Saddam Hussein's rule where there were no independent banks, and the central bank was under absolute control of the president.

The CPA's currency reform was another success. The new Dinar was successfully introduced on January 15, 2004. Its value has since been stable and, in fact, appreciated against the US dollar through the summer of 2005. Yet the overall measures taken by the CPA to reform Iraqi financial sector caused serious allegations of corruption. Iraqis citizens at large and many NGOs believe that government ministries were withdrawing money for personal uses.[46] This notion seriously reduced credibility and trust for CPA's intentions in reforming Iraqi economy.

While these steps were commendable in nature and produced short term results, the lack of preparation and planning of the US aid effort may hurt them in the long term. An indication is the allocation for this sector: $30 million. This small amount is not enough to make these reforms sustainable. The lack of funds for this sector is compounded by a lack of overall strategy for the sector. This is best illustrated by the January 2006 report to Congress, where "a strategy for reconstruction" is still anticipated almost three years after the full liberalization of the financial sector.[47]

Liberalization of Labor and Capital Markets and Foreign Investment

The CPA took the decision to enact "CPA Order 39", which opened Iraq's business entities to 100% foreign investment and management.[48] The objective was to make Iraq's commercial environment more business friendly. The rationale behind the full liberalization of international flows of capital and goods was that it would allow the Iraqi society to consume a combination of good beyond its own production possibilities, thereby increasing Iraqi well- being.

Yet this *laissez- faire* rule did away with the longstanding Iraqi rule of limiting investment in Iraq's state owned assets exclusively to Iraqis and residents of other Arab countries. The exclusion of key resource sectors such as oil, banking and insurance from the jurisdiction of the order did not prevent wide spread sentiment among Iraqis that the US government was essentially selling out the Iraqi economy.

Many economists also expressed concern over the provision's effort to quickly discard Iraq's long-standing commercial culture, and its potentially serious distortions to Iraq's economy. More importantly, many analysts observed that CPA did not possess the legal authority to implement such a fundamental change. The Authority also eliminated import tariffs and other restrictions on trade while instituting a 5% reconstruction surcharge duty as well as considerably reducing corporate taxes.[49]

SOEs, Subsidies and Oil

The CPA seriously examined the privatization of SOEs, and termination of oil and agricultural subsidies. Wisely, it did not take such decisions and left such options to a legitimate Iraqi government. As the World Bank cautioned at the time, the implementation of these goals without the necessary macro economic stability would have had severe repercussion on the daily lives of Iraqis. On the legal front, privatizing Iraqi SOEs and terminating oil and agricultural subsidies would have been problematic for the CPA, since it was merely an occupation force, and was not a legitimate sovereign government. This scarcely means, however, that the status quo of SOEs and agricultural subsidies is economically desirable. These are outstanding issues as of October 2005 and require urgent focus.

The Authority's efforts to transform the oil industry, on the other hand, were far less effective. The official target of raising oil production to the prewar levels of 2.5 million barrels per day could not be accomplished. During the time of CPA control, Iraq also continued to import refined oil products in volumes that grew sharply because of subsidized low prices.[50] The Authority failed to address the question of both the need to renovate Iraq's oil and refinery industries, and making a significant adjustment in fuel subsidies. Iraq's lack of capacity to refine its crude oil causes it to import a large portion of oil based product consumption such as diesel, gas or kerosene. The subsidies over these products are inefficient costs that could be eliminated by investment in refinery capacity building. There were no projects undertaken during the Authority's tenure to address the problem.

Use of US Funding During CPA Control

The American government hoped to rejuvenate the Iraqi economy in the short to medium term by channeling large amounts of reconstruction assistance that in theory would create:

- Considerable amount of jobs for Iraqis
- Business opportunities for Iraqi companies
- Liquidity in the local economy

To this end, the Congress appropriated $ 18.4 billion in October 2003, which added major funding to the pool of assets acquired from the Iraqi government and UN Oil For Food Program, and previous UN and international aid. The CPA planned to spend $ 13 billion in 2004 to make a real impact. However, due to delays caused by US government's contracting procedures and struggles over which agency would control the contracts, the Authority spent only $ 333 million on reconstruction projects in Iraq by mid June, 2004.[51]

C. Effects of CPA Policies on Iraqis

The bulk of American funding during CPA's tenure went to US and foreign contractors, and not Iraqis. The use of large US corporations rather than Iraqi companies for reconstruction not only prevented the use of money for intended purposes, but also was an obstacle before building local capacity, which is crucial for economic reconstruction and combating insurgency.

The rush to transform Iraq, and dependence on inexperience contractors without adequate auditing and controls led to significant corruption involving US and Iraqi officials as well as US contractors. US government auditors, KPMG and the Iraq Revenue Watch –an independent NGO- found considerable lack of transparency in CPA's handling of Iraqi oil revenues and US reconstruction funds. [52] The CPA was generally unable to monitor Iraqi government spending to prevent corruption because CPA officials were held up inside the high security Green Zone in Baghdad.

As will be discussed in more detail on the section on "US Aid", the exclusion of Iraqi workforce from Iraq's economic reconstruction helped strengthen the insurgency. The CPA set a formal goal of employing 50,000 Iraqis in the reconstruction activities, but the actual number as of June 2004 was a poor 15,000, who were mostly employed on weekly or monthly basis with minimal wages. 15,000 workers represent less than one quarter of 1% of Iraq's estimated total workforce of 7 million people.[53]

Another stark discrepancy between the CPA's objectives and its practices was the number of Iraqis effectively put out of work. According to analysts at the Federal Reserve Bank of Boston, the Authority fired 500 000 Iraqis who were state employees, and an additional 25 000 to 30 000 who were former Ba'athists.[54] This figure indicates that the CPA laid off 8% of the active Iraqi work force during its tenure. While there is controversy over the exact unemployment rates, the fact remains that none of the employment targets set by the US administration or the CPA were actually fulfilled. Therefore, there is broad consensus that the Coalition policies were not effective at reducing the overall level of unemployment in the country, and some experts argue that it even worsened the situation.

Other macroeconomic indicators show that the Iraqi economy dropped during CPA rule:

- Decline in GDP, GDP per capita and GDP % real change.
- Increase in consumer prices.
- Inefficiency in generating electricity:
    - CPA electricity generation target by July 1, 2004: 6,000 MW
    - Actual electricity generated as of July 1, 2004: 4,293 MW

D. The CPA Legacy at the Transfer of Power

At the time of the transfer of power from the CPA to the provisional authority in June 2004, Iraq had a new set of laws, regulations, oversight commissions and new institutions which lacked a strategic framework linking all these changes to an overarching unity. Most of these reforms remained on paper, however, and their execution was left to the fragile interim government.

Some economists criticize the CPA for having left a legacy of inappropriate economic policies. They maintain that the abrupt liberalization of prices and markets, which were implemented for improving efficiency in the allocation of resources and to expand output resulted in joblessness, prompted insecurity and reduced Iraq's already low capacity to absorb investments. [55]

According to many analysts, the CPA should have applied its reforms incrementally. The Authority's prescription for Iraqi economy was comprehensive and simultaneous liberalization of all sectors, similar to the economic reforms that took place in Eastern Europe and Russia. Some economists believe that instead, the CPA should have endorsed economic transformation known as the Chinese style, which means taking step-by-step measures to sequentially liberalize a centrally run economy.[56]

At the time of the transfer, most infrastructure reform projects were severely delayed due to security problems, public services were spotty, and Iraqis were in desperate need of jobs.

In short, the CPA's legacy was marked by:

- Declining GDP
- A drop in living standards
- Increase in overall prices of tradable goods
- Increase in malnutrition[57]
- Rise in infant mortality[58]
- Rise in unemployment[59]
- Rise in corruption[60]

The CPA's failure to appreciate the consequences of its economic policies minimized the positive effects of the reform process. Its policies created unemployment, isolated Iraqis from the development effort and incidentally did not reduce the insurgency. The fact that CPA reforms focused on radically restructuring the economy rather than adopting a people-centered concern caused the reforms to miss the point. What Iraq really needed was policies that aimed to increase the living standards of the poorest and the most desperate, not exclusively business-oriented priorities that the Coalition Authority chose to focus on.

Section III: Iraq after the CPA

The years that have followed have seen a further net deterioration in spite of improved policies, driven largely by the forces of war, civil disorder, and weak and unstable Iraqi governments. The insurgency has escalated steadily since the transfer of power in June 2004. This has forced both the Coalition and the various Iraqi governments to shift more and more resources to security and counterinsurgency-related short-term aid, further weakened many aspects of infrastructure and the economy, posed a constant threat to the nation's oil exports, and sharply limited outside investment. It has also left a legacy of growing sectarian and ethnic violence, crime, and constant shifts in the nature of central and local governance that have seriously disrupted local development.

A. Status of various sectors of the economy and their needs:

Iraq's current "insurgency economy" cannot be understood in terms of broad econometric claims. The available statistics of Iraq's economy reflect conflicting figures and are interpreted very differently. For example, the Economist Intelligence Unit suggests a 3% drop in the GDP in 2005, while US officials in charge of reconstruction in Iraq boast a 4% growth for the same year. Much depends on how the GDP is estimated, and how the flow of aid funds and external spending in Iraq is calculated. Much also depends on whether the assumption is made that all such spending is productive, or whether the end result is often wartime profiteering and waste, coupled to a steady increase in the disparity in wealth between the few who benefit from wartime spending and the many who are unemployed or suffer from a lack of security, investment, and normal trade.

The picture of what is happening in Iraq is much clearer when the economy is analyzed by sector. The data then argue strongly that the US aid effort in Iraq from 2003 has not accomplish most of its sectoral goals, and more importantly, did not reconstruct the country's economy as hoped.

Employment

Since much of Iraq's wealth is in oil and not in sectors that translate closely to take-home wages, that figures GDP per capita sharply overestimate the well-being of Iraqi citizens. The vast mass of ordinary Iraqis are wage earners – if they are employed. Employment-generating economic growth is critical, if only to reduce the potential recruitment pool available to insurgents. In addition, low wages or high unemployment can serve as an important grievance, which can be leveraged by such insurgents as part of their recruitment ideology and narrative. In contrast, should the reconstruction effort be successful in providing employment, the provision of economic goods and particularly jobs would be expected to help bring stability in politics and security.

It is estimated that unemployment and underemployment in Iraq is at about 50 % of the labor force as of January 2006. 40 % of labor was in the formal sector while the majority of the labor force took up jobs in the informal sector-many in marginalized economic activities-in difficult and most importantly unstable conditions with minimal to insufficient pay.

Women represented around 52 percent of Iraq's population, but constituted only 23% of the formal work force in mid 2005, mostly as middle level professionals in the public and service sectors and in rural areas as seasonal agricultural workers. According to data from 2001, 72% of the population is under the age of 25. This fact adds tremendous pressure to the employment situation, which must be considered as a key to achieving any form of sustainable stability in Iraq. This large youth will be the primal source of instability should joblessness persist. Addressing these critical levels of unemployment is a fundamental key to success for stability in Iraq.

It is difficult to obtain and report accurate data on the exact rate of unemployment in Iraq. There are three surveys popularly referred to, which are carried out by the Central Organization for Statistics and Information Technologies (COSIT)[61] in October 2003, May 2004 and July 2004. These surveys reported national unemployment at 28.1%, 10.5% and 26.8% respectively.

These rates, however, may be severely misleading. COSIT uses International Labor Organization (ILO)'s definition of unemployment in its analysis of the results. The application of this definition is misleading in the Iraqi context for the following factors:

- ILO's definition of an unemployed individual does not include "discouraged" persons. A discouraged individual is one who is not actively seeking employment. Exclusion of these types of persons under normal circumstances is a fair representation of the actual unemployment rates. However, the Iraqi case is different in that due to loss of hope for employment and lack of opportunities, a total of 1 390 000 Iraqis were defined as not seeking jobs[62]. Many of these individuals, although classified as "discouraged" persons, are actually willing to work if they find employment opportunities. Their exclusion distorts the real unemployment figures. When this sector is included, for instance, the 10.4% unemployment rate in the May 2004 survey goes up to 18.5%.

- The unemployment definition utilized in the survey does not account for disguised employment, which is at high levels in Iraq. According to State Department figures, 150,000 Iraqis were employed as permanent and temporary workers in Iraq as of June 1, 2005. While these individuals are reported in the survey as "self employed" and hence are regarded as part of the active work force, their stable work can be as short as a month. Besides the official State Department figure, there are hundreds of thousands of Iraqis who find temporary jobs on a daily basis mostly for foreign contractors. According to the UNDP Iraq Living Conditions Survey, 35% of work force in Baghdad is "self employed", and many of them do not have any prospect of stable employment. It is very important therefore, to distinguish between levels of real employment and disguised employment in Iraq.

- The COSIT surveys' unemployment rates need to be put into the context of Iraqi demographic conditions for the best grasp of reality. Iraq has a very young population. 40% of the 27 million Iraqis are under the age of 15 years and the mean age in Iraq is an incredible low of 23.8 years. Another significant factor is the low number of middle-aged men –due mostly to Iran-Iraq war and recent wars- and the high number of middle-aged women. Considering the earlier is conventionally the household income producer, and the latter traditionally does not engage in income generating employment activities according to Iraqi culture, lack of middle- aged men creates higher dependence on the young Iraqi men. In fact, UNDP Iraq Living Conditions Survey carried out in 2004 indicates that average dependency ratio in Iraq is 73.97%. This points out to the fact that of ten Iraqis, seven are dependent on the other three, who are overwhelmingly young Iraqi men.

While young Iraqi men are the segment of the population most important to its military and political stability, the unemployment rate among them is officially 33.4%. The figure reaches "an astonishing level of 37.2% for young men with secondary or higher education".[63] This could be increasingly alarming when one factors in the underestimation of official figures.

When all these issues are considered, it becomes more understandable why the Iraqi Trade Minister stated in January 2004 that the actual rate of national unemployment and underemployment in Iraq was 50 to 60%[64], or the Iraqi Labor and Social Affairs Ministry reported "unemployment to be […] at more than 60%".[65] At this point, the precise figure for unemployment loses relevance. Given these data, and the fact that almost all surveys held in Iraq make unemployment a top concern-rivaling security-, Iraqi unemployment is clearly at alarming levels and must be dealt with far greater efficiency.

It is critical to create job opportunities quickly to make the majority of people better-off earning a living by legitimate means than by joining an insurgency or other violent groups. Their wages ought to be high enough that there appears to be a large "opportunity cost" to taking up arms. In other civil war contexts the availability of employment has been linked to support for the peace process and the success of related programs such as demobilization and reintegration.[66]

To achieve this, employment generation programs can be formed as make-work schemes where the objective would be to transfer cash in a rapid and efficient manner through activities as basic as cleaning and painting. Another opportunity for creating jobs would be the labor-intensive reconstruction and rehabilitation activities. The agriculture and irrigation, transportation as well as urban and rural infrastructure rehabilitation sectors have the potential to create thousands of jobs.[67]

The projects attracting these options, and most Iraqi development activity, are carried out largely under USAID and DOD contracts. Unfortunately none of the contracts determine employment of Iraqis as a quantifiable goal or contain provisions obliging contractors to create employment opportunities for Iraqis.[68] This is despite the various employment targets set by the State Department, USAID or the Department of Defense. This lack of focus requires coordination and making job creations part of contracts. Immediate needs to deal with the employment aspects of establishing a market based Iraqi economy include:

- Nationwide employment of Iraqis at maximum numbers possible in reconstruction programs, especially the young Iraqi men with little or no education.

- Inclusion of mandatory levels of employment of Iraqis in government contracts.

The exclusion of Iraqis in taking part of the reconstruction effort for their country also manifests itself other sectors than employment. The US effort to build Iraq's hard infrastructure is one of those areas where the country's most urgent needs are largely not accounted for in the planning and implementation stages.

Water & sanitation

Iraqi water and sanitation sectors made some progress from the time Iraq came under severe financial pressure in 1982-1983m as the result of the Iran-Iraq War, until the 1991 Gulf War. This progress, however, feel far short of meeting Iraq's needs and keeping up with its growing population. Iraqi government claims ignore the serious deterioration in the growth and quality of services during the Iran-Iraq War, and government claims in 1990 that safe potable water was accessible by 95% of urban and 75% of rural populations were almost certainly exaggerate.[69] A total of 218 conventional water treatment plants and 1191 compact water treatment units do, however, seem to have been operational as of 1990. Sanitation service coverage reached up to 75% of urban communities (less outlying slums) with varying degrees of adequacy. After the Gulf War, however, much of these capacities were damaged, some were ruined, and many then deteriorated or failed through lack of parts and neglect.[70]

The Ba'ath government made many propaganda-oriented Iraqi medical claims after the Gulf War which often exaggerated the impact of the war and sanctions versus decisions the regime took to investment in military capabilities and benefits to the regime and its supporters. UN and international agencies have made a weak and incompetent effort to validate them. Nevertheless, there is some truth in claims that diseases related to unsafe water and poor sanitation reached alarming rates by 2000, where one third of all children in the south and central governorates were reported to be suffering from malnutrition, and mortality rates to be more than doubled. According to the assessment of the International Committee of the Red Cross (ICRC), of the 177 water treatment plans reviewed, only 34 were good, 98 acceptable and 45 poor.

According to the UN/World Bank Needs Assessment report of October 2003, none of Iraq's sewage treatment plans were operational, and 50% of the generated wastewater i.e. raw sewage was being discharged to rivers and waterways, which was consequently used as drinking water by overwhelming majority of Iraqis who do not have access to potable water.

The US aid effort has so far achieved little to improve this situation. July 2005 USAID reports states the following on the progress of the sewage system: "[USAID is] expanding and rehabilitating one water treatment plant and constructing another to increase capacity by approximately 120 million gallons per day; rehabilitating sewage treatment plants. The sewage treatment system in Baghdad […] will be restored to almost 100- percent capacity, serving 80 percent of Baghdad's population"[71] There is no date for the completion of the only sewage treatment project in progress.

The status of sanitation infrastructure is worse than water. Only 9% of the urban population outside of Baghdad is served by a sewage system, while the rural areas and the north do not have piped sewage systems at all. Lack of sanitation system is becoming a serious environmental and health concern. According to current reports, none of the sewage treatment plans are operational, and raw sewage is being disposed to rivers and waterways, which is consequently used as drinking water by overwhelming majority of Iraqis who do not have access to potable water. In addition, it is estimated that 50% of the generated wastewater in Iraq is being discharged to rivers and waterways everyday. Baghdad contributes as much as 75% of all sewage discharged to rivers in the country.

Solid waste collection in Iraq was based mostly on expensive technology, which significantly deteriorated even before the Gulf War. Of the 800 garbage collection vehicles, only 80 survived the 1991 Gulf War and the period of sanctions. At the present, there is little sanitary landfill facility for solid wastes. The USAID development efforts to restore the sector to standards of pre US invasion include water tankers to mitigate water borne diseases, repairs of water and sanitation facilities, water quality monitoring, procurement of needed water treatment chemicals, garbage collection and promotion of hygiene education. However, these efforts lack overall strategic coordination, cohesiveness, and scale and have only marginal impact.

Water and sanitation facilities' maintenance during Saddam Hussein's rule were contracted out. As a result, the Iraqis in this sector are not well trained or equipped to service these high maintenance systems once international contractors withdrew. Likewise, the "compact unit" water treatment technologies that are highly sophisticated proved difficult to sustain during sanctions.

In response to the needs of these two key sectors, policies need to be reviewed with the aim of building public sector capacity to regulate and set standards, including training personnel, introducing information technology to better plan and manage assets, revise tariff structure and strengthen master planning for urban water and sanitation infrastructure services. The

UN/World Bank assessment goals put forth for water and sanitation sectors are still to be fulfilled. Neither the USAID nor the DOD has set goals to provide all Iraqis with these most basic services.

Electricity

Electricity is another a basic sector which has a direct impact daily life in Iraq. US aid performance in this industry has also been inefficient. The total installed electricity generating capacity of Iraq was 9,295 MW in 1990, with a peak domestic consumption of 5,100 MW and with 87% of all Iraqis having full access to electricity. The generation stations were damaged during the Gulf War, reducing the operating capacity to 2,325 MW, and repair efforts were badly mis-managed. Consumption reached a nadir of 300 MW in Baghdad and 500 MW nationwide in May 2003.

USAID efforts to develop levels of electricity generated and consumed remain uncertain. The stated goal of reaching 6,000 MW by July 1, 2004 has not been fulfilled as of July 2005 and now falls far short of actual demand.

The actual amount of electricity consumed in July 2004 was 4,293 MW, with the peak amount being 5, 126 MW on July 14[72]. As of June 2005, nationwide electricity consumption was at 4,035 MW, with 9.4 hours of average electricity available - far from the USAID target of 6,000 MW.[73] Demand for electricity, on the other hand, steadily increased to 9,000 MW as of July 2005. Part of the surge in demand is associated with the subsidized electricity prices. The gap between supply of and demand for electricity makes long blackouts in Iraq, and particularly in Baghdad a commonplace occurrence. On October 14, just a day before the referendum on Iraqi constitution, electricity was out for "hours" in Baghdad, affecting an area of 2,500 square miles, making the daily break- fast for Muslims in the month of Ramadan difficult[74].

Another shortcoming of the US reconstruction effort, particularly with respect to electricity was the lack of focus on the use of indigenous resources to deal with this situation. The Iraqi Commission of Electricity (CoE) has considerable human resource capacity but needs to upgrade technical knowledge and provide comprehensive training programs in all aspects of operations. Much greater direct involvement of staff from the CoE and the operating companies in the management of the rehabilitation programs is essential. The Department of Defense Report to Congress dated July 2005 points out to the fact that as of that date, there is still no integrated energy plan for Iraq.[75]

Coupled with failure to increase electricity production, there is also considerable distortion in the pricing of electricity produced. The subsidies in the provision of electricity from government plants are around 47%. As stated in Iraq's National Development Strategy, "implicit subsidies for the consumer in the electricity sector are estimated at $ 4 billion due to fuel prices charged to generators below opportunity costs, as well as depreciation of equipment which [are] not taken into account in pricing. Adjustments need to be made in the pricing of electricity."[76] The status of this sector as of March 2006 under the US reconstruction aid is analyzed in the "Status of Foreign Reconstruction Aid" section of this work.

In addition to being inefficient in electricity, water and unemployment, the US reconstruction also failed to focus on the industry which can create the largest employment: agriculture.

Agriculture

There is great potential for improvement in this sector, yet the US aid FY2004 did not appropriate any funds for agriculture.[77] While agricultural output has been extremely low for the most part of country's modern history, Iraq has the most renewable water of any Middle Eastern nation. While only 12% of the land is considered arable given rainfall levels, an estimated 26% of the land is cultivable.[78] This leaves a significant amount of room for growth.

Iraqi agriculture constitutes 9.8% of the GDP and supports a rural population of seven million Iraqis – some 20% of national employment.[79] The sector has declined since the 1980s and is underperforming. Over the past fifteen years, agricultural production declined by 1.1% per year on average, resulting in the decline of per capital agricultural production by 3.9 % per year.

A Public Food Distribution (PFD) system was established under the OFF Program regime to provide food rations to all Iraqis, support food security at the household level and ensure adequate nutrition to most of the population. PDF was somewhat instrumental in providing very basic foodstuffs to Iraqis, yet it failed in avoiding mass malnutrition, as 50 % of Iraqis remained vulnerable to food security during OFF Program.[80]

The low productivity and negative growth rates associated with the agricultural sector are largely attributable to the following past governmental policies:

- *Fix food prices:* All previous Iraqi governments adopted the policy of fixating food prices at artificially low levels with direct subsidies to farmers.

- *Production controls:* Iraqi governments in the past purchased all crops produced. The Ministry of Agriculture declared the quota for each crop at the beginning of the year, thereby controlling all agricultural production.

- *Lack of marketing:* Because the Iraqi government was the single official buyer of all agricultural output, there was almost no marketing activity on the part of the agricultural producers.

- *Insufficient maintenance and funding for agricultural sector:* As stated in the previous sections, Iraqi governments in the past did not have an economically efficient and sustainable growth policy for agriculture. The sector was always secondary to oil, and did not receive a strategic economic focus, which meant very limited funding and maintenance.

Those inefficient policies have degraded agricultural services and physical infrastructure and the extensive irrigation network. The extensive looting that took place after the US invasion damaged a range of government and private agricultural production and service facilities such as animal heath and artificial insemination centers, poultry production facilities and plant quarantine units, particularly in central and southern Iraq.

By the time of the occupation, Iraq inherited an unsustainable food security environment dominated by declining productivity, a weak policy regime and a government subsidized food supply scheme costing the country over $ 2 billion a year, with no targeted strategy to assist vulnerable groups.

According to World Food Program assessment undertaken in 2002/2003, 60% of Iraqis are dependent on food ration system and lack sufficient purchasing power independent of the food aid. That rate is believed to continue today, and it is estimated that it will take a long time before private distribution and food markets develop, therefore it is crucial that the government maintains the state importation and public distribution of basic foodstuffs. Over half of Iraq's total food consumption is imported.

Generous agricultural subsidies were used throughout Saddam Hussein's rule. The UN/World Bank Joint Iraq Needs Assessment report of October 2003 cautions against the radical elimination of these subsidies and the potentially adverse effects thereof, particularly on the farmers. Yet the new Iraqi government has been under heavy pressure from the US administration especially the USAID agricultural experts to dramatically reduce and eliminate agricultural subsidies. This causes grave concerns on the part of Iraqi officials who do not want to increase unemployment by putting agricultural production to disadvantage given the fact that agriculture provides 20% of Iraqi national employment.[81] As of January 2006, the Iraqi government did, however, significantly reduce direct agricultural subsidies, and begin to subsidize agricultural inputs such as pesticides, fertilizers or improved seeds.

The lack of focus on this sector has been changed as of early 2005, with the appropriation of $100 million in FY2005.[82] Since then the US reconstruction effort has been focusing on small scale operations such as vaccinating sheep, implementing sorghum production, and training officials at the Ministry of Agriculture. Focus should be to encourage private credit financing to improve the conditions of Iraqi farmers. US aid's inefficiency in producing tangible results in the sectors analyzed so far is also valid for the country's financial sector.

Financial Sector

The lack of focus of the US aid effort in setting up a strong financial sector is reflected in the appropriation for this important sector: only $30 million. As of March 2006, $ 29 million of that money has been obligated, yet there is still no plan for restructuring the financial sector.[83] Particularly after the complete liberalization during CPA's tenure, this sector requires coordination and strategic focus. Yet the $1 million remaining funds in the US aid planning does not seem likely to provide that. As of March 2006 the financial sector is weak. There is almost no financial intermediation, existing financial institutions are ineffective, and the regulatory framework is poorly organized. While CPA's success in creating an independent Central Bank of Iraq is a considerable accomplishment, the Bank still lacks a normally operating branch system to sustain a reliable payment process and liquidity in the country.

The main component of Iraqi financial sector is the banking system, given the fact that capital markets –with the exception of government debt instruments- are largely non- existent. All Iraqi insurance companies are state owned, and none of them are currently functioning. The banking system is composed of twenty-two banks and the Central Bank.

Two of these banks are public (Rafidain and Rasheed Banks, which account for over 90% of commercial banking assets and 75% of branch bank network), sixteen are private sector commercial banks and four are specialized public banks. In aggregate, the banking system has only some US $ 2 billion equivalent in assets.

The Central Bank's Banking Control and Auditing Department is set up to supervise the banking system, but is not functional due to lack of specific baking and supervision provisions, organization, technology, human resources training, development of procurement and operational manuals as well as supervisory framework.

The new banking order that was enacted in August 2003 opens Iraq's financial sector to foreign investment. Yet there are critical basic needs for the financial sector to gain elementary functionality:

- Critical assistance such as refurbishing and reconstructing offices and branches, updating technology, providing technical assistance and training to the two main commercial banks so as to enable their resumption of operations.

- Establishing an effective operational framework for the supervisory branch.

- Providing assistance to the Iraqi Central Bank for accounting and auditing proponents of the sector to ensure congruence with internationally applicable standards.

It is crucial that immediate action is taken to form a properly functioning banking sector, which should include legal and regulatory aspects to develop a modern and sound financial sector.

The lack of focus on the financial sector is also true for the US reconstruction effort's approach to state owned enterprises (SOE). While US reconstruction planners liberalized all services in the country, they did not account for the status of the SOEs, an important aspect of Iraq's economy.

State Owned Enterprises

Throughout Iraq's contemporary history, its national economy has been centrally planned, and public enterprises have dominated key sectors of the economy. They have operated under high protection levels with controlled and subsidized input and output prices. Saddam Hussein's regime did not allow non-Arab foreign direct investment, and the post Gulf War sanctions essentially created an economy fully isolated from the world, with a substantial black market.

The 192 SOEs are notorious for their lack of modern technology, and have caused decapitalization of assets by keeping production costs artificially high due to absence of any incentive to lower costs. The looting that followed the US invasion further deprived these organizations of value. Today, their net worth is assessed to be little higher than the value of their land and buildings. There is no credible public information on the current status of SOEs. There is no report of major privatization of the entities.

Overall Subsidies

Subsidies are another historically entrenched aspect of Iraq's economy. Like SOEs, they constitute a significant burden on Iraq's finances and need to be addressed. Iraq's economy suffers from the cost of direct and indirect subsidies in the following areas:

- The Oil For Food Program's food baskets, now called the Public Distribution system. In 1996, under the UN OFFP, Iraq's food ration system was expanded to provide Iraqis with a basket of basic food items to avoid malnutrition. These items are rice, flour, sugar, tea, cooking oil, milk powder and salt. In 2004, about $ 5 billion was allocated to the Public Distribution System for purchasing, handling and distribution of food to consumers, as a subsidy from the Iraqi Government. It is estimated that 60% of

Iraqis are in real need of the rationing system, while all Iraqis currently benefit from it. In the short tem, the remaining 40% should be eliminated.[84]

- Refined Oil products. As discussed before, these are the imports of oil based products due to Iraq's lack of refinery structure.

- Gas

Indirect subsidies include:

- Discounted prices of crude oil that is supplied to refineries,

- Electricity,

- Water,

- Agricultural inputs.

Direct and indirect subsidies consume a major part of Iraqi government revenues. While the cost of indirect subsidies can only be estimated, the cost of direct subsidies are more than ID 10.2 billion of the public budget in 2005, its share in GDP being more than 37%.[85]

The World Bank's July 2005 report concludes that when the cost of subsidizing Iraq's electrical service is taken into account, the amount spend on subsidies may add up to more than half of the country's gross domestic product. The subsidies, according to the report, "result in large fiscal costs and serious disincentives in the economy while leaving massive demand for public services unmet"[86]. Elimination of subsidies should therefore be a high concern for Iraq's economy. The stand by agreement signed between the Iraqi government and IMF in December 2005 envisions reduction of fuel subsidies, price distortions, smuggling and corruption. Although the issue of subsides can only be resolved in the long haul, this agreement is productive in inducing the government to take measures which it has long hesitated because of political concerns.

Iraq's former oil minister Mr. Thamir al-Ghadban, who was also a member of the committee drafting the constitution, said he was disappointed that the government still had not decided to cut the subsidies. "Politicians are afraid to do this [cut subsidies], but we have to change it. Otherwise Iraq will never flourish" said Mr. al- Ghadban[87].

No step was taken to reduce subsidies until December 2005. The stand-by agreement with the IMF that conditioned the release of $685 million on cutting subsidies brought the first step in this direction.[88] Consequently the price of fuel in Iraq tripled. The impact of increasing fuel prices given the fuel shortage causes concerns. These issues are analyzed in the "refinery capacity" section of this work.

Analysis of Iraqi economy's various sector indicates that there was a difference between what was needed to for reconstruction and what the US aid effort provided during 2004 and 2005. The following section studies the Iraqis' performance in budgeting and financial structuring.

B. Iraqi Financial Structure and Budget:

The Iraqi national budget for 2004, (Summarized in Figure 5), was prepared jointly by experts from the Iraqi Finance and Planning Ministries in close consultation with experts from the US treasury. This budget only contains provisional estimates for FYs 2005 and 2006. The formal budgets for these years and 2007 were prepared in July 2005 (presented in the following pages). The Congressional Budget Office has extrapolated numbers from the FY2004 budget as well as Iraqi Ministries' guidance for FY2005 and FY2006 to forecast a provisional budget prediction for 2007. The table below shows these numbers. (It should be noted that numbers for FY2007 have not been approved by Iraqi officials.)

The Iraqi government used returned Oil For Food Program funds to make up for a $0.6 billion deficit in FY2004. The remaining balance of these funds is uncertain, as the UN program phases out and there is still discussion between UN and Iraqi officials in regards to the future use of the funds.

Figure 5

2004 Iraqi Budget

The Iraqi Government's Budget Plans
(As of January 2004)
(In Billions of US Dollars)

	2004	2005	2006	2007	Total, 2004-2007
Revenues					
Oil exports	12.0	18.5	19.3	19.3	69.1
Customs duties	0.3	0.4	0.0	0.0	0.7
Income taxes	0.0	0.1	0.2	0.2	0.4
Returns from SOEs	0.4	0.1	0.1	0.1	0.7
User fees & charges	0.1	0.1	0.1	0.1	0.4
Other taxes and income	0.1	0.1	0.1	0.1	0.3
Total	**12.8**	**19.2**	**19.8**	**19.8**	**71.5**
Expenditures					
Operating expenses *	12.1	13.0	13.1	13.1	51.3
Reparations from the invasion of Kuwait **	0.6	0.9	1.0	1.0	3.5
Interest on foreign debt ***	0.0	0.2	0.2	0.2	0.6
Capital investment	0.7	5.1	5.4	5.4	16.7
Total	**13.4**	**19.2**	**19.7**	**19.7**	**72.1**
Surplus/ Deficit (-)	**-0.6**	**§**	**§**	**§**	**-0.5**

Sources: Republic of Iraq, Ministry of Finance and Ministry of Planning, *2004 Budget,* October 2003
Congressional Budget Office, *Paying for Iraq's Reconstruction*

Notes: 2005 & 2006 come from the fiscal guidance for those years provided in the 2004 budget. Figures for 2007 are based on an extrapolation of those for 2006. § = Between zero and $ 50 million

* Actual expenses could be higher, depending on the policies and priorities of the Iraqi government. Additional security (other than that already programmed into the budget) could cost another $ 100 million to $ 300 million per year.

** UN Security Council Resolution 1483 requires Iraq to pay 5% of its gross revenues from oil exports to meet reparations claims for the 1990-1991 Gulf War. Out of the approved $ 52.5 billion, $ 19 billion has been paid so far and $ 33.5 billion is outstanding.

*** UN Security Council Resolution 1483 provides for a moratorium on interest and principal repayments of Iraq's foreign debt until the end of 2004.

The budgets prepared by the Iraqi Ministry and Development Cooperation for FY 2005, 2006 and 2007 presented in Figure 6 show clear changes from the earlier plans shown in Figure 5. The new budget's provisions for oil revenues are clearly higher. The economic viability of this point will be discussed in detail in the following section.

Other significant differences between the former budget plans and the latter plan include the deficit/surplus value. While the January 2004 calculations envision a balanced fiscal year for 2005, 2006 and 2007, July 2005 budget shows a deficit of $ 4.8 billion for 2005, and $ 1.5 billion for the 2005 and 2006 years respectively, followed by a $ 0.5 provisional surplus in 2007.

Figure 6

2005, 2006 and 2007 Iraqi Budget

(As of July 2005 in Billions of US Dollars)

	2005	**2006**	**2007**
Revenues			
Oil Exports	20.8	26.3	29.2
Taxes	0.62	0.72	0.76
Non Tax Revenue	1.60	1.92	1.93
Total Domestic Revenues	23	29	32
External Funds (Grants/Loans)	9	10	7
Grand Total Revenues	**32**	**39**	**39**
Expenditures			
Wages & Pensions	5.5	6.7	6.9
Goods & Services	4.9	6.3	7.5
Transfers	10.3	9.4	8.4
Interest Payments	0.19	0.27	0.3
War Reparations	1	1.3	1.5
Capital Investment	5.9	6.5	6.8
Total Domestic Expenditures	27.8	30.5	31.4
External Funds (Grants/Loans)	9	10	7
Grand Total Expenditures	**36.8**	**40.5**	**38.4**
Deficit/Surplus	**-4.8**	**-1.5**	**0.6**

Source: National Strategic Review Board, Iraqi Ministry of Planning and Development Cooperation, *"National Development Strategy"*, June 30, 2005, p.10

While the budgetary provisions for capital investment account for the cost of oil facilities' reconstruction and rehabilitation costs, wages and pensions do not fully take into account the potential and very probable increase in security costs. The budgets for these years incorporate security costs of only 125,000 Iraqi security forces personnel, yet the number of these forces had already increased to 172,000 as of June 2005[89] (40% increase), and there are plans to expand the number further to 226,000. This could add between $ 500 million to $ 1 billion in additional expenses over the 2005-2007 periods. As a result of additional security costs, increasing cost of salaries and various other factors, the 2006 Iraqi federal budget revised the deficit figure from $1.5 billion to $3.8 billion and did not present forecasts for the budget balance of 2007.[90]

One significant structural ambiguity in the Iraqi fiscal structure is the division of jurisdiction among Iraqi agencies and the control of funds, a problem compounded by unclear lines of provincial and local authority, and the prospect of new federal regions and complex national, regional and local allocations of oil revenues. Due to the lack of an overarching comprehensive financial framework for various government agencies, it is not clear exactly which ministry is in charge of revenues and reserves.

The vagueness of jurisdiction is especially predominant over oil revenues, which constitutes 95% of Iraqi national income. Clear demarcation lines need to be drawn especially between Ministries of Oil, Finance and Planning to define authority. Interdependence of and cooperation among these entities is not only natural but also vital, yet a market- oriented economy necessitates clarity of control.

This lack of clarity with regards to financial control paves the way for corrupt officials to pocket large sums of money. There have been numerous reports of Iraqi ministry officials taking out hard cash from Iraqi Central Bank to use it for “their ministries purposes”. The labor and transport ministers of the interim government are now charged with waste of public funds and are among the 44 Iraqi Interim Government officials who have been issued legal warrants.[91]

The accuracy of Iraqi budgeting and accounting aspects is at best unclear. Budgeting does not account for the war conditions the country is in, therefore the cost of an increasing number of security force. In addition, the budgeting structure does not draw clear lines of jurisdiction on the use of revenues among Iraqi government branches and ministries. Control of different segments of the national economy is not clearly defined. Extra financial burdens of the UN OFF Program investigation and the weapons inspection commission drain valuable resources, while the status of debt repayment remains ambiguous.

A further complication in the budgeting and accounting of the Iraqi economy is its link with the US and international aid process. There is lack of information on the interface between the US economic reconstruction funding and budgeting of Iraq’s revenues, especially for capital investment projects. This is a very important issue, and there should more information made available.

C. Status of Oil Revenues and the Petroleum Sector

The Iraqi budget places high reliance on oil revenues. (According to CBO, oil exports will account for 97% of Iraqi national budget revenues between 2004 and 2007). Budgetary predictions envision that over 90% of all national income will be generated from oil exports for 2005, 2006 and 2007. This dependence is worrisome in a number of ways:

Nature of oil prices

The Iraqi government's revenue calculation of oil revenues in its budget planning is based on a conservative $46.61 per barrel for 2006 although the average price of Iraqi Crude Oil was $54.60 in 2005 and has been above $56 level for the first three months in 2006.[92] While budgeting is prudent, the prominent dominance of the economy by a commodity that is vulnerable to radical price fluctuations is still worrisome.

The government was able to compensate the financial difference in 2004 and 2005 between the planned amount of exports and the actual figures by high oil prices, yet this is not an ideal avenue for fiscal budgeting. Should oil prices return to their pre 2003 levels, the Iraqi government could not meet its operating expenses at the current production and export levels. Besides the threat of unstable oil prices, the Iraqi government's production goals also present a concern.

Unfeasible Production and Export Expectations

The government's year-end target of 2.5 million bpd target does not seem realistic given the 1.7 million bpd average as of March 2006.[93] According to International Energy Agency's Oil Market Report of March 2006, Iraq's sustainable production capacity is 2.5 million bpd. In other words, the Iraqi government's export target exceeds the IEA's production estimates for Iraq. According to the same report, the country was able to exploit only 1.81 million barrels of its capacity per day as of March 2005.[94] Out of that, only 1.4 million barrels were actually exported. The remaining amount was used for domestic consumption.

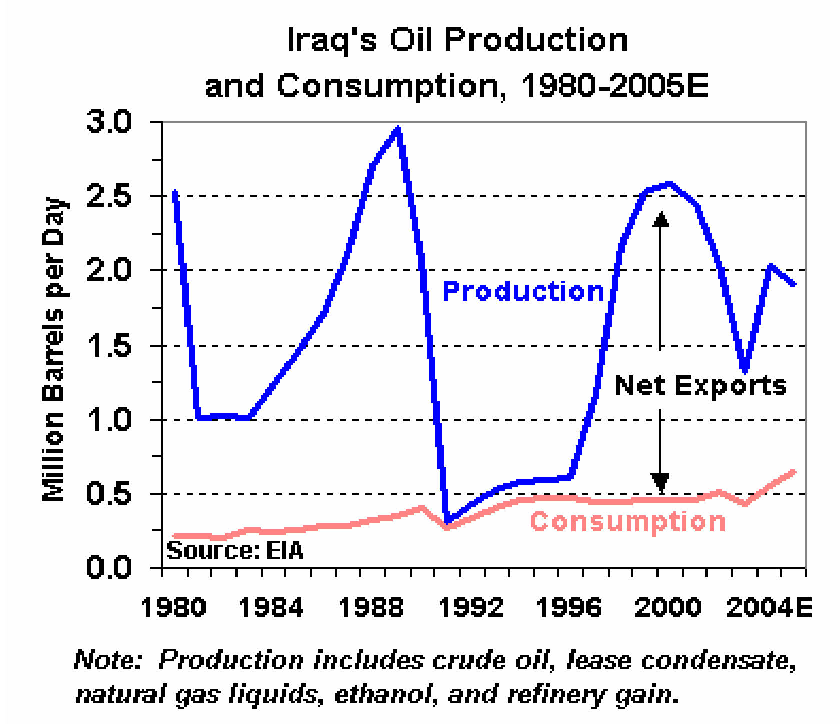
There are reasons why this 2.5 million bpd goal is unfeasible:

- The first is the lack of any strategy to increase the current production and exports on the part of either the US reconstruction planners or Iraqis. Iraq has abundant oil reserves, but its facilities necessary to extract and transport oil are in most cases derelict. A well coordinated strategy to revamp overused oil fields, revitalize deteriorated pipelines and update technology on oil production facilities is necessary to achieve these goals. Yet there is no public information that points out to an integrated national oil strategy for Iraq.

- The second is the condition of Iraq's oil fields. Figure 8 shows that this figure has been reached three times in Iraqi history: 1980, 1989 and 2000. These records have been broken to fulfill costs associated with Iraq's wars, firstly the war with Iran, secondly the invasion of Kuwait and thirdly the negative conditions brought by the sanctions regime.

Figure 8

Iraq's Oil Production & Consumption, 1980- 2005E



These pressures to over-produce and various other factors have caused the conditions which make it hard for Iraq's deteriorated oil fields to reach these high targets by the end of 2006:

- *Aging infrastructure:* Iraqi oil production facilities are severely outdated. Many Iraqi oil fields have been exposed to high levels of corrosion due to excess fuel oil injection used to pump out oil, and some have danger of collapsing.

- *Lack of new technologies:* Iraqi oil facilities are furnished with outdated equipment from mid to late 80s, which in turn minimizes production efficiency and maximizes costs.

- *Lack of exploration:* There have been no explorations for new oil fields in Iraq since mid 80s. Aging fields with old infrastructure and high levels of corrosion are not replaced with new fields equipped with high technology.

- *Over pumping:* Many oil fields, especially Kirkuk have exposed to production levels that exceed their optimal levels. Production at the Kirkuk vicinity has reached as high as 680 000 bpd, much higher than the 250 000 bpd optimal level of production. This in turn has increased "water cut" and reduced the quality of crude oil.

- *War and Security of oil infrastructure:* The production facilities are open to attacks by insurgents, and a single attack on these facilities can halt production for many days.

- *Security of pipelines:* The 4000 plus oil and gas pipelines across Iraq are vital to the country's ability to export oil. According to Mr. Jihad, an Iraqi oil ministry official, the country's damage from 300 attacks on oil infrastructure and pipelines between June 2003 and May 31, 2004 is as high as $ 11.34 billion.[95] The creation of a new pipeline security force may or may not help this situation.

- *The Continuing Feasibility Projects:* In order to better understand the state of the Kirkuk reservoir, a contract was signed in early 2005 for Exploration Consultants Ltd. and Shell to carry out an integrated study on Kirkuk, with work scheduled to be completed by early 2006. A separate study of Rumaila will also be conducted at the same time.[96] It would be difficult, if possible at all, to reach maximum optimal production levels before the completion of these projects. The Iraqi and US governments are criticized for the lack of these projects all across Iraq, and placing exports above oil field rehabilitation and modernization.

Despite the poor condition of the oil infrastructure that produces the country's chief source of income, only 9% of reconstruction funds have been earmarked for oil infrastructure rehabilitation. While only 13 projects have been completed, 13 are still in progress and 33 projects are yet to start as of December 31, 2005. A picture of the ratio of projects completed versus money spent is even more concerning. While half of the oil rehabilitation funds have been expended, less than a quarter of projects have been completed. Half the projects have not been started as of January 2006.[97]

The Iraqi oil minister until late 1980s, Issam al-Chalabi described Iraqi oil policy in September 2005 as follows: "There is no plan to develop the Iraqi oil industry". In regards to the overall oil production objectives in the short, medium and long terms, Mr. al-Chalabi does not see the Iraqi government's goals for production and exports realistic. Looking at production as of September 2005, he said that "Iraq will be lucky" to maintain its current level. He also expressed doubt over the medium term goal of reaching the 1979 production of 3.5 million bpd by 2009.

Mr. al- Chalabi questioned the possibility of the Iraqi government's long term production goal of 5.5 to 6 bpd and suggested that these could at best be achieved by 2013 or 2014, a date much later than what the US hopes.[98] The "oil infrastructure and output" section of this work analyzes the US aid effort's contracting policies to increase efficiency in this sector and proposes solutions. Another impact of oil prices is on the widespread illegal oil trade. The following part studies the effect.

Illegal Oil Trade

High oil prices do provide added revenues, but they also increase the price of subsidies and have other negative effects. Official Iraqi budget calculations were based on $ 22.2 bpd for 2004 and 2005 fiscal years. However, the average price of Iraqi crude oil per barrel during mid-2004 to mid-2005 has been almost double that amount.[99] While the amount of production and exports has been short of official expectations, the radical difference in the price of oil was expected to create positive impacts on the daily lives of Iraqis. Among the reasons for the gap between oil revenues and improving living conditions is the growing problem of income loss due to smuggling and outright theft of revenues.
C
orruption in the oil sector is seen by many experts as one of the biggest threats to the Iraqi economy, yet remains largely unaddressed. RAND Corporation Senior Analyst Keith Crane suggested before the US Foreign Relations Committee hearing that a third of Iraqi imports of gasoline and diesel fuel are stolen annually, which in 2005 will cost the country about $ 2 billion.[100] This not only creates a "leaky bucket" in the fiscal revenue system, but weakens the Iraqi public's faith in the country's new government and its financial policies.

The inefficient practice of fuel subsidies lies at the heart of illegal oil trade. Because its refining capacity is low, Iraq is forced to import more than half of the 23 million liters of gasoline it consumes a day[101]. The Iraqi government subsidizes the imported gas and burning fuel, which brings down a gallon of fuel in Iraq to a nickel. Iraqis smuggle the subsidized fuel and sell the same gallon in Jordan and Syria for $2 or in Turkey for $5. This price disparity caused the formation of well connected smugglers who steal fuel imports intended for consumption in Iraq and sell it in the neighboring countries.[102]

Smuggling also has an ethno-sectarian nature. The previously centralized regime of Saddam Hussein had a firm grasp over the oil production facilities. In today's Iraq, on the other hand, there is more room for tribal and partisan control of the revenues. Mr. Jamal Qureshi, an oil market analyst with PFC Energy –an international consulting firm- says "in many cases, the technocrats are no longer in charge, so you have a lot of potential for partisanship and local interests to win out over the common national good". Mr. Qureshi and other oil market analysts assess the loss caused by smuggling to be 5 to 10% of national revenues. The oil fields around Kirkuk in the north, and those surrounding Rumalia in the south are being exploited and smuggled from by Kurds and Shiite respectively.[103]

Mr. Crane of RAND Corporation stated that especially the people in the Iraqi government, or those with ties with the government, are making hundreds of millions for dollars from the current situation and that they do not want it changed. Experts argue that the ethno- sectarian nature of smuggling is the most important factor that makes the elimination of fuel subsidies tricky, although it would be the best way of addressing corruption. They suggest that liberalizing gasoline and diesel prices would draw fierce protests from the country's Shiite community, closely tied with the current Iraqi government, and perhaps even cause broader civil conflict. Increased prices of fuel are also feared to cause general public discontent with the fragile government. This is perhaps why fighting corruption in Iraq is not a top priority.[104]

Dutch Disease

The dominance of oil revenues as a percent of national revenues has the potential to de-industrialize Iraq's economy in the five to twenty year period. Increasing oil exports are causing the value of Iraqi Dinar to appreciate, in spite of comparatively low exports volumes and could make future Iraqi manufacturing and exports of all other non-oil products less competitive. As a result, imports may increase while non-oil exports decline. Economic diversification, and the prevention of over-reliance on oil revenues, should be given a priority if Iraqi economy is to maintain a healthy balance.

Unemployment Effects

Oil also negatively affects the already endemic problem of Iraqi unemployment. The reliance on a capital-intensive oil sector reinforces the lack of employment opportunities. Development of labor- intensive sectors such as agriculture and industry is needed in the medium to long terms. Iraq's economic history has shown that previous governments' over reliance on oil prevented the development of industry and other labor- intensive economic activity. This mistake should be avoided.

Other factors that require careful consideration of dependence on oil revenues include the effects of oil revenues on the Kurdish and Shia separatism. While the oil revenues are considered as Iraq's national revenues by non- Iraqis, many Kurds and Shia do not want to share the oil wealth of their respective regions with others.

D. Differences in Economic Expectations among Iraqis:

The sharing of oil wealth in Iraq has traditionally been managed and controlled by the central government, with almost no local control over the resources. In the political remaking of Iraq, however, authority is being localized and federalized, and growing differences in economic expectations are emerging among Iraqis. The variations among the three major ethno- sectarian fractions play a significant role in Iraq's economic development, and will continue to do so until these differences are resolved. The division pertains to whether oil revenues should be allocated at the national, federal, or local level. There are three main positions on this issue:

Kurdish Expectations

The Kurds make up about 17% of Iraq's population, and have had broad autonomy from Baghdad since the Gulf War in 1991 - after being brutally oppressed by the Ba'ath regime under Saddam Hussein for decades. The isolation of the Kurds from Baghdad allowed them, among many other things to have their own border patrol and security forces known as the *peshmerge*. They received extensive financial aid from the international community and the US. The international aid ensured building of basic infrastructure, something the rest of the country was mostly deprived of since 1980.

The 2004 UNDP survey shows that the three Kurdish provinces have much better basic living conditions than the rest of the country:

- The percentage of household with unsafe water in the Kurdish governorates is 7%, while the rate rockets to 33% in the Shia Arab dominated south and is 16% Central governorates
- 53 of 100 homes in the north are connected to sewage systems while the number decreases to 8 in the Central provinces, and 18 in the south.
- Out of 100 children, only 13 were not enrolled in primary school in the Kurdish provinces. The number increases to 23 and 24 in the South and the Center of the country respectively.
- Median income in the Kurdish provinces is 412 667 Iraqi Dinars. The figure is 366 000 in the southern governorates and 328 000 in the Central provinces.
- While 33% of Iraqis in the south and 39% of Iraqis in the central governorates reported to have weapons shot in their neighborhood everyday, the figure dropped to 1% in the Kurdish regions – This is significant as one of the most significant indicators of living standards is safety.[105]

The Kurds in Iraq gained extensive rights and representation after the January 30, 2004 elections. There is now a Kurdish Parliament independent of the Iraqi National Assembly and a Kurdish flag. The new Iraqi president, Jalal Talabani is a Kurd.

The economic future of Kurdish Iraq depends heavily on its proximity to nearby oil resources, and the degree of control the Kurds gain over such resources. About 1 million bpd of 3-million bpd pre war oil production of Iraq came from oil fields in the north. The Kirkuk oil field is the second largest oil production site in the country, producing 550 000 to 700 000 bpd.[106]

The Kurds argue that Kirkuk is a Kurdish city, and hundreds of Kurdish families have moved to the city since Saddam's fall to numerically prove their claims to the city and its oil reserves. Arab officials in the city have been assassinated, and hundreds of Arabs and ethnic Turkmens have been kidnapped.[107]

Kirkuk's oil wealth could potentially sustain a prosperous autonomous Iraqi Kurdistan if the revenues from it were given to the Kurds. While some Kurdish officials have expressed their ultimate desire of independence, the prospect of a free Kurdish north is highly unlikely in the near future. President Talabani has cautioned the Kurdish Iraqis against separatism. With all the gains they achieved and the resources that are located in the Kurdish areas, the current political and economic goals of Iraqi Kurds are two fold:

- Push for the loosest form of federal system for new Iraq with strong regional governments that exercise maximum autonomy,
- Make Kirkuk and its oil reserves of petroleum part of an autonomous Iraqi Kurdistan.[108]

Shia Arab Expectations

The Shia are located mostly in the south of Iraq, and make up the 60% majority of Iraqi population. The central authority, particularly Saddam Hussein, has oppressed them for decades. The UNDP Iraq Living Conditions Survey 2004 shows that overall infrastructure and basic living standards in the Shia south are worse than those of the Kurdish north, and Sunni center. Yet, the Shia part of Iraq produces more than two third of all Iraqi oil. According to the US Department of Energy figures, the north and south Rumaila fields combined produce 1.3 million bpd. When the West Qurnah, Az Zubair, Misan/ Buzurgan, Majnoon, Jabak Fauqi, Abu Ghurab and Luhais fields, all of which are located in the Shia south, are added, the amount reaches to 2 million bpd.

Unlike the past, the Shia now have the largest political representation in the Iraqi National Council and the government. Islamic sentiment is also widespread among the Shia members of parliament and the desire for federalism has strong support among the Iraqi Shia. The number of Shia members of parliament who want a loose system of decentralization for the new Iraq is increasing.

The main political and economic goals of the Shia are:

Creating an Islamic political structure.

Having a new Iraq that is federal.

Treating oil revenues locally rather than nationally (where oil money is retained by local governments rather than Baghdad).

While the Shia desire for an Islamic Iraq is opposed by many secular Kurds, it is important to note that the economic interests and future economic expectations of the Kurds and the Shia mostly converge, and that this is particularly true in the case of federalism.

Sunni Arab Expectations

The Sunni Arabs are located mostly in the center and the southwest of the country. They have been in control of Iraq since Ottoman rule despite the fact that they seem to constitute no more than 20% of the Iraqi population. In contrast to their long- standing position in power, the Sunnis are largely excluded from the parliament since most of them protested against the January 2004 elections and refused to vote.

Sunnis are the group that most preferred the pre-US occupation status quo and there is a strong anti-occupation sentiment among them, hence the dominant role Sunnis play in the insurgency. The international community and the US have urged the Kurds and the Shia to include the Sunni minority in the political process, but Sunni Arabs are opposed to the weakening of the control of central government over the oil revenues.

The Sunni political economy has one major objective: keep the oil revenues national. Sunni problems, however, go far beyond this objective. They no longer will receive a disproportionate amount of revenue to buy their loyalty. State investment and infrastructure spending will be much lower if the Sunnis receive only the share merited by their percent of the population. Preferential hiring in government jobs, the military and security services will end. There will be no jobs in Iraq's now vanished military industries.

These differences act as further obstacles to developing a national Iraqi economy. There are increasing reports that the Shia in the south, for instance, are involved in heavy smuggling of the oil from the fields to the international market, bypassing the central government's authority. This is among the factors why increasing oil prices do not translate to increasing national revenues for Iraq at large. While oil smuggling in the south is widely known and acknowledged in Baghdad, the Shia majority government is tacitly turning a blind eye to the facts. The same phenomenon is eminent in the Kurdish North. Experts estimate that 5 to 10 % of national oil revenues are being lost to smuggling, and the percentage is increasing.[109]

The current budgeting process and fiscal projections are based on the traditional way of treating Iraqi oil revenues as national income. Yet with the Shia and Kurds seeking to decentralize oil revenues, the central government's role and authority over oil money is coming under serious question. Any change in the treatment of oil income will have severe consequences on the macro and micro levels of Iraqi economy.

There are projections for possible outcomes if the oil revenues are completely decentralized. A rich and almost independent Iraqi Kurdistan, a wealthy and Islamic Shia south, and an underdeveloped Sunni center, tied together under a loose federation is one of these projections. Whatever the real consequences may be, the sharing of the oil wealth must be addressed. Ambiguity over the only real economic resource that will bring liquidity to the country in the immediate near future is causing loss of potential income and unbalanced shift of economic power within the country.

E. Status of Iraq's International Financial Obligations:

Iraq's international financial obligations are another source of economic instability. Starting with the 1980-1988 war with Iran, Iraq's Ba'ath Party ruled government borrowed extensively from foreign governments as well as international credit lending institutions to pay for its defense spending. Coupled with the compensations the country is obligated to pay for the losses it caused by invading Kuwait in 1991, the foreign debt stock reaches a considerable amount. If not addressed, Iraq's financial obligations will be a major revenue loss for the country's economy.

The financial obligations will limit the full use of funds for Iraqi economic reconstruction in two ways. First, the heavy debt burden inherited from Saddam Hussein's regime will deviate serious amount of revenues that could otherwise be used for revamping Iraqi economy. Secondly, Iraq's foreign debt and other monetary obligations as they stand are obstacles before the country's economic integration into international capital markets. These international financial obligations are of three main types:

Gulf War Reparation Claims

The first type includes the compensation claims brought against the Iraqi government by individuals, families, companies and governments on the basis of their losses due to Iraq's invasion of Kuwait and the consequent military conflict.

The United Nations Security Council delegated the mission of assessing applications and awarding compensation to the UN Compensation Commission (UNCC), which finalized its investigations and awarded a total of $ 52.5 billion in compensations. Security Council Resolution 1483 requires Iraq to put 5% of its revenues from oil exports into a UN fund to pay for theses claims. As of June 30, 2005, this fund had paid $ 19.2 billion of the total reparations awarded, leaving $ 33.3 billion to be paid by Iraq. The fund continues to pay around $ 200 million per fiscal quarter.[110]

Pending Contracts

The second type of claims includes contracts signed with public and private foreign companies during Saddam Hussein's regime. The overwhelming majority of these contracts have been with Russia, although companies from the Netherlands, Egypt, United Arab Emirates, China and France also have been identified.[111]

These contracts have been estimated to have a total value of $ 57.2 billion ($ 52 billion with Russian companies, $ 5.2 billion other nations), primarily in the energy and telecommunications sectors.[112] Many of these contacts have not been executed due to sanctions regime, and it is unclear whether they will be honored.

Foreign Debt

The third type, Iraq's foreign debt, is due mainly to its war with Iran, and its arms purchases during the war in particular. After the war with Iran, Iraq had a short- term debt of $ 35-45 billion, which today remains unpaid.[113] As the country continued its arms build up, it did not pay its debt all through Saddam Hussein's regime. As a result, the amount owed steadily increased, and Iraq now faces a large amount of foreign debt. The exact amount is not known, and there are various estimates:

- CIA reports Iraq's foreign debt as $ 125 billion.[114]
- US Department of Energy's figure for Iraq's foreign debt is $ 100 billion (discounting the Paris Club debt forgiveness).[115]
- The US Embassy in London reported $ 120 billion worth of Iraqi debts.[116]
- A London based brokerage quoted in CBO paper said that Iraq owed $ 116 billion in foreign debt.[117]
- The World Bank/ Bank for International Settlements' 2001 estimate is $ 127.7 billion.

The disparities in these estimates are partly due to a disagreement between Iraq and its neighboring states over the nature of approximately $ 30 billion in assistance given to Iraq by several Gulf States during the Iran- Iraq War. Iraq argues that these payments were given as grants while creditor states consider them as loans. None of the figures above, with the exception of the Energy Department's estimate, account for the debt forgiven by the Paris Club nations in November 2004.

The Paris Club relief effort was largely a result of the Bush Administration's efforts to lobby the international community to forgive Iraq's past debts, and much of the success is attributed to the efforts of former Secretary of State James Baker who visited Paris Club member countries to convince them to support the debt relief. The amount forgiven and the structure of the relief have been widely misquoted in the printed and visual media.

The total amount of debt Iraq owed to Paris Club prior to relief was $ 38.9 billion. This amount will be forgiven in several phases. Phase one is the immediate cancellation of 30% of the debt stock ($ 11.6 billion) as of January 1, 2005. (This step has been implemented as of August 2005) Phase two includes the writing off of an additional 30% ($ 11.6 billion) contingent upon the approval of IMF standard program and this phase is outstanding as of January 2006 since the IMF program is yet to be approved. The last phase is the forgiveness of an additional 20% of the debt upon completion of the last IMF Board review of three years of implementation of standard IMF programs. This step will be completed as of 2008 or 2009. The relief, at the end of its finishing point, will reduce the total debt of Iraq to Paris Club from $ 38.9 to $ 7.8 billion, equaling a debt forgiveness of $ 31.1 billion in total.[118]

While the exact amount of the Iraq's foreign debt total remains ambiguous, US official figures are within the $ 120 to 127.7 billion range. After the $ 31.1 billion Paris Club relief, estimates of Iraq's total foreign debt come down to $ 89- 97 billion. A large majority of this remaining amount is owed to the Gulf States. The Bush Administration is expecting these states to follow suit in reducing the amount. Some analysts believe that there is not enough emphasis on the topic in US public diplomacy. Yet Gulf States, on the other hand, such as Qatar, the United Arab Emirates and the largest creditors Saudi Arabia and Kuwait have said that they would consider forgiving debts, although they would only deal with a sovereign Iraqi government.[119] These countries have not made statements on the issue since the new government came to power.

Figure 9

Iraq's International Obligations

The gross total of Iraq's three types of financial obligations:	
Gulf War Reparation Claims	$ 33.3 billion
Pending Contracts	$ 57.2 billion
Foreign Debt	$ 90 billion
Iraq's Total International Obligations	**$ 180 billion**

Any effort to repay an amount approaching the total shown in Figure 9 will be a serious hindrance in Iraq's economic reconstruction in the period following 2007. Yet Iraq's Minister of Finance, Mr. Ali Allawi, stated on October 10, 2005 that the Iraq's total debt had reached $ 200 billion, surpassing the that amount. He placed $ 55 billion in compensation for Kuwait, another $ 48 billion for Saudi Arabia, $ 40 billion to the Paris Club and remaining some $ 60 billion to other countries and private lenders[120].

Gulf War reparation claims will continue to be served with the 5% share of oil revenue, while pending contracts and foreign debt will be immune from payment until the end of 2007 due to the Security Council resolution 1483, which declares that Iraq's oil export earnings are immune from legal proceedings until that day. However, the interest accrual on the capital will be continuing until this date, pushing the total amount up.

Iraq needs a restructuring or relief program for all its foreign debt stock, and a resettlement of its pending contracts before the end of 2007, as it will be required to pay back its debts after this date. This will also be crucial in Iraq's medium to long- term integration into international financial markets. A country with unsettled debt stock of this magnitude will not be an ideal environment for Iraq's international borrowing or attracting foreign investment.

One step towards resettling part of Iraq's debt was announced on September 16, 2005. A $ 750 million deal orchestrated by Citigroup and JP Morgan was struck between the Iraqi Ministry of Finance and some of its private foreign creditors. Small in magnitude, the agreement nonetheless is a positive sign that Iraq is making headway in putting long standing financial issues behind it. As the managing director of fixed income at Citigroup, Mr. Nasser Malik points out, this agreement "sets the tone for the entire process"[121]. The governor of the Central Bank of Iraq also announced the second step taken in resettling the commercial debt. Mr. Al-Shabibi stated in February 2006 that commercial debt was reduced from 100% to 20%, which will be converted into bonds. Although it is not certain when, this is the first time Iraq is expected to enter the international finance market.[122]

F. Iraqi Government's Capacity to finance reconstruction:

Iraq faces severe limits on what it can pay for its economic reconstruction. The Iraqi government's official figure for its spending on the country's reconstruction was 0.7, 5.1 and 5.4 billion USD for 2004, 2005 and 2006 respectively as of January 2004. (See Figure 10 for the breakdown of these figures across various sectors.) These numbers only involve Iraq's own revenues, and do not include foreign aid.

Figure 10

Iraqi Capital Investments, 2004- 2007

Breakdown of Capital Investment Plans, by Sector, in the Iraqi Budget, 2004- 2007

(In Millions of US Dollars)

Sector	2004	2005	2006	2007	Total,2004- 2007
Electricity	0	1500	1650	1650	4800
Water & Sanitation	128	500	500	500	1628
Education	15	25	25	25	90
Agriculture	12	50	50	50	162
Transportation	62	500	500	500	1562
Housing & Urban Management	133	300	300	300	1033
Health	50	100	100	100	350
Private Sector Development	0	0	0	0	0
Telecommunications	5	150	150	150	455
Local Admin & Civil Society	169	495	665	665	1994
Mine Clearing	0	0	0	0	0
Subtotal	**574**	**3620**	**3940**	**3940**	**12074**
Oil	0	1000	1000	1000	3000
Security, Police and Justice	42	200	200	200	642
Environment	1	20	40	40	101
Culture	1	15	15	15	46
Human Rights	1	5	10	10	26
Science and Technology	5	10	10	10	35
Religious Affairs	5	0	0	0	5
Youth & Sports	3	50	50	50	153
Foreign Affairs	6	10	10	10	36
Subtotal	**64**	**1310**	**1335**	**1335**	**4044**
Other *	107	161	161	161	**590**
TOTAL	**745**	**5091**	**5436**	**5436**	**16708**

Sources: Republic of Iraq, Ministry of Finance and Ministry of Planning, *2004 Budget*, October 2003
Congressional Budget Office, *Paying for Iraq's Reconstruction*

Notes: Sectors used in this table are the sectors specified in World Bank report.

Figures for 2004 come from Iraq's budget. Figures for 2005 & 2006 come from the fiscal guidance for those years provided in the 2004 budget. Figures for 2007 are based on an extrapolation of those for 2006 and 2005.

* Includes sectors that do not appear to match well with the sectors listed in the World Bank report, such as trade, industry and minerals.

The new Iraqi Budget as of July 2005 for FY2005, 2006 and 2007 calls for different levels of capital investment than the Budget as of January 2004. (See Figure 6) While the 2004 version planned for $ 5.1, 5.4 and 5.4 billion for years 2005, 2006 and 2007 respectively, the 2005 Budget's numbers increase to $ 5.9, 6.5 and 6.8 for the same years. While the previous budget does not account for aid formally, the 2005 budget envisions $ 9, 10 and 7 billion external funding for the overall Iraqi economy in the 2005- 2007 period. What proportion of these external funds will be spent on capital investment is not clear.

The United Nations/World Bank Iraq Needs Assessment report of October 2003 indicates that there is a need for $56 billion over the course of 2004 to 2007 to fund the immediate and medium term economic needs of the country. The State Department Iraq country report indicates that the US has already appropriated $20.9 billion as of March 2006 with another $13.5 billion pledged from other countries. (These figures will be scrutinized in detail in the following section on non-US international aid.)

Iraq thus seems to need to raise $21.6 billion from its own resources to meet the World Bank target of reconstruction by 2007, and this figure ignores wartime damage, the cost of crime, the cost of security, and the cost of corruption. Yet the figures in the 2005, 2006 and 2007 Iraqi budgets indicate to a total of $19.2 billion worth of capital investments. Assuming the Iraqi budget figures are accurate and all of the funds pledged by the international community are indeed disbursed, there is still a shortage of at least $2.4 billion.

In reality, this $2.4 billion figure is little more than a "guesstimate" because the October 2003 UN/World Bank assessment does not account for the cost of security that economic reconstruction has to bear in Iraq and the level of insurgency there is in Iraq as of January 2006. Bearing in mind the estimates of the Department of Energy that up to 40% of all US funds were being spent on providing security and not on reconstruction as of January 2006, the World Bank's $56 billion could increase to a higher figure, and as a result, so does the gap between what is needed, and what is available to achieve planned reconstruction.[123]

The transition of the reconstruction from the US to Iraqis which is expected to take place at the end of 2006 will increase the gap even further. US government agencies suggest that the maintenance and operations costs of projects and assets handed over to Iraqis will require over one billion dollar for 2006-2007.[124] Iraq's national budget, however, does not include any provision for these costs, showing that Iraqi government is not prepared to undertake these expenses. This issue is scrutinized in detail in the later section of this work titled "transition of reconstruction to Iraqis".

Another element of unpredictability regarding Iraq's ability to finance its reconstruction is oil prices and production. The Iraqi government's contribution to capital investment could change depending upon the amount of Iraqi oil produced and exported as well as the world price of oil. If the production increases steadily and reaches the targeted export level of 2.5 million bpd by the end of 2006 and price of oil stays higher than the planned $ 46.61 per barrel level, the Iraqi economy's capacity to fund reconstructions would increase. For the reasons mentioned in the earlier sections, however, the amount of oil produced and exported does not seem likely to increase in the predicted fashion, and it is highly unlikely to even reach the targeted level.

The oil production figures of 2005 indicate that targets set by US officials for the real are far from being realized, and thus, the Iraqi government's capability to finance the reconstruction of the country has fallen behind what was expected. Iraqi oil production fell by 8% in 2005. While the US expectation for daily oil production was an average of 3 million bpd for 2005, the actual figure turned out to be 1.83 million.[125] This calls into question Iraq's ability to support itself and fund reconstruction as US assistance is scaled back.

IV. The Strengths and Weaknesses of the US Aid Effort

Iraq's natural resources and oil exports have not been sufficient to finance its economic reconstruction and development following the end of Saddam Hussein's regime. Constraints such as the insurgency and the obsolescence of oil infrastructure prevent the Iraqi government from undertaking its own economic reconstruction and development in the short run. Thus, the bulk of finances for the country's economic reconstruction is expected to come from the US. This makes American funds the backbone of Iraq's economic development and the effectiveness of the US aid will dictate the success of the outcome.

A. US Infrastructure Aid

The $20.9 billion US Congress appropriation in April 2003 and November 2004 coupled with the DOD funds slated to help the Iraqi economic recovery represents America's largest assistance effort in a single country since the Marshall Plan.

Figure 11

Total US funds for reconstruction and security of assets

US Congress appropriation- April 2003	$ 2.5 billion
US Congress appropriation- November 2004	$ 18.4 billion*
DOD FY 2005 supplemental	$ 5.3 billion**
Commanders' Emergency Relief Program	$ 320 million**
Total US aid appropriated	**$ 26. 5 billion**

Source: US State Department [126]

* Iraq Relief and Reconstruction Fund (IRRF)appropriated under Title II of the Emergency Supplemental Appropriations Act for Defense and for the Reconstruction of Iraq and Afghanistan (P.L. 108-106)

**These funds are designated to provide security for the reconstruction projects

This commitment shown above is organized and maintained by a large and complicated bureaucracy. The primary US agencies responsible for the use of American funds in Iraq are:[127]

- US Agency for International Development (USAID)
- Department of Defense (DOD) and US Army Corps of Engineers (USACE)
- US Department of Commerce (DOC).

The success of the hundreds of projects managed by these agencies is the key to attaining the goal of a stable and sustainable liberal Iraqi economy. Yet the security issues and the various shortcomings in the organization and execution of the US reconstruction effort impede complete success.

Challenges of constructing a functioning economy with war as a backdrop: Impact of Insurgency

Among the various barriers to using US funds effectively, the chief impediment may be the insurgency. Insurgent elements have successfully affected economic reconstruction efforts by targeting the economic assets of the country. This means that economic reconstruction and security in Iraq are intertwined where security is directly correlated with economic policies, if not strictly contingent upon them. Thus, the review of US economic reconstruction effort must be situated within the insurgent atmosphere that surrounds the country.

Economic assets

The oil infrastructure and pipelines are the Achilles heels of all of Iraq's reconstruction efforts. Attacks on oil assets have a significantly negative impact on the reconstruction because oil revenues are vital in closing the gap between what is needed to start rebuild the country and what is available. As indicated in the previous section on the "Iraqi government's capacity to finance reconstruction", the minimum amount of $21.6 billion Iraq needs to undertake its part of the reconstruction is expected to be paid by its oil revenues. Hence, attacks on oil assets that reduce the country's oil output damage the economy and hinder the effectiveness of the reconstruction effort.

The financial impact of these attacks is significant: total cost of attacks on the Iraq's oil infrastructure since the beginning of the occupation until January 2006 is estimated as $11 billion in lost revenues.[128]

Figure 12

Comparison of IRRF and oil revenue loss due to attacks

Total US Congress Appropriation for Iraq's Economic Reconstruction (as of March 2006)	$20.9 billion
Total Oil Revenue Loss due to attacks on oil assets (June 2004- January 2006)	-$11 billion

Damage was worst in 2005. Below the number of insurgent attacks and the associated costs for 2005 are presented. That year, insurgent attacks on oil assets cost on average, $20 million loss per day.

Figure 13

Breakdown of financial cost of attacks on oil assets in 2005

Number of insurgent attacks on oil infrastructure in 2005	186
Cost- oil fields put on fire	$ 400 million
Cost- pipeline destruction	$ 2.7 billion
Cost- destruction of petrochemical pipelines	$ 3 billion
Total cost of attacks on oil assets in 2005	**$ 6.25 billion**

Source: Iraqi oil ministry[129]

These attacks are carried out by various groups with different motives. First are the looters. These are petty criminals who puncture the pipelines, then siphon oil and sell it on the black market. Most of these people are also involved in complex networks that smuggle oil across the border to Syria, Iran, and Turkey.

The second category is saboteurs, who cause severe damage on oil infrastructure through attacking oil fields and pipelines. Saboteurs have two main motivations. The first is a politically motivated agenda. Specifically, these groups are insurgents and they aim to cripple the country's oil production in order to wreak instability, counter stabilization efforts and increase public opposition to the occupation. There are various groups within this category, most of whom are Sunni Arabs: remnants of Saddam Hussein's Ba'th party, Sunni fundamentalists, as well as foreign Sunni (Neo- Salafi Jihadist) fighters.

Besides the saboteurs with political motives, there are also those with financial motives, who mostly of fractions within local tribes. These fractions live around the pipelines and receive a share of oil revenues from oil companies in return for protecting the oil network. However, they perpetually attack these pipelines to maintain the threat environment and extend the security contracts they have with oil companies. Representatives of the state-owned North Oil Company (NOC) which hires local tribes to protect the pipelines argue that tribes paid to protect pipelines are behind many of the attacks around the Kirkuk oil fields. An anonymous NOC official suggests that tribal members themselves are blowing up the pipelines to boost the need for their services and get their contracts renewed.

The aggregate outcome of the activities of looters, smugglers, insurgents and the tribal saboteurs is that pipeline attacks are becoming an increasingly common strategy in Iraq. Most of the attacks concentrate on three localities:

- Northern Iraq, primarily the pipeline running from Kirkuk to the Turkish Mediterranean terminal of Ceyhan.
- Refineries around Baghdad, primarily near the Bayji refinery complex.
- Oil installations in the South near Basra, where more than two-thirds of Iraq’s oil is produced.

Attacks on these localities and other oil assets across the country are tactically sophisticated. Targets are carefully chosen and explosives are well placed to damage the system at critical points. Junction points of pipelines and custom-made parts in oil installations that take weeks or even months to replace are the most common targets. The impact of an explosion often extends beyond the precise section attacked, especially because the Iraqi system is old and neglected. This peripheral damage often increases repair times. Attacks are also targeted at pumping stations and pipelines carrying crude oil to refinery hubs or lines used for export. In a number of incidents, insurgents have also targeted energy contractors and oil officials working to bring Iraqi oil back on-line.

In addition to causing oil revenue loss, these attacks also interrupt electricity and potable water delivery. The power required for Iraq's electricity generation and water distribution is generated from fuel-oil. Without a steady supply, power plants are unable to reach capacity and blackouts become frequent. Attacks on pipelines and oil fields thus create a corrosive influence on the morale of the Iraqi people and their attitude toward the occupation. This feeling is exacerbated by constantly decreasing levels of oil production caused by the sporadic electricity. Electricity is needed to operate pumping stations, refineries and to inject water into oil fields so as to maintain reservoir pressure. As a result of the fluctuating electricity levels, water injection decreases, causing pressure in the fields to fall, and consequently the oil output declines.

Attacks on oil assets are of chief importance in terms of the impact on national economy, yet are not the sole targets for attacks. Water and electricity plants are also principal targets. A single attack on the Karch Water Treatment Plant north of Baghdad, for instance, caused electrical control mechanisms to be destroyed, and seriously limited the amount of water released into Baghdad from July 1 through July 3, 2005. The plant was repaired by US Army Corps of Engineers at a cost of $ 40 million and the attack caused a damage of an estimated $ 20 million.[130]

In addition to causing large revenue loss, attacks on economic assets also increase security costs and divert US funds away from their original use:

- Brig. Gen. Bill McCoy stated that security costs were initially factored in at 9% level during budgeting of most infrastructure projects and their increase to 25% caused downsizing in most projects.

- US Energy Information Administration of the Department of Energy reported that 40% of the $18.4 billion appropriated in 2004 was actually spent on providing security, not on reconstruction.[131]

- Special inspector general for Iraq Reconstruction (SIGIR) showed that security has in fact consumed 40% of all reconstruction funds as of January 2006.

- James Jeffrey, senior advisor on Iraq for the State Department, stated during a House Appropriations subcommittee on foreign operations hearing that "we [the US] scaled back out projects in many areas, we do not have the money"[132]

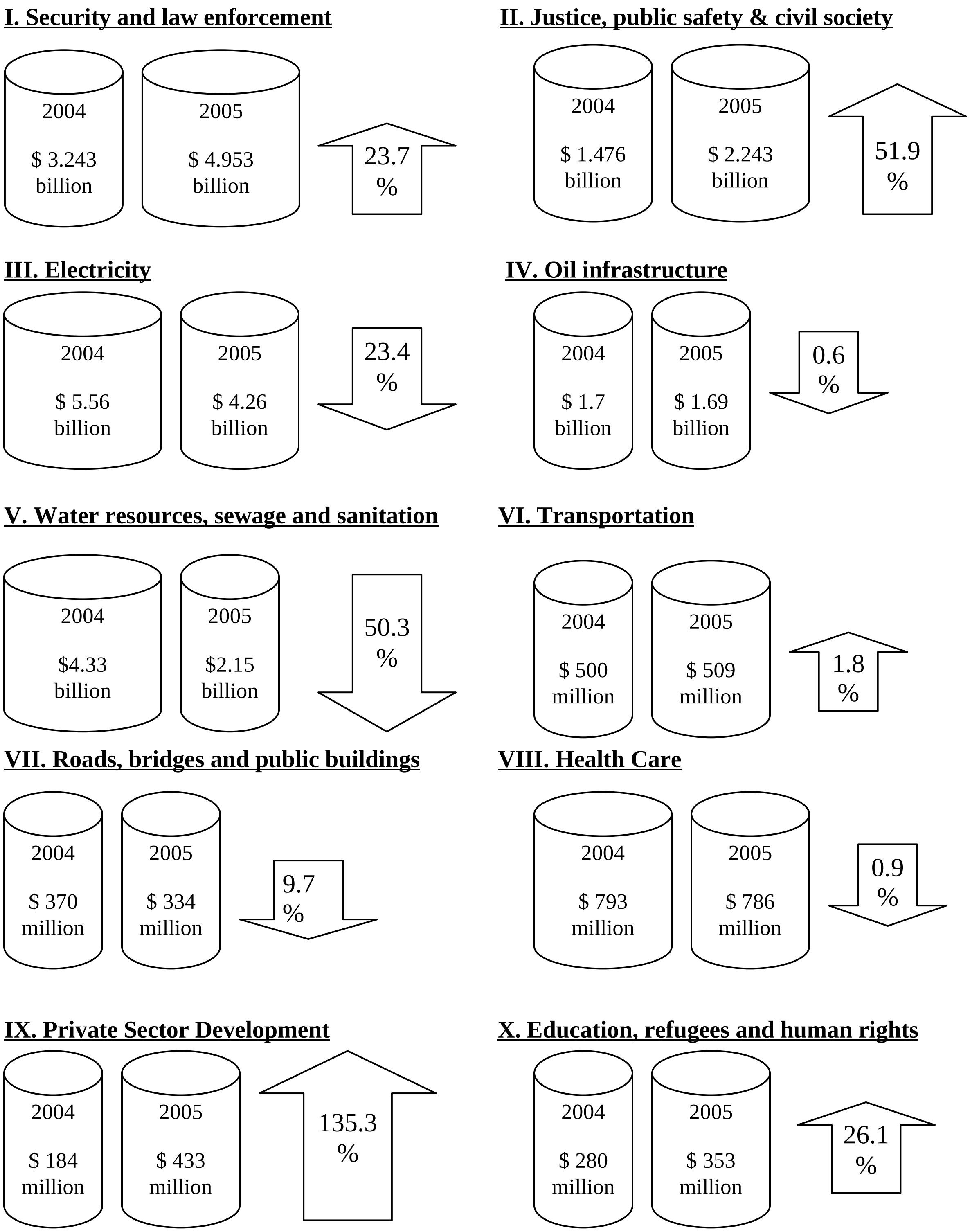
The increasing insurgent attacks and the resulting deterioration of security environment caused the two sections of the US aid budget related to the provision of security to increase disproportionately to the other eight sectors, causing the funds to be diverted away from vital sectors such as water and electricity. Below, figures 14 and 15 show the shift in the allocation of funds in the ten major categories. Security and law enforcement budget increased by 23.7%, making the $4.953 billion allocation the largest portion of US funds. The second security related sector, justice, public safety and civil society, also received an increase, by 51.9%, reaching $2.243 billion. The rising funds in these sectors were made available by downsizing the budget of various other sections of the aid effort. Allocation for electricity, for instance, was decreased by 23.4%, bringing the original $5.56 billion allocation down to $4.26 billion.

Budget for the water, sewage and sanitation received the biggest cut of 50.3%, downsizing the original $4.33 billion to $2.15 billion level.

Figure 14

Change between January 2004 and November 2005 in the allocations of funds

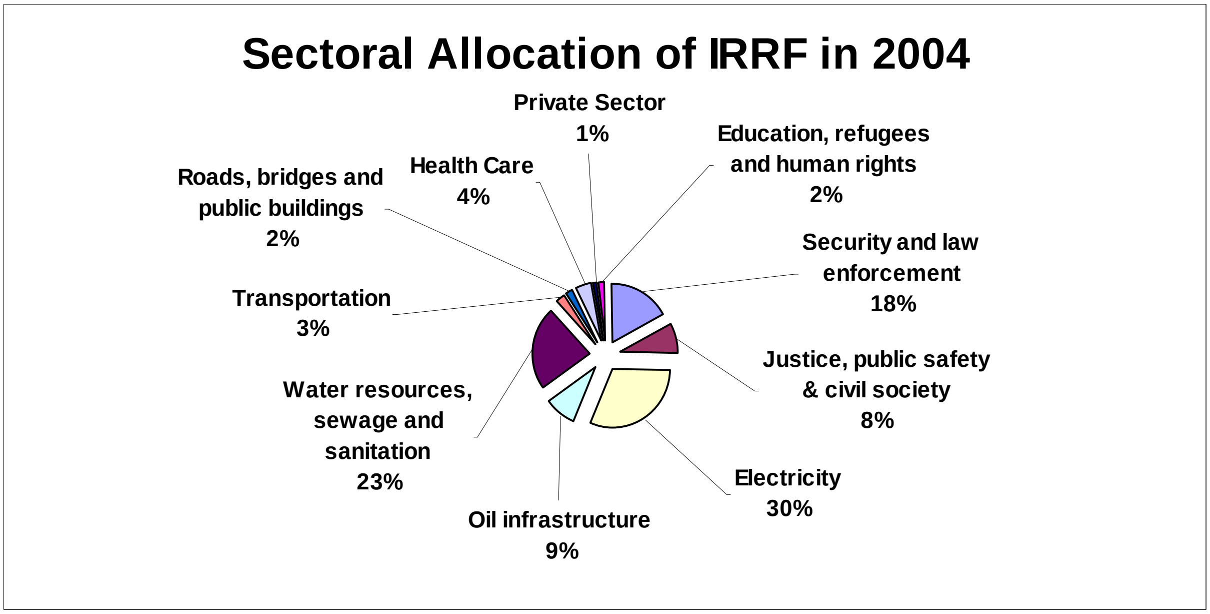
Source: U.S. Congress

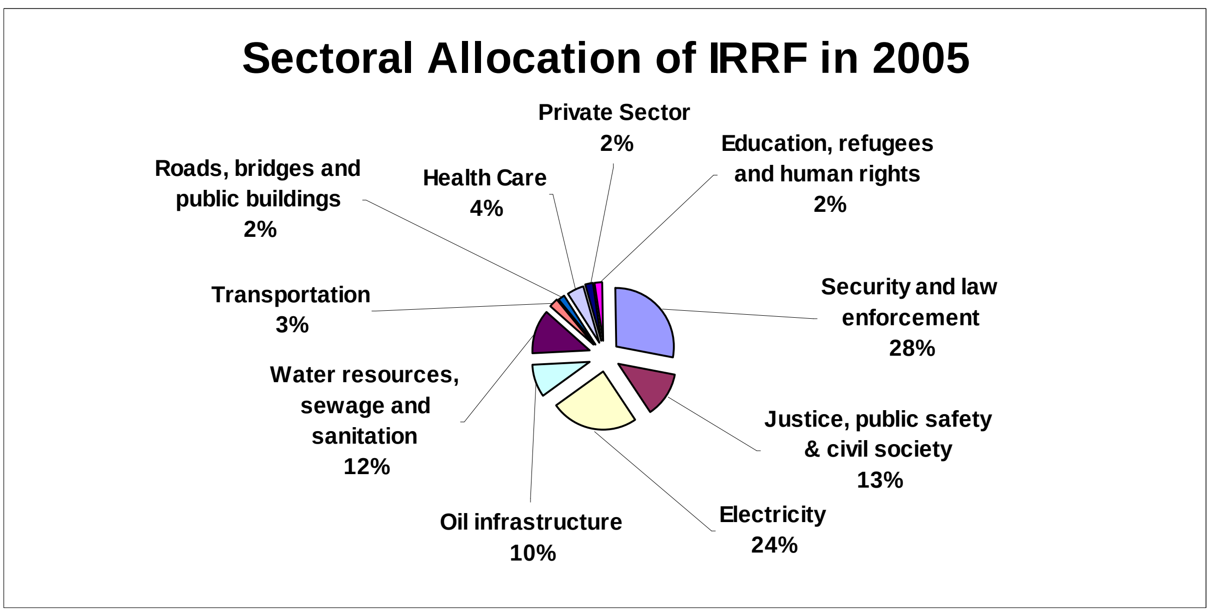


Diversion of funds on an industry basis as per cent of IRRF is shown on figure 15. The increase in the security and law enforcement budget made this sector the largest with 28% of all IRRF. The 51.9% rise in justice, public safety and civil society budget brought this sector's funding to $2.243 billion. As a result, the 26% initial share of these two security-related sectors of all IRRF increased to 40% in 2005. This caused the electricity and water sector budgets to be scaled back. While the electricity sector had the largest budget in 2004 with 30%, its allocation was downsized to 24% in 2005. Similarly, the budget for the water, sewage and sanitation also received substantial downsizing. 2004 allocation of $4.33 billion was brought down to $2.15 billion in 2005, a 50.3% decrease in funds. As a result of declining finances, the gap between planned and completed projects widened, causing serious disruptions in these two vital sectors.

Figure 15

Change in the budgetary allocation of reconstruction sectors 2004-2005 (as % of IRRF)





These diversions have created a "reconstruction gap" where delivery on the number of projects will fall short of the original plans. SIGIR forecasts that 49 of the 136 water projects and 300 out of the 425 electricity projects will in fact be completed before all funds are spent. If these forecasts materialize, the completion rates will be 36% for the water and 70.5% for the electricity industries. That rate will only generate 2,200 MW of additional electricity against the 3,400 target.[133] In addition to diminishing the budgets of non-security related sectors and decreasing oil revenues, persistent attacks on economic assets also render the country a highly unfavorable place to invest in.

Foreign direct investment (FDI)

The already limited number of international companies operating in Iraq during early stages of the occupation pulled out as a result of the fighting, high levels of crime, and attacks on international civilians - including contractors- engaged in rebuilding infrastructure. German and Russian power companies left Iraq after attacks on their workers during the spring of 2004. Leading US companies, such as Proctor & Gamble or GM put their joint venture plans on hold due to level of insecurity in the country.[134]

The rising threat to contract workers has been a key concern for most companies. The October 2005 report to Congress by the special inspector general for Iraq reconstruction reveals a jump in deaths and injuries of contract workers in Iraq. According to the report, at least 412 contractors and other civilian workers have died since the American-led invasion, 147 of them Americans. It was also reported that a total of 4,208 death and injury cases have been filed since the war began. That number includes claims from US bases around the world, and while the US government does not report where the incidents occurred, a majority are believed to originate from Afghanistan and mainly Iraq. The report draws attention to the fact that those death and injury tolls have come about even though more than a quarter of he reconstruction money has actually been spend on security costs related to the insurgency.[135]

Despite all the efforts of post-March 2003 administrations to attract international private investment, most international companies considering substantial, long- term investments - particularly in capital intensive areas like the oil sector - deliberately put their decisions on hold until the conflict in the country reaches a stable and low level. The IMF Macroeconomic Assessment Report of 2001 warned that “a persistent lack of security could be disruptive to economic activity and significantly inhibit private investment and donors’ involvement in Iraq’s reconstruction”.[136] The situation remains unchanged since IMF’s caution in 2001.

The Iraqi economic reconstruction is thus sharply dissimilar to the post war economic development of Germany or Japan, where little or no money appropriated for economic rehabilitation had to be spent on security and counter insurgency. It is equally important to realize that low level of security has direct financial repercussions that consequently worsen the security environment. This is also a reason why economic policies that aim to produce tangible macro economic results such as increasing Iraqi national employment, would almost certainly help improve the level of security in Iraq.

War in Iraq is not over, and war disrupts every aspect of day-to-day life and economic activity. This should not come as a surprise and should be factored into decision making and implementation of the reconstruction. Among the various solutions, actions recommended in the following section could help better protect the economic assets from insurgent attacks and reduce the economic impact.

Focus priority on asset protection

As of March 2006, Task Force Shield is in charge of protecting the Kirkuk-Ceyhan export pipeline in the north, while US Navy and the Coast Guard are responsible for the offshore loading terminals in the south, on the edge of the Persian Gulf. Task Force Shield is a project overseen by the US Army Corps of Engineers and executed by Erinys Ltd, a private security company. The company originally obtained a nearly US$40 million contract in August 2003 to supply and train 6,500 armed guards charged with protecting 140 Iraqi oil wells, 7,000 kilometers of pipelines and refineries, power plants and the water supply for the Iraqi Ministry of Oil. CPA modified the contract to provide air surveillance and to increase the force.[137]

These security measures need to be strengthened, especially the north. Task Force Shield carried out by Erinys Ltd should be supported by additional US troops on the ground. This requires the revision of the status quo of force protection to include a higher level of priority for asset protection on the ground. This will inevitably cause a spike in the number of troop casualties. However, considering the severely damaging impact caused by increasing attacks on oil and other economic assets, this is vital to make oil networks safer.

Create Strict Physical Buffer Zones

Increasing the number of US and Iraqi soldiers around oil assets should be coupled with the creation of buffer zones. This is needed to address the growing threat to offshore terminals, specifically in and around the Al-Basra and Khawr-Al-Amaya Oil Platforms. Security zones surrounding these terminals should be extended, naval forces and Marines should be deployed in the vicinity, and their rules of engagement should be changed to a more aggressive posture.

Besides offshore terminals, creation of buffer zones is also needed for pipelines, particularly around strategic conjunctions. These zones around the pipelines can be half-mile on either side of the pipeline route, fenced off and out of bounds to unauthorized personnel. The rules of engagement should allow Coalition forces and Iraqi security personnel to open fire at anyone who enters this buffer zone.

The protection of pipeline juncture points, refineries and oil installations, on the other hand, require a more advanced type of buffer zones. These zones should be set up in the form of multiple-circular layers of security. The compound should be a closed military zone. An outer layer in the form of high sand walls coupled with checkpoints will make it hard for suicide car bombers to drive into the facility. The next layer composed of concrete walls and sensors can prevent a possible breach of the initial layer from proceeding to the facility. Each security parameter should have guards equipped with heavy machinery and the communication among these guards should be very effective. These extended circular compounds can increase the security of critical oil assets by distancing them from stringer missile and remotely detonating bomb attacks.

Introduce high technology

Troops cannot be deployed at every mile of the pipeline network, physical buffer zones cannot stop every ground-to-ground missile attack, and aerial such technical measures in strategic locations can help reduce the risk in the short run. Sophisticated surveillance systems to enhance infrastructure security, namely unmanned aerial vehicles (UAV), electronic motion detectors, video cameras, and other sensors need to be deployed.

UAVs can stay in the air up to 30 hours at medium-to-low altitudes and send images to a central control station where they can be reviewed by security teams while seismic sensors of underground vibrations provide early warning when saboteurs approach the protected area. The biggest constraint to the introduction of these systems is cost. Due to the need for high resolution visibility, each UAV can only detect up to 10 square kilometers.

A system that encompasses all of Iraq's oil assets would require thousands of UAVs, and be very costly. There have, however, been attempts in the reconstruction effort to introduce these systems. A December 2003 contract was awarded to Erinys Iraq for aerial surveillance of the pipelines. Information regarding the progress of the project and the contribution of these to reducing attacks, on the other hand, is not reported in the DOD weekly or the State Department quarterly progress reports. This information should be provided, and expanding the program should be considered if the efforts made so far are found successful.

Stopping attacks on oil assets in the long run requires a political consensus among Iraq's three major communities. While attacks on economic assets have successfully diverted US aid funds and drained Iraq's oil revenues, the inefficiency of the US has been due to significant problems inherent in the structure and execution of the US aid effort that would render reconstruction inefficient even in the absence of a violent insurgency. These problems are associated with:

- Lack of strategic planning, specifically with respect to:
    - Project assignment and implementation
    - Oil infrastructure and output
    - Refinery capacity
    - Electricity generation and delivery
    - Effects of abandoning of Saddam Hussein's militarism
- Lack of efficient and transparent contracting
- Lack of oversight, benchmarks and metrics
- Low staff competence
- Lack of planning the transition of reconstruction to Iraqis
- Creating a stable financial, economic and business environment

B. US Aid and Strategic Planning

A continued US financial commitment is critical to establishing the foundations of the new liberal Iraqi economy, and will heavily determine the political and military outcome of events in Iraq. The planning and management of aid funds requires maximum efficiency and effectiveness, but there have been serious shortcomings in the distribution and management of US funds.

Determining and implementing projects

There are hundreds of ongoing projects across Iraq, maintained by contractors overseen by US agencies. These projects are not necessarily economically optimal, and sometimes are not even what Iraq needs. President Bush acknowledged the disconnect between some of the multi-million dollar projects and the immediate needs of the Iraqis by stating that "we [the US] found out approach was not meeting the priorities of the Iraqi people".[138]

Following are some examples of the lack of strategic planning in terms of determining and implementing projects:

- The State Department's 2207 Report of July 2005 boasts the completion of the majority of $1.6 billion Phoenix I project which reactivated the generation capacity of Gas Combustion Turbine stations in Bayji, PetroChem, Shuaiba and Buzurgan sites.[139] The goal of this project is to increase Iraq's electricity capacity in the short term, and all the sites completed under the project are gas turbine units, which require suitable fuel to generate electricity. In a country where refinery capabilities to produce fuel are limited and almost all of the fuel is being imported, fuel-based electricity generation sites are not optimal or even usable.

- Qarmat Ali water treatment plant is another project that has been carried without proper regard for the needs of the country. This water pumping complex is necessary for the extraction of oil in Iraq's southern fields. The no-bid contracting process awarded the project to KBR on August 2004 for up to $225 million. While the company fixed the complex, it did not repair the leaky water pipelines that carry the water to the fields. The plant delivers only about a third of its capacity. This means that the water cannot be delivered reliably to oil extraction fields, raising concerns that some of Iraq's oil may not be recoverable.[140]

This lack of strategy helps explain why despite a total of ongoing and completed 350 electricity generation projects, the official US target of additional 3,400 megawatts is missed, and only 2,200 megawatts is actually delivered as of January 2006.[141] The high number of similar projects point out to a need for better coordination between USAID, DOD, DOC and the Iraqi ministries. With only $2.6 billion US funds remaining available as of March 2006,[142] US funded projects are expected to be transferred to Iraqis. Focus of reconstruction project management should therefore shift towards achieving two objectives:

- Sustainability and maintenance of completed projects

- Effective transfer of ongoing projects.

GAO reporting, however, indicates that these two objectives were not a key focus of reconstruction managers in September 2005. The report asserted that lack of Iraqi involvement in US funded projects disrupted the long term operational capacity. For instance, of the $200 million completed water projects GAO reviewed, more than a quarter were not operating at all or were operating at low capacity due, *inter alia*, to shortage of Iraqi staff to sustain the projects.[143]

To reverse this, initiatives in the US aid effort to incorporate both Iraqi ministry officials and local companies should be increased. Ongoing partnerships such as the Project Partnership Agreement (PPA) started in November 30, 2005 that aims to increase transmission capabilities in the electric sector should be replicated in all sectors. PPA is intended for the USAID to execute projects in partnership with the Iraqi Ministry of Electricity to increase Iraqi capacity to sustain projects.[144] This approach is especially needed for these ongoing projects:

- **Electric sector**, particularly generation (P/C 40000), transmission (P/C 41000), distribution of network infrastructure (P/C 42000), automated monitoring and control system (P/C 43000) projects.

- **Water resources and sanitation sector**, particularly potable water (P/C 60000), water conservation (P/C 61000), sewerage (P/C 62000), other solid waster management (P/C 63000), pumping stations and generators (P/C 64000), irrigation and drainage systems (P/C 65000), major irrigation projects (P/C 66000), dam repair, rehabilitation and new construction (P/C 67000), Umm Qasr/Basra Water Supply (P/C 68000) projects.

- **Oil infrastructure sector**, particularly the oil infrastructure (P/C 50000) project.

These programs are vital for normalizing economic and daily activity in Iraq, and most of them are not expected to be completed before the US funding runs out. It is therefore crucial to plan the phasing out stage strategically to integrate Iraqi officials who will take over the projects. The preparedness of Iraqi workers to operate and maintain modern technology in its infrastructure is as important for the reconstruction of the country as preventing insurgent attacks from destroying these facilities.

To this end, in addition to adopting the PPA style project management, the following estimated funds should also be made available to ensure the sustainability and maintenance of completed and ongoing projects in 2006-2007:

- Oil and gas sector: $178 million[145]

- Electricity sector: $720 million[146]

- Water sector: $ 235 million[147]

Equally important to incorporating Iraqi officials and workers in the ongoing projects is their involvement in the ones that have not yet started. The 33 oil and gas, 207 electricity and 114 water sector projects that are yet to begin present convenient opportunities to fully replicate the PPA approach. Representatives from related Iraqi ministries and local workers should be integrated into these projects to acquire the necessary know-how from the very beginning.

The lack of strategic planning in the aid effort to designate projects that produce concrete outcomes illustrated above is also valid for the oil sector.

Oil infrastructure and output

Below are examples of inefficiencies of the US reconstruction effort to strategically plan the projects in the most vital sector of the Iraqi economy:

- July 2005 State Department report announced that projects on “facility assessment” have been awarded.[148] This is worrisome. While Iraq’s economy has long been in urgent need of major oil field rehabilitation to reach the designated levels, actual conditions of the biggest oil fields were still unknown, and assessments were yet to be conducted after two years of occupation and reconstruction effort.

- US and Iraqi experts state that the failure to rebuild key components of Iraq's petroleum industry has impeded oil production and may have permanently damaged the larges of the country's oil fields. [149] Two dozen current and former US and Iraqi officials and industry experts maintain that several projects that were "critical to restoring Iraq's oil industry" were delayed or cancelled due to engineering mistakes, poor leadership and shifting priorities. These experts argue that if the US had successfully completed these planned repairs, Iraq could be producing up to 500,000 additional barrels of oil a day, adding up to $ 8 billion a year in revenues. [150]

These and other examples show that lack of strategic planning is the main reason why despite the $1.72 billion allocated, $1.4 billion obligated and $650 million expended as of January 2006[151], Iraq's production peaks of 3.7 million bpd in 1979 and 2.6 million bpd cannot be replicated.[152] While oil revenues constitute over 95% of Iraq's national budget and increasing oil exports is the top economic need, Iraq's oil output fell by 8% in 2005. [153] In contrast to many US officials' expectations that production in 2005 would be 3million bpd, actual average remained at 1.83 million. [154] More disconcertingly, January of 2006 saw a dip of 1.5 million bpd in oil production.[155] All these levels are below the pre-war crude production level of 2.6 million bpd.[156]

These numbers show that the failure to assess the condition of Iraq's oil infrastructure and implement right policies produced two major consequences:

- Loss of hundreds of millions of dollars in revenue which could potentially be put to use for the country's reconstruction.

- Loss of a potential relief that an increased Iraqi crude output could have brought to the world oil market.

The following measures can help reverse the declining production.

- Out of the 59 planned projects for this sector, only 13 have been completed, and 13 are ongoing while 33 have not started as of January 2006. This sluggish process is largely due to problems with contractors. More pressure by the DOD should be exerted on contractors to abide by the deadlines. Reductions on bonus pays under the "cost-plus" system -with the exception of extremely unfavorable circumstances- can be a tool to speed up the projects.

- The long- delayed Qarmat Ali water injection system and treatment plant project, which stands at 70% completion rate should be fully completed. This project is crucial in maintaining reservoir pressure in Rumalia, Iraq's biggest oil fields. Once completed, this plant is expected to contribute 200,000 bpd to crude production.[157]

- Construction on the following projects should be completely:

    - Emergency Power at Cluster Pump Station 5 (CPS-5), Package Injection Refinery Pumps, North Gas Company Gas Leak Detection System, (AB)-2 Compressor Station. These projects are vital in providing reliable power to maintain oil reservoir pressure and production rates. Gas detection improves safety at NGC and AB2 ensures reliability of gas for NGL supplies.

    - Remaining 50% of the critical Al Fatha pipeline crossing and the remaining 10% of the Kirkuk canal. These projects are necessary for increasing exports via Turkey and are expected to add 300,000 bpd when completed.[158]

    - Rumalia infrastructure assessment project.

- Jabal Bur and North West Avanah Degassing Station projects that are delayed due to lack of operational resources.
- AB-8 and AB-7 Compressor Station projects which are delayed due to poor vendor response. Delay in these projects is resulting in increased reliability in LPG production.
- Naft Khanah Gas Oil Separator, to add 40,000 bpd crude production.

Similar to the failure in increasing crude production, the reconstruction effort could not achieve its goals for reducing the country's need for imported and subsidized refined oil products either.

Refinery capacity

As of 2005, Iraq's oil refinery capacity is 587,000 bpd. Out of the nine refineries in the country, Baiji (310,000 bpd), Basra (150,000 bpd) and Daurah (100,000bpd) refineries account for almost all the capacity.[159] Output as of January 2006 varied between 50 to 75% of existing capacity, forcing the country to import 200,000 bpd of refined products to meet the domestic demand.[160] None of these refineries suffered damage during the Gulf War, or the occupation of Iraq in 2003 and the main reasons why they cannot function with full capacity are operating problems due to outdated technology, shortages of crude oil or electricity supply.[161]

The gap between refinery capacity and output as well as the increasing domestic demand forces Iraq to import 80% of its liquefied petroleum gas (LPG), 74% of its gasoline, 49% of its kerosene and 46% of its diesel needs on an average basis, mostly same as prewar levels.[162] These imports in 2005 alone cost the country $6 billion.[163] US aid effort did not reduce this burden, and its focus on increasing refinery capacity was minimal at best. The strategy for reconstruction in this field has been mostly to improve the conditions of existing refineries.[164] This strategy, however, produced limited outcomes as three years after the occupation the country is still heavily dependent on imports for finished oil products. Only LPG reached its production target of January 2006, while diesel kerosene and gasoline have all lagged behind.[165]

Starting to construct new refineries in the transition year is not a realistic goal for US reconstruction effort. Instead, the DOD should share its technical know-how with Iraqis and use the existing resources to improve technology in existing refineries to increase the labor and facility productivity to maximize the effective use of existing refineries in the short run. In the medium to long terms Iraq needs new refineries to increase its light products output.

Alongside reducing the burden of imports, another important reason for the Iraqi government to increase its refinery capacity in the medium run is related to fuel subsidies. The Iraqi governments' tradition of subsidizing imported fuel products which keep the prices of LPG, gasoline, kerosene and diesel artificially low, bears significant a price. Together with agricultural rations, fuel subsidies are costing the country $8 billion each year, consuming 25% of Iraq's national budget. Due to political concerns, however, Iraq's politicians are hesitant to remove them. The stand-by agreement signed with the IMF that provides $ 685 million brought the first step in eliminating these distortions. [166] While removing fuel subsidies reduces inefficient spending, the resulting increase in fuel prices also poses a threat to social stability.

Iraqis use subsidized fuel for portable generators to work heating and cooling systems. Given that average temperature of Baghdad is 110 for the summer and 25 for winter, rising prices with constant supply of fuel during these peak demand periods will make life simply miserable for most Iraqis who cannot afford the rising cost of heating and cooling systems. Thus, if elimination of distortions on the price of fuel is not coordinated with simultaneous increases in refinery capabilities to meet demand, the widening disequilibrium will cause the already endemic oil smuggling to worsen in areas around pipelines and potentially aggravate the civil disorder in urban centers like Baghdad, Najaf and Basra. Elimination of fuel subsidies should therefore be incremental, and implemented in strategic coordination with increases in refined products.

Assistance from the US department of energy is vital both in the short run to make existing refineries more efficient, and in the long run to coordinate the elimination of subsidies with increasing refined product supply. After IRRF expires, the DOE should maintain its cooperation with the Iraqi MOE to provide know-how particularly for the construction of a new refinery at Nahrain (south of Baghdad) to increase capacity by 150,000 bpd on a build-operate-transfer basis.[167] In the meantime, improving human resources at the refinery facilities should be the focus of remaining US reconstruction resources.

Electricity

Akin to crude and refined oil products, US reconstruction efforts in electricity sector also failed to increase output levels. In fact, electric is the worst performing sector in the reconstruction effort with only 41% project completion level.[168] Despite the 253 completed and 156 ongoing projects[169], totaling $ 2.9 billion[170], as of January 2006 generation capacity of 3,995 MW is still below the pre-war level of 4,500 MW. As of January 2006, the $3.05 billion obligated to this sector produced 3.7 hours of average daily power in Baghdad and 10.2 hours to rest of Iraq. Both figures are below the pre-war levels of 4-8 hours for Baghdad and 16-24 hours for the rest of Iraq.[171] The choice by the DOD and USAID of awarding indefinite and design-specific mega-projects with no measurable target and without assessing the country's electricity infrastructure needs are the most significant reasons for this failure.

The contracting approach adopted by USACE Task Force-Restore Iraqi Electricity (RIE) is most indicative of this factor. This body spent the $1 billion it was in charge of during 2003/2004 by contracting out indefinite delivery- indefinite quantity (IDIQ) projects.[172] This method of contracting was counter productive as it did not assess the existing Iraqi electricity infrastructure and gave priority to mega projects with high costs and long term impact, without setting targets for electricity generation, while the country was in serious need of electricity generation boost.

The aid effort's failure to diagnose the real problem and craft appropriate solutions in the electricity sector is best illustrated by the statement from Department of Defense's July 2005 report: "an integrated energy plan remains as an outstanding issue".[173] Similar to the case in oil infrastructure, the US reconstruction planners contracted out many projects worth billions of dollars without assessing the country's capabilities and needs.

As a result of the failure to increase electricity generated, Iraqi officials mounted criticism that the reconstruction excluded the expertise of the ministry of electricity and adopted projects which did not suit the country's immediate needs. Iraqi planning Minister Mr. Barham Salih expressed his government's disappointment in the American rebuilding program, which he said failed to produce quick results despite the expenditure of billions of dollars. He suggested that mega-projects have not succeeded in providing Iraqis' basic needs for electricity, water and sanitation.[174]

Subsequently, DOD/PCO adopted the Direct Contracting Initiative (DCI) and shifted its contracting approach away from IDIQ style design-build mega projects to speed work and lower costs in 2005.[175] However, of the three electricity sub-sectors, -generation, transmission and distribution- this new approach has been utilized only in transmission projects as of January 2006. While this new approach is expected bring costs down and transfer risk from the US agencies to the contractor, thereby allowing the US government to limit schedule delays, it also takes much longer to activate due to staffing constraints.[176] As a result, the new fixed-price approach will not resolve Iraq's immediate electricity shortage.

In the meantime, addressing the outstanding issues presented below is necessary to increase electricity generation, transmission and distribution.

Out of the total $1,608billion electricity generation budget, $1,304billion has been obligated as of January 2006. The use of the remaining $304 million and the additional $400 million transferred from PC 45000 (total $704 million) slated for 6 projects that have not yet started should be revised. The revision is necessary because these projects are a continuation of the projects completed so far that have not brought tangible results. Specifically, the majority of the ongoing projects in power generation are planned to support the two inefficient plants: The Al-Doura and Baghdad South. Despite the completion of Al-Doura Unit 5 and all units of Baghdad South as of January 2006,[177] the expected additional capacities of 150 MW from Al-Doura and 220 MW from Baghdad South,[178] could not be fulfilled due to unreliable supplies of the necessary imported fuel.[179]

There are two significant causes of the failure to produce reliable power generation despite heavy investment in these two plants. First, both of these plants are old structures that were in need of intense refurbishment and upgrading.[180] Second, both are fuel-based plants and their dependency on fuel, 50% of which is imported into Iraq, renders these two plants unreliable. Thus, frequent interruptions of reliable fuel cause production shortages, even if the plants are fully refurbished and their technology is upgraded.

Beginning 6 new projects which will perpetuate the same inefficiency should be avoided. The remaining $704 million US fund slated for electricity generation should therefore be directed to the building of new power plants that do not rely on fuel. In doing so, PPA approach where the Iraqi MOE will undertake selected projects should be adopted by the two US agencies in charge of the funds: DOD/ Project Contracting Office (PCO) and USAID,

In addition to optimizing the use of remaining funds, the DOD/PCO also should:

- Complete the sustainability plan for CY06 and hand it over to Iraqi MOE

- Put pressure on contractors for the immediate completion of maintenance upgrades of the Siemens V94.2 units and the GE TM-2500 units at the Baiji power plant.

- Turn over the Khol al Zubair power plant to Iraqi MOE.
- Finalize all design-build contracts and do not enter into new ones.

Additionally, USAID should

- Complete construction of al-Doura units 3 and 4.
- Complete and finalize the design-build contracts for the Kirkuk power plant.

These steps will contribute to increasing electricity generation. To strengthen electricity transmission, the two PPA contracts awarded –a new 132kV substation in Najaf and reconstruction of a 400kV transmission line between Hartha and Khor al Zubair- should be expanded to the other three projects pending awards by DOD:

- ET-736 (CPS 132kV Substations)
- Amara 400KV Substation
- Samara 132kV Mobile Substation.

As for electricity distribution, the Rapid Contracting Initiative (RDI) -a similar approach to PPA- adopted in late 2005 should be used by the DOD in the Baghdad Essential Services project.

These measures should not be expected to immediately resolve the problems acute in the US aid effort's electricity sector. Shifting the approach towards increasing the involvement of Iraqis in the process and utilizing the remaining funds for projects that align with the country's economic realities and urgent needs are the measures that need to be adopted to alleviate further decline in the performance of the electricity sector.

Inefficiency in US reconstruction planning is not confined to projects and policies in electricity, oil or refined product sectors. There is also no focus on the effects of abandoning militarism and military industries under Saddam Hussein, and the resulting effects on unemployment and economic development.

Dealing with the Economic Void created by Abandoning Militarism

The gap created by US administration's decision to discard Saddam Hussein's policy of militarism and the lack of a massive employment program to support the resulting high unemployment has a negative impact on the economic development of the country. During CPA's tenure, the creation of new Iraqi army caused the loss of almost half a million jobs that constituted 8% of the labor force. Iraq's official military spending was 5.5% of its GNI as of 1999.[181]

The Saddam era investment in military and security forces and the overall security industry is hard to quantify due to lack of data, but undoubtedly totaled over 10 % of the national economy. Economic reconstruction of the country must account for the effects of the loss of jobs and investment associated with the end of Saddam-era militarism. At the same time, the end of such militarism interacts with the failure to link long- term aid planning to estimates of long- term budget costs in the military field.

C. Contracting Problems in the US Aid Effort

Problems associated with the lack of strategic planning in the US aid efforts are compounded by fading resources available for projects and rising contract costs. The following section analyzes issues associated with contracting and proposes solutions to make the US aid effort more transparent and legitimate.

Contracting Failures

Much of the rising contract costs are results of increasing security costs, which are buried in “cost-plus” contracts where companies get reimbursed for all costs, plus a percentage of those costs as a fee. The cost-plus system has a series of negative impacts; it obstructs the “cost-to-complete” estimates that are essential for the implementing agencies to exercise effective fiscal management of their funds, a requirement per Public Law 108-106.[182] Consequently, the lack of these estimates impedes the various audit agencies’ ability to execute the oversight responsibility. In addition to hindering oversight, the cost-plus method of contracting also limits sectoral managers’ ability to determining exactly how much of their funds will be available to complete the projects in progress.

Despite all its obstructions, the cost-plus is the norm in the reconstruction of Iraq. The Iraqi Project and Contracting Office (IPCO)’s director of programs Karen Durham- Aguilera states that all 11 multinational firms working on projects throughout Iraq have this type of contract.[183]

Another impact of this approach, versus a fixed-price contract that reimburses additional costs only under extraordinary circumstances, is that it deflates potential costs and consumes funds originally earmarked for infrastructure reconstruction. The Nasiriyah water treatment plant project illustrates this effect:

> Originally with a budget of $ 80 billion, the project is managed jointly by London-based AMEC and California based Fluor Corp. Following the withdrawal of the original Iraqi subcontractor due to threats, general delays, drive-by shootings and land-acquisition hold-ups, the project’s completion costs rose to $ 200 million, according to the Army Corps of Engineers. [184]

Findings from Defense Contract Audit Agency (DCAA)’s 2004 audits also show significant amounts of corruption and embezzlement as a result of the cost-plus system, particularly with KBR’s two largest contractors. The Agency passed its findings to the Department of Justice to consider whether a criminal investigation was warranted and subsequently called Pentagon to withhold some payments to Halliburton in 2005. Pentagon, on the other hand, made its scheduled payments and awarded an extra $38 million to Halliburton in bonuses for “good performance” in 2005.[185]

Fixing the Contracting System

There are several possible solutions to the rising costs associated with the “cost-plus” system. One is to replace the current system with a fixed-price project approach. Initial steps of this transition have been taken by the DOD/PCO particularly in the electricity sector. This can be expanded to all other contracts. Introduction of the fixed-price approach is considered to be problematic as it is expected to cause delays in awarding contracts due to staffing constraints. The potential issue of limited personnel however, can be resolved through streamlining the application process for potential contractors and training staff to deal with potential bottlenecks associated with contracting.

A second way to reduce the burden imposed by a cost-plus system is the expansion of PPA approach adopted in the electricity sector. Specifically, handing projects over to local Iraqis who can get the job done for less. The Iraqi Ministry of Municipalities and Public Works is already using Iraqi contractors to build two water plants in Karbala and Kut, with similar size to the one in Nasiriyah. The total cost of the two projects is $185 million, a smaller amount compared to $ 200 million cost of the Nasiriyah plant alone. Humam Misconi, a ministry official, points out to the surplus that could be gained by using Iraqi local contractors. In his words, “estimated cost of security on the Nasiriyah project is $54 million. We can build a whole new plant with this amount”.[186]

An additional policy that can bring higher transparency to the reconstruction efforts is for the contacting agencies to fully abide by the findings of their internal audit agencies or those of SIGIR. For instance, the Army’s average rate for military audit recommendations to be followed in 2004 was only 75.2%. An example of the disregard for auditors’ findings is the awarding nearly all of questioned amount in a $2.41 billion contract to Halliburton. While the DCAA questioned $263 million of the “Restore Iraqi Oil” contract and recommended that the Army does not pay that section of extra costs, only $10.1 million was withheld.[187] Breaches of recommendation from government auditors such as this seriously undermine the transparency of the reconstruction effort. It is therefore crucial for the managers of US agencies in charge of reconstruction funds to integrate a principle of 100% adherence to auditors’ findings as part of their performance measures.

The forth policy which can make the organization and management of the reconstruction more transparent is for the US agencies that award contracts to collect accurate cost-to-complete data. A State Department team in charge of pressing agencies for adopting this policy went to Baghdad in March 2005, yet its efforts have been only miniscule. SIGIR has also been pressing for the adoption of this policy, but as of January 2006, response has been minimal.[188] The cost-to-complete data are simple to calculate as it is the total estimated cost of the project less the actual cost of work performed to date, with the exception of cost-plus structured contracts in progress –due to obscuring nature of the project award design mentioned above. Data for other projects, however, namely the finished cost-plus contracts as well as the new and ingoing fixed-price projects, require minimal input and resources. All US agencies awarding projects should collect this data so that auditors can accurately assess the amount of actual funds available for the completion of ongoing projects and the commencement of new ones.

Shortcomings of project management are not limited to contracting phrase. Projects undertaken with US funds are not being openly or transparently assessed in regards to their effectiveness, and accounting is lacking or minimal. The following section will study the performance measures for the projects in the reconstruction effort.

D. Oversight, Benchmarks and Metrics

The lack of proper measures for oversight during or after project implementation renders the billions of dollars vulnerable to improperness, creating a “leaky bucket”. The leaky bucket is not only wasting the scarce reconstruction money, but is also disrupting the building of vital capabilities for Iraq to gain its economic independence. As President Bush put it, “corruption is a problem both at the national and local levels [in Iraq]”.[189]

Corruption charges for US officials start with CPA’s tenure. Complaints about widespread embezzlement in CPA’s use of financial resources caused Congress to establish the office of The Inspector General for the Coalition Provisional Authority (CPA-IG) in February 2004 by an amendment in the Defence Authorization Bill.

When the CPA-IG became fully operational in Baghdad, however, CPA’s tenure was about to elapse. The first report from this body was published in July 2004 and it confirmed the complaints, asserting that “Project and Contracting Office (PCO) faceD challenges in ensuring that tasks performed under these contracts fully meet the US Government’s requirements and are economically and efficiently executed”.[190] This report contained audits conducted for six projects. Hundreds of other projects undertaken by private contractors paid for by US funds remain outside a process of independent confirmation, auditing or supervision. Upon the publication of the audit report from Mr. Bowen’s office in July 2004, the Congress re-designated the CPA-IG as the office of the Special Inspector General for Iraq Reconstruction (SIGIR) to oversee the IRRF.

Special Inspector General for Iraq Reconstruction (SIGIR)

SIGIR is an independent office with its own staff of investigators. To provide investigative independence, these investigators are not Justice Department staff and administratively fall under both the DOD and the State Department. The body issues audits every 3 months in quarterly reports for the US Congress and any criminal activity it uncovers is referred to the Justice Department. The agency has jurisdiction over the $2.5 billion and $18.4 billion US Congress appropriations (collectively called the IRRF). The remaining $5.3 billion DOD FY 2005 supplemental and the $320 million CERP funds, however, remain outside of its operations.

Republican political appointee Stuart Bowen runs the audit office. Bowen's appointment initially raised eyebrows, but such concerns have been wiped away by fastidious reports his office has produced. SIGIR reports have disconcerting findings. The following are some examples from the January 30, 2005 report:

- The American office in charge of doling out reconstruction funding in Hillah, Iraq paid a contractor twice for the same work.

- A US official was allowed to handle millions of dollars in cash weeks after he was fired for incompetence.

- Of the $ 119.9 million allocated for regional projects, $ 89.4 million was disbursed without contracts or other documentation. An additional $ 7.2 million could not be found at all.

- The US officials failed to keep track of $ 9 billion US money transferred to Iraqi government ministries, which lacked financial controls and internal safeguards to prevent abuse.

- One Iraqi ministry cited in the audit inflated its payroll to receive extra funds, claiming to employ 8 206 guards when it only employed 600.

- An Army soldier serving as the assistant to an American boxing coach admitted to gambling half of $ 40 000 he was given to cover the expenses of an Iraqi athletic team during a trip to the Philippines.

- US contracting officers in Hillah left Iraq with no record of how they had spent the nearly $ 1.5 million that could not be found by investigators.

Failings and Corruption in the CPA Effort

Inspector General Bowen's report states the "detailed systemic management failings, lax or nonexistent oversight and apparent fraud and embezzlement on the part of the US officials charged with administering the rebuilding efforts". In response to these findings, Paul Bremer - the former head of CPA - criticized the report for expecting the occupation authority, amid postwar chaos to follow accounting standards that "even peaceful Western nations would have trouble meeting".[191] Yet the US should have established supervision and oversight over reconstruction funds precisely because it is an occupying power.

Besides these individuals, the CPA as an administration is also accused of corruption and misuse of resources. Among accusations, CPA is mostly starkly criticized for its use of $37 billion that the UN accumulated for Iraq from the oil for food program's revenues and the seizure of bank accounts. Upon the request of the Bush Administration, the UN created the Development Fund for Iraq (DFI) with UN resolution 1483 and gave the custody of the fund to CPA. SIGIR's January 2005 report suggests that out of this fund, the $8.8 billion that CPA turned over to Iraqi ministries cannot be properly accounted for. Mr. Bowen wrote in his report that "after many months of careful interviews [.....] my auditors concluded that there were not adequate systems in place to ensure that the CPA knew what happened to the DFI funds after they were disbursed to the Iraqi ministries".[192]

Another significant point of controversy is the CPA's shipment of $1.4 billion in cash to Erbil on June 23, 2004, only five days before Paul Bremer returned sovereignty to the new Iraqi government in Baghdad and left the country. Kurdish officials are quoted as saying that the money was only a part of a total of $4 billion their region was owed from the DFI and that Bremer improperly used the Kurdish region's remaining $2.6 billion share of the UN fund for other purposes during his administration of Iraq. Mahmoud Othman, an Iraqi Kurd who served on the US appointed Governing Council during the Bremer era, argued that airlifting $1.4 billion in cash to Erbil was an attempt to win the silence of Kurdish leaders after Bremer had squandered the rest of the money. The $4 billion-worth claim of Kurdish officials stem from the 13% their region was designated to receive from the revenues of the oil for food program, and they contend that at least $ 4 billion had accrued in that account since Bremer took over the handling of the fund.

Efforts to reach Bremer to receive his response to the allegations were unsuccessful. A former top official of the CPA, who did not want to be identified because he was not authorized to speak on behalf of the defunct agency, confirmed to LA Times reporter that the money transfer did take place, but in the amount of $1.6 billion, not $1.4. The official is reported as saying that the money was not delivered to Erbil until late June because oil for food funds had not been released by the UN until that spring when the CPA received $2.5 billion. The International Advisory and Monitoring Board, which was responsible for overseeing the Development Fund for Iraq under the CPA, said its auditor KPMG looked at the transfer in advance and approved it. In an audit of the CPA in 2005, on the other hand, the SIGIR report said Bremer's agency had mishandled billions of dollars earmarked for the country's development, including the $2.5 billion from the oil for food program. The audit concluded that the $2.5 billion was spent without being included in the CPA budget.[193]

Post CPA Problems and Corruption

Evident corruption among US officials is by no means limited to the Authority's tenure. Investigations indicate that American officials entrusted with Iraq's economic reconstruction have continued the misuse of their power beyond CPA's time. The SIGIR report declares that it has 57 matters currently under investigation. They're broken down as:

- 15 theft
- 7 false claims
- 19 bribery/kickbacks/gratuities
- 2 cost mischarging/product substitution
- 6 procurement fraud
- 4 conflict of interest
- 4 others (computer crimes, administrative inquiry, and assistance to other law enforcement agencies.

In 2005, SIGIR established SPITFIRE (Special Investigative Task Force for Iraqi Reconstruction), a task force including DHS, Customs, IRS-criminal division IG, and the State Department. It then worked with the Justice Department's Asset Forfeiture and Money Laundering Section Criminal Division, to follow up investigations initiated by SPITFIRE. SIGIR provided $2 million to DOJ to fund four full-time prosecutors to work on SIGIR cases.

On November 16, 2005 an American referred by SPITFIRE has been charged in the Federal District Court of the District of Columbia with paying hundreds of thousands of dollars in bribes and kickbacks to American occupation authorities and their spouses to obtain construction contracts. The individual is charged with conspiracy, wire fraud, conspiracy to launder money and interstate transportation of stolen property, all in connection with obtaining up to $3.5 million in fraudulent charges. This is the first of a serous of criminal charges against officials and contractors overseeing the rebuilding of Iraq.[194]

Similarly, an Army Reserve lieutenant colonel was arrested on December 15, 2005 for allegedly taking part in a conspiracy to rig bids on Iraq reconstruction contracts. While working in Hillah, Iraq, Debra Harrison has accepted a Cadillac Escalade and two .45 caliber pistols and has used more than $80,000 of the CPA funds for a deck, hot tub and other home improvements, according to an affidavit by a SIGIR agent. Her arrest is the fourth following the arrests of Robert J. Stein, a contractor based in Romania, a civilian comptroller with the CPA and another reserve lieutenant colonel, Michael Brian Wheeler in a criminal investigation that is ongoing as of December 2006.[195]

The Impact of Iraqi Corruption

Corruption is not limited to the US officials or the US companies operating in Iraq. Iraq's Board of Supreme Audit set up in 2004 as a separate entity from SIGIR found large scale corruption in Iraq's ministries, particularly the defense ministry. On September 19, 2005, the Board pressed 1$ billion-worth charges of embezzlement. Authorities consequently issued arrest warrants against the defense minister and 27 other officials from the US-backed government of former Prime Minister Iyad Allawi over the alleged disappearance or misappropriation of $1 billion in military procurement funds.[196]

Missing or Misleading Measures of Effectiveness

Besides these randomized and retroactive audit performances, there is no meaningful US Government agency accountability report on how the funds are being used. The USAID FY 2004 Performance and Accountability Report, for instance, does not contain information regarding any of the 11 projects and 5 grants it gave in FY 2004 for Iraqi economic reconstruction, totaling over $4 billion.

The Agency's weekly updates on Iraqi reconstruction do not have any audit value, and simply give updates on the progress of given projects with little –if any at all- reference to the fulfillment of benchmarks, cost effectiveness or the impacts of the progress made on the overall Iraqi macro economy and population. The rare benchmarks mentioned in the weekly updates are mostly arbitrary Saddam-era levels of performance rather than a result of objectively assessed infrastructure needs of today's Iraq.

In addition to lack of performance measures in projects, there is also no systemic auditing process for DOD operations in Iraq. SIGIR has a staff of 45 in Baghdad to monitor the IRRF, yet the DOD, whose budget in Iraq is earmarked as a total of $ 142 billion -$5.3 billion of which is to provide security for economic reconstruction-, does not have a single auditor or accountant in Iraq to track its spending. It is reported that auditors from the DOD's Office of Inspector General were withdrawn from Iraq in the fall of 2004. While there are other audit groups of various agencies in Iraq, it is argued that they do not have the expertise, access and broad mandate that the DOD's Office of Inspector General had. There is only one audit about Iraq among the 107 audits listed on the Defense Department's Office of Inspector General's website conducted between October 2004 and October 2005. [197] In other words, as Pentagon reaches its spending peak for military operations in Iraq[198], there are no official DOD inspectors on the field to properly audit the money.

The DOD report to Congress takes a different approach to measuring the effectiveness of projects carried out by contractors. It uses the stability of the new Iraqi currency; increase in the number of private business registrations and the establishment of economic zones as indicators for the success of the use of US funds in economic reconstruction projects.[199] These numbers are not accurate means of assessing the performance of individual projects. Rather than looking at the price of the New Iraqi Dinar against the US dollar to assess the success of US funded projects, the focus should be on the specific tangible goals set for each individual project in line with the overall requirements of their relevant sector.

Just as there are no tangible benchmarks to assess the success of ongoing projects, there are no metrics in place to measure their impact on Iraqi needs after their completion. Iraq is a country where there are clear differences between ethno-sectarian regions and the US aid management's failures to map the impact of aid across these groups on political and social equity leaves the outcome of the aid effort over the Iraqi population unmeasured. The complex demographic make up of Iraq requires a sophisticated approach to economic reconstruction. A reliable data collection system to measure the impact and the success of US funded projects is essential.

E. Staff Competence

Besides shortcomings in the planning and management stages of the aid effort, are also problems with its execution. Most US officials in charge of these projects are not competent or are subject ot short rotations and constant turbulence in guidance and management. They often do not have experience in economic reconstruction field, or in Iraq's particular conditions, and they are not deployed in Iraq long enough to accumulate operational capacity, a vital element for consistency in operational management. US aid workers' lack of competency and the short-duration of their tours obstruct the effectiveness of the reconstruction process. The following section analyzes the causes and proposes solutions.

Given the background of the challenging security, economic and socio-political conditions in Iraq, the management of Iraq's economic reconstruction requires highly skilled and experienced staff. The limited financial and human resources coupled with the highly ambitious goals render the competence of US officials in Iraq crucial for an effective reconstruction. Evidence points out, however, to several factors in personnel management of the reconstruction effort that cause the competency and effectiveness of US employees in Iraq to be insufficient.

First is that most US agency staff deployed in Iraq are inexperienced in terms of economic reconstruction, Iraq's particular conditions, or even the industries they are in charge. One senior US official managing part of the restoration effort of the oil infrastructure, for instance, described his knowledge level as "oil for dummies".[200] The time necessary for these individuals to gain the competence and experience on the field is also limited, which is another factor for insufficient staff competence.

This is valid for both junior and senior officials. Between July and September of 2005, all US agencies involved in the reconstruction effort completely or in most part lost their senior staff, according to SIGIR audit. Over the past three years, the American leadership teams in Iraq have turned over almost completely four times. The initial group was replaced after one month –in May 2003- by Paul Bremer, the head of the CPA. In June 2004, Ambassador Bremer was supplanted by Ambassador John D. Negroponte. After serving nine months, Ambassador Negroponte returned to Washington in March 2005. His successor, Ambassador Zalmay Khalilzad, did not assume his duties in full until August.

An anonymous senior US official stated that "if you kept people there longer, you would build up more expertise, more knowledge and better rapport with the Iraqis". Acknowledging the problem, several US agencies are trying to extend the length of tours, with the State

Department seeking to make one year the standard for all civilian personnel. Yet the average length of duty for civilian US officials working in Iraq is under one year.[201]

The Bush administration officials acknowledge that the low experience levels and the short deployment periods of federal employees sent to Iraq are hindering the US efforts for reconstruction. The underlying reason for the short terms of duties in Iraq is regulations. The rules from the Office of Personnel Management (OPM), which were originally meant to safeguard deployed employees, are suggested to result in sending less qualified persons for short periods.[202] Consequently, the establishment of well-functioning ministries in Iraq that require a lot of qualified guidance are negatively affected, particularly because basic functions such as banking, reconstruction, policing and farm policies need experienced and stable guidance.

F. Interagency Compartmentation and Rivalry

Still another that prevented the US aid effort from providing effective guidance and assistance is the lack of coordination among US agencies operating on the ground. Specifically, the discrepancy in the levels of commitment of federal agencies in Iraq is counter-productive. In the words of the special inspector general for Iraq, “interagency coordination of human resource management was generally weak”.

The Bush administration is frustrated with the gap between the commitment of particularly the Pentagon and other federal agencies. This disappointment is expressed in the words of an anonymous senior official from the Administration who stated that while the Pentagon behaved as if it was at war, other agencies were not. The same official also said, in reference to the quality of the staff sent by other agencies, that “there is not good participation by other agencies [besides the Pentagon] in sending people who can really help Iraqis set up their own government ministries”. Neither the administration nor the Pentagon expresses hope for the resolution of these two major issues in the near future. DOD spokesperson Mr. Di Rita said that “there is no way the current government structure is going to solve the problem”.[203]

G. Trying to Fix a Broken and Inadequate US Aid System

All of these factors all contribute to the low productivity outcome of the reconstruction effort. Several, however, clearly require major changes in the way the US approaches the problem of aid, stability operations, and nation-building.

Creating Career Competence

The environment created by inexperienced staff deployed in Iraq for short periods of time that remain in agency-specific clusters is not conducive to optimal reconstruction management. It is crucial therefore that US agencies increase the duration of tours for their staff. The benchmark should at least be one year. Agencies should also design for their newly deployed staff orientation periods to learn from their predecessors the specifics of projects and industries they are in charge of. Second policy that should be adopted is the elimination of bottlenecks created by the lack of coordination by various agencies on the ground.

These deficiencies in the staffing and inter agency cooperation in the Iraqi reconstruction point out to two major issues in the US federal employment structure. First is that there is no civilian group of professionals who can be deployed for post-conflict reconstruction in areas where their experience is seriously needed. As expressed by Larry Di Rita, spokesman for Defense Secretary Donald Rumsfeld, “what we don’t have in this country [US] is a corps of qualified and capable civilians that are available for rapid deployment to places like Iraq, [where] a lot of the biggest challenges we face are political and economic”.[204] Secondly, there is no central planning authority that oversees, coordinates and integrates the hundreds of projects and activities of various US agencies and entities in Iraq. The planning and implementation stages of the reconstruction effort are maintained in agency-specific clusters that are mostly not in strategic coordination.

Therefore, federal agency staffing structure needs to be changed for the success of this and other reconstruction projects in the future. To this end, firstly a “civilian corps” composed of US government staff with experience in political and economic reconstruction as well as community building can be created. There already exist many individuals in agencies such as the USAID, DOD and others with these qualifications. They should be vetted to be rapidly deployed to ongoing and post conflict zones. This dual use of already existing human resources can address the surge capacity issues. Secondly, the OPM rules that govern the deployment of federal workers abroad can be amended to include an exception for the civilian corps to be stationed in the field to adequately fulfill the requirements of their mission. These measures will help eliminate the pervasive personnel capacity problems in the US reconstruction aid effort in Iraq, and will help increase the aggregate staff capacity.

Demanding Adequate Surveys and Strategic Planning

Another structural change for future reconstruction efforts is the lessons learned from the experience in Iraq of the lack of an all-encompassing needs assessment. Specifically, the mistake made in Iraq of budgeting on the basis of estimates without conducting physical assessments on the ground should not be repeated. To this end, an all-encompassing capability and needs assessment should be the first step in any reconstruction planning. This will allow the planners to adequately judge the condition of the country’s existing physical and human infrastructure as well as evaluate the short, medium and long term needs.

After the completion of comprehensive assessment, an all encompassing and strategic national development strategy should also be produced. US aid effort in Iraq does not have an integrated national development strategy, and this is the main source of the existing clusters among agencies operating in the country which lead to overlaps in certain fields while causing lack of resources in others. A coordination body should be set up to determine the projects necessary to implement the national development strategy, combining experienced staff from agencies participating in the effort and experts from the local community. Projects should be decided upon and awarded only on the basis of an integrated national development plan.

These measures will collectively help alleviate the staff and agency related deficiencies in the US reconstruction of Iraq and set guidelines for future efforts. Given that most of the US aid money will expire at the end of 2006 before majority of the ongoing projects are completed, all the measures mentioned above should be coupled with the priority of transitioning the aid effort to local Iraqis. The US aid administration should create capacities in the Iraqi ministries to sustain and manage completed and ongoing projects. The following section analyzes the level of incorporation of Iraqis in the aid effort, studies efforts for the transfer and presents recommendations.

Transition of Planning and Control of Reconstruction to Iraqis

Iraqis were mostly excluded from the decision-making and implementation of the reconstruction effort until late 2005. Projects were determined exclusively by US officials, contracted out to US or other non-Iraqi companies, which mostly employ non- Iraqis. In other words, the Iraqis were mostly an audience to the massive US efforts at reconstructing their country. This led to the failure to create employment opportunities, put almost no money in Iraqi pockets, prevented the creation of local capacity and minimized the potential for Iraqi ownership of reconstruction.

Resentment among Iraqis towards their exclusion became evident during the International Donors' Meeting in Amman on July 18, 2005, when the Iraqi officials expressed their frustration with the US reconstruction policies and stated that they wanted to see more Iraqi experts, contractors and labor incorporated both in the decision making and implementation stages of projects.[205]

Since late 2005, there has been a shift towards making the reconstruction process more inclusive of Iraqis, particularly with the new US ambassador, Zalmay Khalilzad taking over. The "Iraqi Provincial Reconstruction Development Committees" (PRDC) initiative started by the US Embassy in Baghdad is a primary example of this shift. Composed of provincial council members, representatives of governors, and the local director's general of the national ministries, this entity attempts to involve all Iraqi authorities in the reconstruction efforts. However the body does not have jurisdiction over large projects and has so far received a poor funding of $ 241 million, most of which has been spent on administrative functions.[206]

In addition to Ambassador Khalilzad's initiatives, IRMO director Daniel Speckhard also pointed out to the changing attitude in the administration's effort to include more Iraqis. Speckhard stated that a transition in the reconstruction program "from one heavily dominated by the United States to one increasingly under Iraqi control" would take place in the near future. An example of the transition is evident in the Army Corps of Engineer's increasing use of Iraqi engineers and contractors to design and complete sewer and water projects. With the similar purpose USAID is training 100,000 Iraqi teachers in new methods, while also spearheading development of private social organizations.[207]

Having a Clear Transition Plan and Funding

The most notable challenge in the inclusion of Iraqis in the reconstruction is the lack of up-to-date technical know-how of experts in the ministries. Sealed off from the world since 1980s, these ministries have been operating on obsolete technology. To reverse this, IRMO and GRD-PCO have been given the mission to increase the operating and budgetary capacity of Iraqis. This is essential for the sustainability of projects and assets after their transition to local ownership. As the IRRF expires at the end of 2006, US reconstruction presence in the country will shift toward the State Department and USAID controlled foreign assistance programs. As a result of this shift, Iraqis will be handed many projects. This brings up important questions:

- Is the transition of programs to Iraqis a strategic planning element in all US agencies operating in Iraq?
- Are there sufficient resources to fund the operating and budgetary capacity building for ministry officials in terms of operations and maintenance as well as infrastructure security?
- Will the Iraqis be ready to take on these projects and can they undertake the financial costs?

Evidence indicates that the answer is mostly “no” as of March 2006. The primary concern is over preparedness of US agency for the hand-over. US funds are expected to expire in less then a year, yet the DOD and State Department just began the transition planning for their respective areas of responsibility. The only agency with a plan for the transition is USAID. In January 2006, the agency presented a program for transitioning from the infrastructure-focused IRRF reconstruction effort to a more traditional technical assistance strategy. The most significant step in organizing the overall preparedness for the transition has been the creation of a “Sustainment Coordinator”. This entity, however, is not yet functional.[208]

Paying for Sustainability

In addition to the need for planning the transition on an agency basis, there is also a need for accurately assessing the amount of resources necessary for the sustainability of the programs and making these funds available. As of March 2006, there is no agreement on the exact figure among the reconstruction planners. The figures put forth by the State Department and SIGIR are different.

SIGIR experts stipulate the need for $178 million for oil and gas, $720 million for electricity and $235 million for water industries, totaling $1,133 only for these three sectors in 2006 and 2007. The State Department’s calculation for the entire effort, on the other hand, is $355 million for 2006 and $616 million for 2007, totaling $971. In other words, the State Department’s figure for the sustainability of the whole reconstruction effort falls short of the SIGIR estimates for only three industries.

In addition to the lack of preparedness for the transition and financial needs assessment on the US side of the reconstruction, there is also a “growing recognition that the Iraqi government is not yet prepared to take over the near to long term management and funding of infrastructure developed through the IRRF projects”.[209] The $ 355 million slated by the State Department for sustainability in 2006 and the $154 million in 2007 will not be enough meet the amount necessary to ensure that Iraqis are able to take over the projects and facilities and operate them accurately. As Ambassador James Jeffrey stated, “the rest of it [difference between what will be needed to sustain and maintain the assets and what the US funds will provide] will be up to the Iraqis and the international community to take the lead”.[210]

While the US aid planners leave it to Iraqis to reconcile the difference, Iraqi budgeting does not involve these expenses. The total New Iraqi Dinar (NID) 41,691 billion ($28.5 billion) operating expenses of the Iraqi budget for 2006 does not include the transitional and sustainability costs in that year.[211] Furthermore, declines in oil production in 2005 and 2006 bring the Iraqis’ ability to fund these costs under question. Crude oil production has been constantly declining from an average of 2.10 million bpd for the first quarter of 2004 to 1.68

million bpd for the forth quarter of 2005, with a dip of 1.57 million bpd in December 2005.[212] With the uninterrupted decline in oil revenues, which constitute 94% of Iraqi government's budget, the Iraqi government cannot finance the operation and maintenance of facilities or complete the projects it is handed over.

The lack of Iraqi finances compounded by the US agencies' overall lack of strategic preparedness will make the transfer of reconstruction challenging. Thus, if the hand-over takes place under these circumstances, the achievements attained so far will be jeopardized. In that situation, the short term effects will be marginal and the long term effects will be more important. In the short run, a possible unsuccessful transition will cause only minimal decline in the already endemic unemployment rate, as the US reconstruction effort did not achieve significant increase of employment. In the long run, however, the US money and effort will be wasted and the opportunity to start the process of bringing Iraq's infrastructure up to date will be missed.

Key Steps in Transition and Sustainability

The following are necessary steps to adequately address the transition and sustainability issues:

- A single database of all assets funded by the US government can provide the Iraqi government with an archive of the American relief and reconstruction projects, which will help the Iraqi government budget for and sustain the work.

- The estimates of the necessary financial and technical resources for an effective transfer of reconstruction to Iraqis need to be made uniform. This will eliminate the differences between various US government figures and help Iraqis budget for the hand-over. To this end, the Sustainment Coordinator can integrate the following assessment efforts:

    - PCO team in Iraq since November 2005 in charge of assessing the contract close out and asset transfer process,

    - Information technology working group,

    - Asset recognition and transfer team working group, established by IRMO, composed of representatives from GRD-PCO, IRMO, USAID, MNSTC-I and MNF-I.

- These efforts have jurisdiction over the IRRF only. There are, however, reconstruction efforts in Iraq also funded by the DFI, CERP, and CHRRP. These assets are not under a transitional review as of March 2006. The Sustainment Coordinator's formal asset recognition and transfer assessment needs to also include projects funded by these sources, worth billions of dollars.

- Sustainment Coordinator needs to develop a common policy for facilitating the hand-over of project and assets to Iraqis upon the completion of archiving and assessment. The process can include, *inter alia*, a formal notification of the transfer to Iraqi Ministries of Finance and Planning as well as the ministry relevant to the particular project or facility. The notification is to contain operational information such as the start and completion dates, costs, short and long term sustainability and maintenance costs as well as the location of instruction and manuals.

- A report showing the short and long term financial cost findings from the assessment needs to be prepared and submitted to the Iraqi Planning and Finance Ministries with a breakdown of individual project and assets, to assist the Iraqi government to budget for these costs.

As Iraqis are preparing to take over the leadership of their country's reconstruction, these steps will provide them with a comprehensive list of ongoing and completed projects, operational details and the expected costs. As stipulated by SIGIR and other agencies in charge of the reconstruction, 2006 is a year of transition, and the preparation of US entities for the hand-over is important to make the American aid long lasting and effective.

So far, this work analyzed the overall management of the US reconstruction of Iraq. The following part studies the aid effort's effect on the financial, economic and business environment in the country.

Addressing the Financial, Economic and Business environment

A number of independent economic assessment organizations, such as the Economist Intelligence Unit (EIU), and Iraqis' own account show that the US reconstruction effort in Iraq has not been effective in providing a reliable financial and business environment. US officials, however, argue otherwise. The director of IRMO, Dan Speckhard, stated that the country's economy grew by 4% in 2005 and will grow by double digits (approximately 17%) in 2006.[213] Independent economic analysts, on the other hand, disagree with the official US statements of growth. Contrary to IRMO director's statistics, the EIU suggests that the country's GDP actually fell by 3% in 2005[214].

US officials claim that the expected increase in Iraq's GDP in 2006 is an indicator of the American reconstruction efforts' effectiveness in providing economic growth. Analysis however, shows otherwise. The expected GDP increase in 2006 is produced by the 53% increase in total revenues from NID 28,959 billion ($19.7 billion) in 2005 to NID 45,392 billion ($30.9 billion) in 2006.[215] This increase is brought by the expected rise in oil revenues despite flat oil production levels. In other words, while oil production or other economic activity will remain constant, Iraq will rely on increases in the oil prices for a higher GDP. This means that the increase in Iraq's GDP does not indicate economic growth, as it is a product of the increase in the world price of oil and not by increase in rising productivity in any sector of the Iraqi economy.

In addition to failing to provide economic growth, the US aid effort also failed to increase employment and worker productivity. Iraq's labor landscape is still wasteful and primitive, coupled with a tedious government bureaucracy. While the US government officials boast the increase in the salaries of Iraqi government workers, the high number of staff in the Iraqis ministries as a mere perpetuation of Saddam Era practice of masking joblessness. The status quo reinforces an environment where half the country's working population expects handsome paychecks for showing up for jobs that are essentially not necessary.[216] It is reported that only 3 million short term jobs have been created with the US funds as of January 2006 in a country with half of its 24 million people 15 years old or younger.[217] The US policy of increasing the Iraqi government workers' salaries not only disrupts labor productivity, but also creates income distributional problems. Given the high unemployment rate among young Sunni men on the one hand, and increasing salaries of government workers on the other, US policies create an unequal distribution of income.

With reference to the aid effort's effectiveness in helping create a business sector, most US officials use the 30,000 new business registrations in Iraq as a benchmark for success.[218]

However, the World Bank's Doing Business 2006 survey shows that the actual business environment is not that friendly. Iraq's performance in the "getting credit" category, one of the most basic needs of a flourishing private sector, is ranked 133 out of 155 (1 being best and 155 being worst practice). Furthermore, Iraq's ranking on 114th place out of 155 for the "ease of doing business" means there is still a lot to be done to induce business growth.

Skeptics also question the accuracy of US officials' assessment of the business environment in Iraq. Economists at Baghdad Economic Forum suggested that as many as 90% of the 24,000 new businesses are idle, unable to secure the work, raw materials and startup credit to get off the ground.[219] Major obstacles to the growth of the Iraqi economy are mostly the security problems, unreliable electricity and the lack of finance. December 2005 report issued by the Senate Foreign Relations Committee quoted US diplomats and Iraqi business leaders as suggesting that lack of security and a lack of basic mercantile infrastructure "are preventing the economy from taking off". Furthermore, the report suggested that the financing in the business sector is staggered by the fact that 90% of assets are held in two state owned banks that are unable to transfer funds electronically.[220]

Agricultural sector is similarly in need of major improvement. The sector is caught between the inefficiency of the old regime's central planning and the promise of a free market agricultural market that is yet to be realized. Most farmers suffer from lack of electricity, irrigation and a corrupt system of price supports and subsidies coupled with bribery that arguably benefits the rich landowners by allowing them to sell poor quality crops at high prices.[221]

Most Iraqi accounts also support the more pessimistic configuration of the economy. Interview with Dr. Ayad Abdul Kadhem reveals the negative conditions Iraq's health care workers have to work in. Having been rejected from a job application at Iraqna cell phone company to answer a customer help line, the University of Baghdad's Medical School graduate says that "almost anything is better than being a doctor in Iraq now. The situation is so difficult in the medical field that many of us would quit if we could". The low levels of security and the substandard working conditions are driving most Iraqi health workers abroad, whose salaries average $130 a month. "We are not adequately compensating our doctors and as a result, we are facing the possibility of losing some of our best and most important citizens" said Abbas al-Bayati, a member of the National Assembly.[222] Similar to Dr. Kadhem's statements, 52 year old farmer Ali Abu Areef near Najaf is similarly dissatisfied with his country's economic progress. "We were treated unfairly during Saddam's time, we are treated unfairly now. Government support goes to the rich landowners and others take what is left" said Areef, whose farm supports his four wives and 28 family members.[223]

There are also Iraqis who feel that their country's economy is improving. "Business is better than previous years. Although there is terrorism and the country is going through a very rough time, there is some kind of stability. We have an army we have police, we have a constitution" said Salih Abed, a Baghdad salesman. The survey done in October 2005 by the International Republican Institute, a think tank with origins in the Republican Party, found that 47% of the 3, 000 Iraqis interviewed said the country was headed in the right direction, while 37% believed the opposite. Among Sunnis, however, an overwhelming majority expressed pessimism.[224]

These conflicting accounts and statistics make it challenging to accurately depict the economic and business environment of Iraq. While most US officials argue that the country's economy is progressing, others suggest that there is not much change in the environment since the Saddam era. Regardless of the actual numbers, it was and continues to be the responsibility of the US effort to help induce economic growth in statistical figures, and more importantly in the perception of the Iraqis. Yet post-conflict economic reconstruction is not easy. What makes the Iraqi case even more challenging is the fact that it is not *post- conflict*. The ongoing insurgency, Iraqi concerns over the lack of ownership and rapidly decreasing US funds increase concern over the economic reconstruction policy. A shift in policy to address the above- mentioned points, relinquish the reins of economic decision making and allow Iraqis to become invested in the economic rebuilding process in their country will largely help the overall mission in Iraq.

Upon analyzing the management of the US aid effort with respect to various sectors of the economy, operational practices and its effects on the Iraqis, the rest of this work studies the non-US aid to Iraq.

V. Non- US Foreign Aid

While US funds constitute the largest financial element of reconstruction effort in Iraq, there is a considerable amount of non-US foreign aid pledges. Support for rebuilding Iraq's economy from countries other than the United States is significant not only for monetary purposes, but also for reasons of international legitimacy of the Iraqi government. The last section of this work will hence focus on the status of non- US aid to Iraq. Financial contributions from international organizations and countries other than the United States are in three major categories.

The International Reconstruction Fund Facility for Iraq (IRFFI)

The fund includes 20 donor countries, the European Commission, the IMF and the World Bank, all of which pledged financial aid for Iraq's economic reconstruction. The IRFFI fund has had three meetings so far.

- **Madrid Conference**, October 2003: The meeting authorized the establishment of the IRFFI, which is a trust fund that combines country contributions with the World Bank funds for Iraq.
- **Tokyo Meeting**, October 2004
- **Amman Meeting**, July 2005.

The donors reaffirmed their support for Iraqi reconstruction in the last two meetings. The pledges to IRRFI are as follows:

Foreign Governments	$8 billion
Lending from World Bank & IMF	$5.5 billion
Additional IMF support of December 2005	$685 million
Total pledges to IRRFI	**$ 13.5 billion**

* All of these funds are to be disbursed between 2004 and 2007.

As of January 2005, $3.2 billion of the assistance has been disbursed. Some $ 2.7 billion of this amount came from foreign governments, and the rest was IMF assistance. Because this amount is being channeled for implementation through trust funds, contractors, NGOs and international organizations, however, much of the impact on the ground in Iraq has been limited.[225]

There is no public information available as to how these funds disbursed are being used, which Iraqi agency is responsible for their distribution, and channels through which they are planned to reach the Iraqis.

Iran

Iran agreed to extend $ 1 billion credit facility to Iraq during the Iraqi Prime Minister Mr. Al Jaafari's visit to Tehran. The facility will include loans to the Iraqi private sector as well as direct lines of credit to the Iraqi government.[226] The detailed calendar of the assistance was still in the process of negotiation as this paper was being written.

Islamic Development Bank

The Islamic Development Bank agreed to extend $ 500 million directly to the Iraqi government during the IRFFI donors' conference in Amman, Jordan in July 2005.

The significance of the two latter assistance programs is that they are extended directly to the Iraqi government rather than the US agencies, trust funds or international organizations. The agreement with Iran is particularly significant in that it shows both the improvement of bilateral relations between the two neighbors, and Iran's growing influence in Iraq. Iran- Iraq relations are particularly important for the economic future of Iraq since a significant portion of Iraqi exports are and will increasingly continue to be shipped through the strait of Hormuz in the Persian Gulf. Iran's investment in Iraq's economic future is particularly promising for the strategic future of Iraqi oil exports.

The credits from Iran and the Islamic Development Bank also indicate that the Iraqi government is recognized by a major Islamic organization and its neighbor as a legitimate and sovereign entity, which can conduct its affairs responsibly. This in return should place responsibility on the Iraqi government to spend the funds responsibly and without discriminating against various ethnic and sectarian groups. The government spending of these funds should at all costs be prevented from becoming another de facto element to aggravate civil unrest.

Non-US aid's most important policy implication is that the Iraqi government wants to use these funds to balance its budget deficit. The 2006 Iraqi budget has a deficit of NID 5,570 billion ($3.8 billion).[227] Iraq's financial management law does not allow deficits to be monetized. Given the declining US financial assistance, the Iraqi government expects to fund this gap by using a mixture of bilateral grant aid and loans. Most of these loans, however, have not yet been disbursed. Failure on the part of the international donors to fulfill their pledges can increase Iraq's budget deficit, which will consequently make Iraq's integration to international financial system harder. This can become more acute in 2007, especially if the government fails to reach its target 2.5 million bpd oil production target for that year. What the American and Iraqi officials can do to avoid this and increase support for Iraq's economic reconstruction is to encourage their allies to:

- Follow through with their donation pledges –most important assistance.

- Forgive at least part of Iraq's debt and extend reparations relief if they have not yet done so – especially the Gulf States, Saudi Arabia and Kuwait in particular.

- Cooperate with the Iraqi government on the training of Iraqi security forces in Iraq.
- Start diplomatic representation in Iraq.
- Train Iraq's oil workers and exchange best practices.
- Support different fractions, especially the Sunni to engage politically.

V. Conclusions

US reconstruction effort was poorly planned. Iraq's infrastructure needs were not assessed, the condition of the country's most important economic assets - oil installations and pipelines-were not measured, and there was no comprehensive national development plan. In addition to poor planning, execution has also been problematic.

The chief impediment to the successful execution of Iraq's economic reconstruction has been instability. Insurgency has successfully targeted economic assets that are crucial to the economic reconstruction of the country. A series of measures including creating physical buffer zones, increasing the troop presence near the facilities and introducing high technology equipment will help eliminate the constant drain. Other problems inherent in the management of the US aid effort exacerbate the negative effect of the insurgency.

Strategic planning is minimal at best. This is most evident in vital sectors such as the oil, electricity and refined products industries. Contracting practice has not been transparent, does not set clear goals and does not include oversight, leaving multi-billion dollar project management open to corruption and embezzlement. US personnel managing the aid effort are not proficient in the country's economy, history or language, and do not stay there long enough to ensure consistency. As the IRRF is expected to expire at the end of 2006, these shortcomings can be minimized by strategically planning for the hand-over of the reconstruction to Iraqis and creating local technical and financial capacities to ensure sustainability.

The shortcomings of the aid effort should not be confined to Iraq only. It is important to see that they are symptoms of a larger problem at the federal level in the US government: failure to set realistic goals. The lessons American decision makers should take away from the experience in Iraq is the importance of setting attainable goals. Empirical evident and the experience of people who worked in Iraq during and after the occupation, including this author, suggest that given the time and financial resources available, instantaneous transfer of capitalist experience to a heavily controlled and closed economy plagued by militaristic kleptocracy was too broad a task to achieve.

Glossary

Acronym	**Definition**
BPD	Barrel per day
CERP	Commander’s Emergency Response Program
CHRRP	Commander’s Humanitarian Relief and Reconstruction Program
CPA	Coalition Provisional Authority
DCI	Direct Contracting Initiative
DFI	Development Fund for Iraq
DOC	US Department of Commerce
DOD	US Department of Defense
DOE	US Department of Energy
DOS	US State Department
GAO	US Government Accountability Office
GRD-PCO	Gulf Region Division- Project and Contracting Office
IDIQ	Indefinite delivery- indefinite quantity (IDIQ) projects
IRMO	Iraq Reconstruction Management Office
IRRF	Iraq Relief and Reconstruction Fund †
MNF-I	Multi-National Force- Iraq
MNSTC-I	Multi-National Security Transition Command-Iraq
MOE	Iraqi Ministry of Electricity
OPM	US Office of Personnel Management
PPA	Project Partnership Agreement
PCO	Project and Contracting Office
PRDC	Provincial Reconstruction Development Committee
RIE	USACE Task Force-Restore Iraqi Electricity
SIGIR	Special Inspector General for Iraq Reconstruction
USACE	US Army Corps of Engineers
USAID	US Agency for International Development

[1] Paul Collier and Anke Hoeffler, "Greed and Grievance in Civil War," *Oxford Economic Papers*, Vol. 56, No. 4, Oct. 2004.
[2] For example, Collier and Hoeffler interpret these measures as the "opportunity cost of going to war," arguing that when this cost is low, war is more likely. Others might argue that poor economic outcomes have more to do with creating a grievance among would-be insurgents.
[3] Since these findings are based on large cross-county regressions, the parameters estimates reflect roughly the "average" influence of a given variable on the likelihood of conflict.
[4] CRS Report for Congress, *Iraq's Economy: Past, Present and Future*, June 3, 2003
[5] Abbas Alnasrawi, *"The Economy of Iraq"*, 1994, p. 2
[6] Hartshorn, *Politics*, 1992, p.137
[7] Arthur Smithies, *"Economic Consequences of the Basing Point Decisions"*, Harvard Law Review, 62: 308-318
[8] Middle East Economic Survey (MEES), August 27, 1965, and Seymour, *OPEC*, pp.13-14
[9] Kathleen M. Langley, The Industrialization of Iraq, Harvard University Press, 1962, p. 47
[10] Oscar Lange, *"Planning Economic Development"* in Leading Issues in Development Economics, ed. Gerald M. Meier, Oxford University Press, 1964, p.487
[11] Phebe Marr, *The Modern History of Iraq*, Boulder, Colorado, Westview Press, 1985
[12] United Nations, Economic Commission for Asia and the Far East, *"The Central Role of Planning"* in Meier, Leading Issues, pp. 423-425
[13] Abbas Alnasrawi, *"The Economy of Iraq"*, 1994, p. 37
[14] http://www.country-studies.com/iraq/population.html
[15] Abbas Alnasrawi, *"The Economy of Iraq"*, 1994, p. 31
[16] Government of Iraq, The July 14 Revolution, Ministry of Planning, *Explanatory Memorandum*
[17] K.M. Langley, *"Iraq: Some Aspects of the Economic Scene"*, The Middle East Journal 18 (Spring 1964), 188
[18] Abbas Alnasrawi, *Arab Nationalism, Oil, and the Political Economy of Dependency*, Greenwood Press, 1991, p.42
[19] Charles Issawi, *"An Economic History of the Middle East and North Africa"*, Columbia University Press, 1982, p. 155
[20] Abbas Alnasrawi, *"The Economy of Iraq"*, 1994, p. 50
[21] Ministry of Planning, *Evaluation of the Five Year Economic Plan*, 1965-1969. pp 2-40, 42- 43
[22] Helen Chapin Metz (ed.), *Iraq: A Country Study*, 4th ed. Washington, Federal Research Division, Library of Congress, 1990.
[23] Abbas Alnasrawi, *"The Economy of Iraq"*, 1994, p. 62
[24] Abdul Wahab Al- Ameen, *"Investment Allocations and Plan Implementation: Iraq's Absorptive Capacity, 1951- 1980"* The Journal of Energy and Development, 6(2): 263-280
[25] Abdul Wahab Al- Ameen, *"Investment Allocations and Plan Implementation: Iraq's Absorptive Capacity, 1951- 1980"* The Journal of Energy and Development, 6(2): 272
[26] Abbas Alnasrawi, *"The Economy of Iraq"*, 1994, p. 74
[27] Economist Intelligence Unit, "*Quarterly Economic Review, Iraq"* 4(1977): 10
[28] CRS, *"Iraq's Economy: Past, Present, Future"*, June 3, 2003, p. 4
[29] Abbas Alnasrawi, *"Economic Consequences of the Iraq- Iran War"*, Third World Quarterly 8(3): 869-895
[30] CRS, *"Iraq's Economy: Past, Present, Future"*, June 3, 2003, p. 8
[31] Kamran Mofid, *"The Economic Consequences of the Gulf War"*, Routledge, 1990, p.133
[32] US Arms Control and Disarmament Agency, *"World Military Expenditures and Arms Transfers"* (Annual)
[33] Abbas Alnasrawi, *"The Economy of Iraq"*, 1994, p. 94
[34] CRS, *"Iraq's Economy: Past, Present, Future"*, June 3, 2003, p. 6
[35] Abbas Alnasrawi, *"The Economy of Iraq"*, 1994, pp. 110-111
[36] Tariq al-Shaab, "Iraq: Dreams and Figures", October 1990, p.5
[37] "Report to the Secretary General on Humanitarian Needs in Kuwait and Iraq in the Immediate Post Crisis Environment", Matti Ahtisaari, Under Secretary-General for Administration and Management, March 20, 1991, p.5
[38] Arab Monetary Fund, *Joint Arab Economic Report*, 1991, p. 18
[39] (S/22366, para. 37)
[40] IMF, *Iraq: Macroeconomic Assessment*, October 21, 2003
[41] CRS, *"Iraq's Economy: Past, Present, Future"*, June 3, 2003, pp. 4-10
[42] Economist Intelligence Unit, Country Profile Iraq, 2002/2003, July 24, 2002.

[43] IMF, *Iraq: Macroeconomic Assessment*, October 21,2003
[44] Bathsheba Crocker, *"Reconstructing Iraq's Economy"*, Washington Quarterly 27:4, Autumn 2004
[45] J. Weisman and M. Allen, "*Officials Argue for Fast US Exit from Iraq*", Washington Post, April 21,2003
[46] *"The Spoils of War, Part I: Iraq's Reconstruction Money Disappearing in a Web of Bribes, Kickbacks, and Price Gauging"*, Marketplace, NPR, April 20, 2004
[47]Section 2207 Report on Iraq Relief and Reconstruction, January 2006, Banking system modernization, Project Code: 01600
[48] *"Lets All go to the Yard Sale"*, Economist, June 26, 2004
[49] Bathsheba Crocker, "Reconstructing Iraq's Economy", The Washington Quarterly, 27:4
[50] Gal Luft, *"Iraq's Oil Sector One Year After Liberation"*, Saban Center Middle East Memo, no 4 June 17,2004
[51] US Department of Defense, *"Working Papers: Iraq Status"*, June 17, 2004.
[52] *"Auditors Find Poor Practices in Management of Iraqi Oil Revenues"*, Iraq Revenue Watch, June 2004
"Focus on Halliburton Masks Deeper Problems with Iraq Contracts", Financial Times, March 30, 2004
[53] Chandrasekaran, *"Mistakes Loom Large as Handover Nears"*
[54] Christopher Foote, William Block, Keith Crane and Simon Gray, *"Economic Policy and Prospects in Iraq"*, Journal of Economic Perspectives, Vol. 18, No. 3, Summer 2004, pp. 47-70.
[55] John Marangos, Alternative Economic Models of Transition, Ashgate, Burlington VT, 2004
[56] Kamil A. Mahdi (ed.) Iraq's Economic Predicament, Ithaca Press, Reading UK, 2002
[57] Richard Garfield & Ron Waldman, *"Review of Potential Interventions to Reduce Child Mortality in Iraq"*, USAID, 2003
[58] UNICEF, <http://www.unicef.org/infobycountry/iraq_statistics.html#7>
[59] UNDP Iraq Living Conditions Survey, 2004, http://www.iq.undp.org/ILCS/overview.htm
[60] *"The Spoils of War, Part I: Iraq's Reconstruction Money Disappearing in a Web of Bribes, Kickbacks, and Price Gauging"*, Marketplace, NPR, April 20, 2004
[61] Formerly the Central Statistical Office of Iraq
[62] *Iraq Living Conditions Survey*, 2004, Analytical Report, p. 116
[63] *Iraq Living Conditions Survey*, 2004 Analytical Report, p. 118
[64] http://news.bbc.co.uk/1/hi/programmes/newsnight/3372029.stm
[65] www.irinnews.org/report/asp?ReportID=44392&SelectRegion=Middle_East &SelectCountry=IRAQ
[66] Woodward, Susan L. "Economic Priorities for Peace Implementation." International Peace Academy Policy Paper Series on Peace Implementation. October 2002, New York.
[67] *United Nations/World Bank Iraq Needs Assessment Report* 2003, p. 19
[68] Bathsheba Crocker, "Reconstructing Iraq's Economy", The Washington Quarterly, 27:4, p. 87
[69] UNDP Country report 1990.
[70] *United Nations/World Bank Iraq Needs Assessment Report* 2003, p. 19
[71] http://www.usaid.gov/iraq/accomplishments/watsan.html
[72] Associated Press (AP), Baghdad, October 14, 2005
[73] USAID Reconstruction Weekly Updates
[74] Associated Press (AP), Baghdad, October 14, 2005
[75] http://www.defenselink.mil/news/Jul2005/d20050721secstab.pdf p. 10
[76] Iraqi Strategic Review Board, Ministry of Planning and Development Corporation, "*Iraq's National Development Strategy 2004-2007"*, June 30, 2005, p. 13.
[77] Section 2207 Report on Iraq Relief and Reconstruction, January 2006, Agriculture, Project Code: 01600
[78] AquaSTAT: Iraq, Food and Agriculture Organization of the United Nations. http://www.fao.org/ag/agl/aglw/aquastat/countries/iraq/index.stm . Viewed Dec 18, 2005.
[79] Economist Intelligence Unit, *Iraq at a glance*, 2004
[80] *United Nations/World Bank Iraq Needs Assessment Report* 2003, p. 42
[81] Interview with then Iraqi Minister of Agriculture, Ms. Sawsan Ali Magid al-Sharifi BAGHDAD, 16 Dec 2004 (IRIN)
[82] Section 2207 Report on Iraq Relief and Reconstruction, January 2006, Agriculture, Project Code: 08000
[83] Section 2207 Report on Iraq Relief and Reconstruction, January 2006, Banking system modernization, Project Code: 01600
[84] Iraqi Strategic Review Board, Ministry of Planning and Development Corporation, "*Iraq's National Development Strategy 2004-2007"*, June 30, 2005, p. 13.
[85] Iraqi Strategic Review Board, Ministry of Planning and Development Corporation, "*Iraq's National Development Strategy 2004-2007"*, June 30, 2005, p. 14.

[86] James Glanz, The New York Times, "*Despite Crushing Costs, Iraqi Cabinet Lets Big Subsidies Stand*", August 11, 2005
[87] James Glanz, The New York Times, "*Despite Crushing Costs, Iraqi Cabinet Lets Big Subsidies Stand*", August 11, 2005
[88] IMF, Iraq: Request for Stand-by Arrangement: Staff Report
[89] State Department Iraq Weekly Status Report, June 22, 2005, p.5
[90] Economist Intelligence Unit, Iraq Country Main Report, Economic Policy, March 4, 2006
[91] http://news.bbc.co.uk/2/hi/middle_east/4627923.stm, accessed July 13, 2005
[92]http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications//weekly_petroleum_status_report/current/txt/table13.txt, accessed July 13, 2004
[93] Economist Intelligence Unit, Iraq Country Main Report, Economic Policy, March 4, 2006
[94] International Energy Agency, *Oil Market Report*, April 12, 2005 p. 14
[95] http://www.aljazeera.com/me.asp?service_ID=8964, accessed June 12, 2005
[96] Section 2207 Report on Iraq Relief and Reconstruction, July 2005, p. 57
[97] SIGIR Report to Congress January 2006, p. 20 & 28, http://www.sigir.mil/reports/QuarterlyReports/Jan06/pdf/Report_Complete_-_January_2006.pdf
[98] Alison Smale, International Herald Tribune, "*Iraq May Be Years From Returning To Peak Oil Output, Ex-Minister Says*", September 22, 2005
[99]http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications//weekly_petroleum_status_report/current/txt/table13.txt, accessed July 13, 2004
[100] Alex Rodriguez, Chicago Tribune, "*Graft Holds Back Economy*", September 25, 2005
[101] James Glanz, The New York Times, "*Despite Crushing Costs, Iraqi Cabinet Lets Big Subsidies Stand*", August 11, 2005
[102] Alex Rodriguez, Chicago Tribune, "*Graft Holds Back Economy*", September 25, 2005
[103] http://www.csmonitor.com/2005/0714/p02s01-woiq.html, accessed July 11, 2005.
[104] Alex Rodriguez, Chicago Tribune, "*Graft Holds Back Economy*", September 25, 2005
[105] UNDP Iraq Living Conditions Survey, 2004, http://www.iq.undp.org/ILCS/overview.htm
[106] http://www.eia.doe.gov/emeu/cabs/iraq.html, pp.5-6
[107] Ellen Knickmeyer, *"High Expectations of Independence"*, The Washington Post, August 1, 2005
[108] Ellen Knickmeyer, *"Sunni Fraction Halts Work on Iraqi Charter"*, The Washington Post, July 21, 2005
[109] Howard LaFranchi, *"Why Iraq Oil Money Hasn't Fueled Rebuilding"*, Christian Science Monitor, July 14, 2005
[110] Telephone interview with Mr. Mojtaba Kazazi, Chief, UNCC Governing Council Secretariat, July 28, 2005. Information can also be found at www2.unog.ch/uncc/status.htm
[111] Colum Lynch, *"Iraq Uses Its Buying Power as Leverage"*, Washington Post, July 3, 2001
[112] Frederick D. Barton and Bathsheba N. Crocker, *"A Wiser Peace: An Action Strategy for a Post Conflict Iraq: Supplement I"*, CSIS, January 23, 2003
[113] Congressional Research Service report to Congress, *"Iraq's Economy: Past, Present, Future"*, June 3, 2003, p. 14
[114] http://www.cia.gov/cia/publications/factbook/rankorder/2079rank.html, see Iraq
[115] http://www.eia.doe.gov/emeu/cabs/iraq.html, p. 2
[116] http://www.usembassy.org.uk/iraq115.html
[117] CBO, *"Paying for Iraq's Reconstruction"*, January 2004, p. 11.
[118] Embassy of France to the US; http://www.ambafranceus.org/news/statmnts/2004/parisclub_iraq112104.asp
[119] CBO, *"Paying for Iraq's Reconstruction"*, January 2004, p. 12.
[120] United Press International, statement taken from Saudi Daily *Al Hayat*, October 10, 2005
[121] Joanna Chung. London Financial Times, "*Restructuring of Iraq Debt 'On Track'*", September 16, 2005
[122] John Zarocostas, The Washington Times, *"Iraq cconomy digging out of debt"*, February 1, 2006
[123] EIA December 2005 Iraq Country Analysis Brief, p. 2, www.eia.doe.gov/emeu/cabs/iraq.html
[124] SIGIR January 2006 Report to Congress, p.5
[125] Chris Kraul, Los Angeles Times, *"Decline in oil output dims Iraq's recovery"*, January 25, 2006
[126] US State Department Report on Iraq Relief and Reconstruction, Status of Funds, January 2006 http://www.state.gov/p/nea/rls/rpt/2207/jan2006/html/58698.htm
[127] CRS Report for Congress
[128] Farah Stockman, The Boston Globe, *"Success is elusive in Iraq's oil fields"*, January 22, 2006

[129] Iraqi oil ministry spokesperson Mr. Issam Jihad statement to Kuwait News Agency (KUNA), Baghdad, "*Iraq oil sector lost over USD 6 bln. in 2005 – official*" February 18, 2006
[130] Task Force Baghdad/ 3ID Media Release # 20050702-03
[131] EIA June 2005 Iraq Country Analysis Brief, p. 2, www.eia.doe.gov/emeu/cabs/iraq.html
[132] T. Christian Miller, Los Angeles Times, *"Some Iraq Projects Running Out of Money, US Says"*, September 8, 2005
[133] SIGIR January 2006 Report to Congress
[134] Naomi Klein, *"Baghdad Year Zero"*, Harper's, September 2004, Vol. 309, No 1852, pp. 43-53
[135] James Glanz, The New York Times, *"Funds Fade, Deaths Rise and Iraq Rebuilding is Spotty"*, October 31, 2005
[136] IMF, *"Iraq: Macroeconomic Assessment"*, October 21, 2001, p. 19, clause 43
[137] GlobalSecurity.org, "Facility Protection Service (FPS), Facilities Protection Forces, http://www.globalsecurity.org/intell/world/iraq/fps.htm
[138] Peter Baker, The Washington Post, "*Bush Cites Setbacks in Rebuilding by the US*", December 8, 2005
[139] Section 2207 Report on Iraq Relief and Reconstruction, July 2005, p. 48
[140] T. Christian Millers, The Lost Angeles Times, *"Missteps Hamper Iraqi Oil Recovery"*, September 26, 2005
[141] SIGIR January 2006 Report to Congress, Status of Electricity Sector, pp. 13,14, 15
http://www.sigir.mil/reports/QuarterlyReports/Jan06/pdf/Report_Complete_-_January_2006.pdf
[142] James F. Jeffrey, Senior Advisor To the Secretary and Coordinator for Iraq, "Assistance to Iraq in the FY 2006 Supplemental Budget and FY 2007 Budget Request", February 28, 2006
[143] GAO 05-872, "Rebuilding Iraq: US Water Efforts Need Improved Measures for Assessing Impact and Sustained Resources for Maintaining Facilities", September 2005, p.25
[144] USACE-GRD, Bi Weekly Situation Report, December 12,2005, p.7; GRD-PCO vetting comments, January 13, 2006, p.10
[145] SIGIR 05-022, "Managing Sustainment for Iraq Relief and Reconstruction Fund Programs", October 24, 2005, p.8
[146] SIGIR 05-022, "Managing Sustainment for Iraq Relief and Reconstruction Fund Programs", October 24, 2005, p.8
[147] SIGIR 05-022, "Managing Sustainment for Iraq Relief and Reconstruction Fund Programs", October 24, 2005, p.8
[148] Section 2207 Report on Iraq Relief and Reconstruction, July 2005, p. 57
[149] T. Christian Millers, The Lost Angeles Times, *"Missteps Hamper Iraqi Oil Recovery"*, September 26, 2005
[150] T. Christian Millers, The Lost Angeles Times, *"Missteps Hamper Iraqi Oil Recovery"*, September 26, 2005
[151] SIGIR January 2006 Report to Congress, Status of Oil and Gas Sector, Figure 2-9 pp. 21
[152] US Department of Energy, Iraq Country Analysis Brief, December 2005, p.3
[153] Section 2207 Report on Iraq Relief and Reconstruction, January 2006, Sector: Oil Infrastructure, p. 66
[154] Chris Kraul, Los Angeles Times, *"Decline in oil output dims Iraq's recovery"*, January 25, 2006
[155] Chip Cummins and Hassan Hafidh, Wall Street Journal, *"Fresh Woes Hinder Iraqi Oil Output"*, February 21,2006
[156] SIGIR January 2006 Report to Congress, Status of Oil and Gas Sector, Figure 2-4, "Actual Oil Sector Production vs. US Reconstruction goals of November 20,2005", pp. 24
[157] Merriam Mashatt & Sheryl Lewis (PCO-GRD), *"Oil Reconstruction Progress in Iraq"*, Oil & Gas Journal, December 19, 2005, p.4
[158] USACE-GRD, Bi-Weekly Situation Report, December 23,2005, p.9
[159] International Energy Agency, World Energy Outlook 2005, p.396
[160] US Energy Information Administration, Iraq Country Analysis Brief, December 2005 http://www.eia.doe.gov/emeu/cabs/Iraq/Oil.html
[161] International Energy Agency, World Energy Outlook 2005, p.396
[162] http://www.eia.doe.gov/emeu/cabs/iraq.html
[163] Nelson Hernandez, Washington Post, *"Iraqi Oil Minister Resigns to Protest Higher Fuel Prices"*, January 3, 2006
[164] Section 2207 Report on Iraq Relief and Reconstruction, January 2006, Sector: Oil Infrastructure, p. 66
[165] SIGIR January 2006 Report to Congress, Oil and Gas Sector, p. 26
[166] International Monetary Fund, "IMF Survey", January 9,2006, p.8 and "IMF Country Report No. 06-15", January 2006, p.18
[167] International Energy Agency, World Energy Outlook 2005, p.397

[168] SIGIR January 2006 Report to Congress, Electricity Sector, p. 13
[169] SIGIR January 2006 Report to Congress, Figure 2-3 "Status of Electricity Projects", p. 14
[170] Section 2207 Report on Iraq Relief and Reconstruction, January 2006, Sector: Electricity p. 51
[171] SIGIR January 2006 Report to Congress, Electricity Sector, Figure 2-1 p. 16 and Figure 2-2 p.17
[172] SIGIR January 2006 Report to Congress, Electricity Sector, p. 14
[173] Department of Defense Report to Congress, "*Measuring Stability and Security in Iraq*", July 2005, p. 10
[174] James Glanz, The New York Times, *"Iraqis Press Donors for Billions More in Reconstruction Aid"*, July 18, 2005
[175] SIGIR January 2006 Report to Congress, Electricity Sector, p. 14
[176] GRD-PCO vetting comments, January 13, 2006, p.10
[177] Section 2207 Report on Iraq Relief and Reconstruction, January 2006, Sector: Electricity p. 52
[178] USACE-GRD, "Reconstruction Continues in Iraq", October 2, 2005; USAID vetting comments, January 19, 2006, p.2
[179] Section 2207 Report on Iraq Relief and Reconstruction, January 2006, Sector: Electricity p. 52
[180] SIGIR January 2006 Report to Congress, Electricity Sector, p. 15
[181] The World Bank, *"World Development Indicators 2002"*, p. 305
[182] SIGIR January 2006 Report to Congress, Cost-to-complete estimates, p. 6
[183] Rick Jervis, USA Today, "*Iraq Rebuilding Slows as US Money for Projects Driees Up"*, October 10, 2005
[184] Rick Jervis, USA Today, "*Iraq Rebuilding Slows as US Money for Projects Driees Up"*, October 10, 2005
[185] Scot J. Paltrow, Wall Street Journal, *"Some Iraq rebuilding funds go untraced"*, January 17, 2006
[186] Rick Jervis, USA Today, "*Iraq Rebuilding Slows as US Money for Projects Driees Up"*, October 10, 2005
[187] Defense Contract Audit Agency
[188] SIGIR January 2006 Report to Congress, Cost-to-complete estimates, p. 6
[189] Peter Baker, The Washington Post, "*Bush Cites Setbacks in Rebuilding by the US*", December 8, 2005
[190] www.sigir.mil/pdf/cpaig_audit_sector_contracts.pdf
[191] The Wall Street Journal, *"Former Bush Aide Turns Tough Critic As Iraq Inspector"*, July 26, 2005
[192] Rowan Scarborough, Washington Times, *"In search of rebuilding billions"*, January 20, 2006
[193] Richard C. Paddock and T. Christian Miller, Los Angeles Times, *"Iraq Kurds Shortchanged, They Say, By Massive US Cash Drop"*, November 21. 2005
[194] James Glanz, The New York Times, *"American Faces Charge of Graft For Work in Iraq"*, November 17, 2005
[195] Charles Babcock, The Washington Post, "2nd Officer Accused in Iraq Bid- Rigging Case", December 16, 2005
[196] Associated Press, Baghdad, September 19, 2005
[197] Seth Borenstein, The Miami Herald, *"Auditors for Iraq War Withdrawn in 2004"*, October 18, 2005
[198] Tony Capaccio, Bloomberg.com, *"Iraq Spending Topped $ 11 Billion in June, a Record"*, September 26, 2005.
[199] Department of Defense Report to Congress, "*Measuring Stability and Security in Iraq*", July 2005, p. 8
[200] T. Christian Millers, The Lost Angeles Times, *"Missteps Hamper Iraqi Oil Recovery"*, September 26, 2005
[201] Paul Richter, Los Angeles Times, *"Rapid Personnel Shifts Hinder US Efforts to Rebuild Iraq"*, November 17, 2005
[202] Rowan Scarborough, The Washington Times, *"Nation building in Iraq lagging"*, November 3, 2005
[203] Rowan Scarborough, The Washington Times, *"Nation building in Iraq lagging"*, November 3, 2005
[204] Rowan Scarborough, The Washington Times, *"Nation building in Iraq lagging"*, November 3, 2005
[205] James Glanz, The New York Times, *"Iraqis Press Donors for Billions More in Reconstruction Aid"*, July 18, 2005
[206] Section 2207 Report on Iraq Relief and Reconstruction, July 2005, p. 2
[207] Howard LaFranchi, The Christian Science Monitor, "US Seeks to Hand Reconstruction Over to Iraqis", December 9, 2005
[208] SIGIR January 2006 Report to Congress, p.5
[209] SIGIR January 2006 Report to Congress, p.5
[210] James F. Jeffrey, Senior Advisor To the Secretary and Coordinator for Iraq, "Assistance to Iraq in the FY 2006 Supplemental Budget and FY 2007 Budget Request", February 28, 2006
[211] Economist Intelligence Unit, Iraq Country Main Report, Economic Policy, March 4, 2006
[212] Economist Intelligence Unit, Iraq Country Main Report, Economic Structure, Quarterly Indicators, March 4, 2006
[213] Chris Tomlinson, The Boston Globe, *"US Official Says Iraq Economy Growing"*, December 9, 2005
[214] EIU, Iraq Country Report, March 4, 2006
[215] EIU, Iraq Country Report, March 4, 2006

[216] Borzou Daragahi, Paul Richter & Doug Smith, Los Angeles Times, *"Economy in Iraq Goes in All Directions"*, January 2, 2006
[217] Howard LaFranchi, The Christian Science Monitor, "US Seeks to Hand Reconstruction Over to Iraqis", December 9, 2005
[218] Michael Rubin, National Review Online, *"Iraq, Unplugged"*, November 1, 2005
[219] Charles Levinson, Christian Science Monitor, *"Cautiously, Iraqis Open for Business"*, January 4, 2005
[220] Borzou Daragahi, Paul Richter & Doug Smith, Los Angeles Times, *"Economy in Iraq Goes in All Directions"*, January 2, 2006
[221] Borzou Daragahi, Paul Richter & Doug Smith, Los Angeles Times, *"Economy in Iraq Goes in All Directions"*, January 2, 2006
[222] Aamer Madhani, Chicago Tribune, *"Iraq Health Care So Bad, Iraq Doctors Want Out"*, October 5, 2005
[223] Borzou Daragahi, Paul Richter & Doug Smith, Los Angeles Times, *"Economy in Iraq Goes in All Directions"*, January 2, 2006
[224] Borzou Daragahi, Paul Richter & Doug Smith, Los Angeles Times, *"Economy in Iraq Goes in All Directions"*, January 2, 2006
[225] Section 2207 Report on Iraq Relief and Reconstruction, December 2005, Appendix II, p. II-1
[226] London Financial Times, *"Iran Extends $ 1 Billion Credit to Baghdad"*, July 21, 2005
[227] Economist Intelligence Unit, Iraq Country Main Report, Economic Policy, March 4, 2006