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Kurdistan Region Economic Development Assessment



Local Governance Project

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Kurdistan Region

Economic Development Assessment

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Economic Development Assessment

Executive Summary

The Kurdistan Region (KR) has the potential to achieve accelerated economic development and growth. It is hoped that Kurdistan Regional Government uses the recommendations from this Economic Development Assessment (EDA) to prioritize and implement these recommendations in a timely manner.

The industrial and trade and agriculture sectors, though damaged by conflict, are built on millennia-old foundations. A relative newcomer, the extractive industries sector, can tap into growing global demand for crude oil, natural gas, and minerals. The Region's bright economic future is clouded, however, by several factors common to developing economies

The first factor is a lack of information and transparency. The Kurdistan Regional Government (KRG) must dedicate itself as Prime Minister Nechirvan Barzani has said "to operate as the servant of the people in a transparent and accountable way"^[i]. Specifically this can be done by requiring the regional ministries to collect and disseminate key economic data and by requiring the ministries to follow transparent rules and regulations. In this way, local business men and women, as well as international investors, can make informed decisions that will help grow the economy. By following international standards of transparency and accountability, the KRG will be better able to position itself for international investment.

The second issue is the absence of an effective modern banking sector. The KRG must strive to create a modern banking system lead by privately owned banks, but also needs to include modernized specialized state owned banks. The banking sector needs to be connected to world class financial institutions.

The third is an educational system that meets the demands of a market economy. The KRG in addition to funding basic education including English and Arabic language training should help develop Centers of Excellence in certain sectors to make the education system, more responsive to the market and local development needs.

The final factor is the lack of adequate infrastructure. The KRG should continue its investment in basic infrastructure upgrades.

Agriculture

The agriculture sector has been greatly hampered by decades of conflict, destructive national government policies, international sanctions, the Public Distribution System (PDS), and a 20+-year period of isolation. Currently over 80% of the region's basic staples are imported, and an open border has resulted in the region becoming a market for often substandard or contaminated goods. The inability to produce its own food puts the Region at a disadvantage when negotiating with the neighbors that feed it.

Certain agricultural industries such as poultry, some grains, some fruits and vegetables, and livestock may offer the opportunity for the region to escape from this dependence. Biotechnology could also be an important key in the region's agricultural future. To revive this sector, the KRG should create a public-private authority similar to that utilized in Oman (PAMAP). This interim step will encourage and assist agricultural producers by creating a body to market their produce, to manage its transportation outside the region, *to make it available in the local markets at reasonable prices*, and to improve the produce in terms of quality, quantity, and availability. In addition, an agricultural extension service staffed by experienced, well trained extension agents who regularly meet and consult with farmers, should be improved and expanded in order to improve agricultural practices accelerate development of the sector.

The KRG should request that the Iraqi Federal Ministry of Agriculture, in consultation with the ministries of health and trade, review, revise and promulgate regulations providing for food code regulations and their objective, uniform enforcement. Finally, the KRG can liberalize rules for oil company property utilization to allow companies to develop lands used for exploration for agriculture; such dual usage would be strategically synergistic.

Construction

The KR construction industry has been a leader in job creation and economic development. However, there are constraints that should be addressed to improve the competitive advantages of the region's construction sector. To overcome these constraints, the KRG should implement a variety of improvements, such as establishing a "one-stop shop" permitting and utility connection facility, establishing a Project Development Facility (PDF), and establishing a construction Public Private Partnership Center (PPPC).

Extractive Industries

Extractive industries (crude oil, natural gas, and mining), especially the petroleum sector, are seen by many as the engine that will drive commercial growth in the rest of the Region. The Kurdistan Region is only starting to be explored, but initial exploration results indicate the Region has significant oil and gas reserves. Because of this potential, 26 international oil companies have signed Production Sharing Contracts with the KRG. In the next 10 years, the Kurdistan Region is expected to be an important oil and gas producer. In addition, oilfield service companies have opened offices with local partners. Estimates by PSC company managers and geologists indicate that oil range from 10 billion to possibly as high as 45 billion bbls of crude oil reserves. Such reserves do not however necessarily translate into effective, well balanced economic development. To assure this development, the extractive industries sector (oil, natural gas, and mining) needs to play the principal role in KR's broad economic development. The KRG, working with extractive industry companies, can assist in the development of both social and economic sectors.

Information and Communications Technology

The communications infrastructure in KR has been neglected for years as a result of sanctions and internal strife. To catch up, the KRG must create a suitable regulatory environment, act to create international connectivity with neighboring states and Baghdad,

join partnerships with industry companies to ensure that network roll-out is optimized, and ensure that the education sector is working toward developing ICT skills.

Tourism

Cultural tourism based on the Kurdistan Region's many historical sites offers great potential for not only generating income but also introducing the region to potential investors. The KR, however, must establish a tourism destination identity in order to compete for visitor's dollars. In the development of KR's tourism sector, Erbil's Citadel cultural heritage site should be the cornerstone of KR's tourism development strategy, given the Citadel's history, the "Kurdistan – the other Iraq" promotional campaign and UNESCO's proposed master plan for the Citadel. The capability and effectiveness of the Ministry of Tourism could be also enhanced by accelerating private sector tourism development as is already being seen as private sector tour operators have begun to bring tourists to the KR.

Trade and Industry

Industrial and Trade reform has the potential to have a broad positive impact on the KR's economy. The import side of trade is flourishing, but needs effective inspection procedures. The KRG needs to expand consumer protection laws to provide greater accountability for those who import tainted or unsafe products. Export trade, the largest potential component of which will be agricultural products, is underdeveloped and suffers from years of neglect. The KRG should continue and expand its export and foreign direct investment (FDI) promotion campaigns.

Large-scale manufacturing is virtually non-existent the KR as well as in most of Iraq. The KRG should develop industrial parks where transportation, electric power, personnel, and training facilities are accessible. The KRG should also expand training and education programs, including internships with international petroleum, ICT and other companies, to aid in developing a stronger, more robust industrial manufacturing "value added" sector.

Banking

The banking sector in the KR has a limited role in business transactions, consequently, in economic development. This heavy reliance on cash limits opportunities for economic expansion. An efficient banking system needs interbank and government securities markets to provide liquid instruments for short-term investment.

A lack of confidence in the banking sector is related to a loss of deposits under the former regime. While there is no short-term solution to reestablishing trust in the banking system, steps can be made to increase public confidence in the banking sector. All banking sector reform efforts should make the establishment of confidence a priority.

Clear separation of the roles of the CBI and the Ministry of Finance is essential. Well defined roles will ensure better regional economic policy. The Ministry of Finance should be responsible for fiscal policy, while CBI should be responsible for monetary policy. There is a potential conflict of policy objectives if both fiscal and monetary policies are placed under the aegis of the MOF. Independence of the central banking function should be assured by law in the KR.

It is this report's recommendation that the KRG retain appropriate professional consulting organizations for each sector (agriculture, banking, construction, extractive industries, ICT, tourism, and trade and industrial manufacturing) that includes retention agreements requiring the firms to work in close conjunction with the KRG to implement the suggested recommendations from this report.

Agriculture Sector

Executive Summary

Agriculture has the potential to again be a dynamic contributor to the economy of the Kurdistan Region and to the economy of Iraq as a whole. The agriculture sector's contribution to the national economy is second only to that of the oil sector. Agriculture can serve as the cornerstone to poverty reduction and economic stability. Its role, however, has been heavily influenced by several decades of conflict, poor government policies, international sanctions, and more than 20 years of isolation. The Oil-for-Food Programme—through its supplying of artificially priced foreign foodstuffs, coupled with the internal sanctions imposed by Baghdad during the Saddam era—was disproportionately harmful to the Kurdistan Region's agriculture. Moreover, the Public Distribution System, which substitutes imported foodstuffs for domestically produced foodstuffs, and globalization in general continue to undermine the domestic agricultural sector by contributing to the region's reliance on imported produce and goods.

In the business of food and food production, demographics are fundamental. Iraq has the highest fertility rate in the Middle East; its 2006 population was estimated at about 27 million with a growth rate of 2.7% per year. By 2002, between 80% and 100% of many basic staples were imported. In 2007, 65% of the Kurdistan Region's food was imported, and 35% was produced domestically. As Izdihar concludes in *The Potential for Food Processing in Iraq*, “[in] only 25 years Iraq will suffer a food crisis;” based upon a growing population and an unwillingness to address their import dependence, the nation faces “near certain financial insolvency.”

The population of the Kurdistan Region is reported as 3,757,058.¹ The KRG currently provides employment compensation—that is, it pays a monthly stipend to—an estimated 1.5 million people in public service, which is approximately 1 of every 2.5 individuals within the Region. The KRG Ministry of Agriculture has 13,320 employees; by contrast, the California Department of Food and Agriculture has 1,892, and the Arizona Department of Agriculture has approximately 320. While recognizing the historical nature of this government/citizen relationship, the use of public compensation as a substitute for unemployment continues to divert resources needed to address the region's underlying economic constraints.

The region has a rich agricultural history. However, an open border and the lack of a regulatory structure providing for basic, uniformly enforced, quality standards have made the country and the region a market for goods and products (including food and medicines) of an often substandard, outdated, tainted and/or diluted nature. Consequently, there is little near-to mid-term prospect or basis for any confidence in the safety of the region's (or the nation's) agricultural produce. Acceptance of basic quality and safety standards of agricultural products is fundamental; the lack of such standards effectively precludes access to the export market, undermines confidence in domestic production, and hampers any sustainable effort

¹ United Nations, Oil-for-Food Distribution Plan, December 2002.

of the region's agriculture sector to regain a market share and to become self-sufficient in its food production.

The KRG seeks to encourage people to move back to their villages and resume farming, but rural income and infrastructure are generally inadequate and remain below that which can be found in the cities. As a result, the young are moving to the urban centers and leaving older people on the farms. Without a strong, revitalized agricultural sector, population movements from rural to urban areas will continue adding to the country's and the region's social problems and further affecting unemployment.

There is a more than 20-year gap in the knowledge of current agricultural technology and development. Progress in redeveloping agriculture will require training to strengthen the skills of government agency personnel, university staff, and farmers. A perceived or real lack of interaction and collaboration between the KRG Ministry of Agriculture and the universities serves to create the appearance of a conflict.

For the agricultural sector to grow to a point of becoming self sufficient and competitive (domestically and internationally) again, all parts of the agricultural production and processing chain need to be in place and operating effectively. The region suffers from "underdeveloped irrigation systems" and "problems caused by variation of rainfall in rain-fed land[s]." A lack of reliable electricity, refrigerated storage, sorting, grading and packaging, and transportation and marketing infrastructure contribute to limit marketing and sales options available to producers. The marketplace (consumer demand), not production, increasingly drives agricultural development.

The KRG has recently indicated its intent to follow the development pattern used by Dubai. From an agricultural standpoint it should examine the models, and lessons learned, in Brazil and/or Oman. The KRG should create a public-private authority, similar to the one utilized in Oman, the Public Authority for Marketing Agricultural Produce (PAMAP), as a transitional step to encourage and assist agricultural producers to market their produce, to manage its transportation outside the region, to make it available in the local markets at reasonable prices, and to improve the produce in terms of quality, quantity, and availability.

Certain industries within the sector offer opportunity:

1. Poultry, while most frequently utilizing an outdated operating model, has potential. A spread of risk should be utilized in conjunction with any movement into an Integrated Poultry System.
2. A study of soybean production and processing should be undertaken. Assuming a positive report, a pilot project should be undertaken to produce and process soybeans for feed.
3. Fruit, nuts, and vegetables offer opportunities, but the lack of modern agro-processing and cold chain technology impedes this potential.
4. Organic production provides a significant opportunity for agriculture in the Kurdistan Region and should be exploited. Organic certification should be sought.
5. Biotechnology is a strategic key to the region's agricultural future. Should the recommended study confirm preliminary favorable observations and conclusions,

- support for the establishment of a center for agricultural biotechnology should be sought. Funding for a food safety and health institute should also be sought.
6. Dehydration and the processing of certain vegetables (e.g., tomatoes) into powder should be a matter for a serious near-term development study.
 7. Collaborative relationships between sectors (e.g., agriculture, extractive industries, and education) and within sectors (horizontal integration, particularly with small- and medium-sized agricultural enterprises) should be pursued, initially in the form of demand-driven production and processing “proof of concept” (pilot) projects.

The factors that serve to create a cumulative negative impact on the Kurdistan Region’s agriculture are:

1. Absence of banking, financial services, and insurance industries
2. Inadequate infrastructure
3. Issues of land tenure
4. Absence of food, safety, and health standards
5. Inadequate agricultural education, training, and extension
6. Lack of governmental transparency and administrative consistency
7. Public Distribution System (food basket)
8. Bloated bureaucracy

Sector Assessment: Agriculture

Introduction

Agriculture has the potential to again be a dynamic contributor to the economy of the Kurdistan Region and to the economy of Iraq as a whole. The agriculture sector's contribution to the national economy is second only to that of the oil sector. Agriculture can serve as the cornerstone to poverty reduction and economic stability. Its role, however, has been heavily influenced by several decades of conflict, poor government policies, international sanctions, and more than 20 years of isolation. The Oil-for-Food Programme—through its supplying of artificially priced foreign foodstuffs, coupled with the internal sanctions imposed by Baghdad during the Saddam era—was disproportionately harmful to the Kurdistan Region's agriculture. Moreover, the Public Distribution System, which substitutes imported foodstuffs for domestically produced foodstuffs, and globalization in general continue to undermine the domestic agricultural sector by contributing to the Region's reliance on imported produce and goods.

In the business of food and food production, demographics are fundamental. Iraq has the highest fertility rate in the Middle East; its 2006 population was estimated at about 27 million with a growth rate of 2.7% per year. By 2002, between 80% and 100% of many basic staples were imported. In 2007, 65% of the Kurdistan Region's food was imported, and 35% was produced domestically. As Izdihar concludes in *The Potential for Food Processing in Iraq*, “[in] only twenty five years Iraq will suffer a food crisis;” based upon a growing population and an unwillingness to address their import dependence, the nation faces “near certain financial insolvency.”

The population of the Kurdistan Region is reported as 3,757,058.² The KRG currently provides employment compensation—that is, it pays a monthly stipend to—an estimated 1.5 million people in public service, which is approximately 1 of every 2.5 individuals within the Region. The KRG Ministry of Agriculture has 13,320 employees; by contrast, the California Department of Food and Agriculture has 1,892, and the Arizona Department of Agriculture has approximately 320. While recognizing the historical nature of this government/citizen relationship, the use of public compensation as a substitute for unemployment continues to divert resources needed to address the Region's underlying economic constraints.

The Region has a rich agricultural history. However, an open border and the lack of a regulatory structure providing for basic, uniformly enforced, quality standards have made the country and the Region a market for goods and products (including food and medicines) of an often substandard, outdated, tainted and/or diluted nature. Consequently, there is little near- to mid-term prospect or basis for any confidence in the safety of the Region's (or the nation's) agricultural produce. Acceptance of basic quality and safety standards of agricultural products is fundamental; the lack of such standards effectively precludes access to the export market, undermines confidence in domestic production, and hampers any

² United Nations, Oil-for-Food Distribution Plan, December 2002.

sustainable effort of the Region's agriculture sector to regain a market share and to become self-sufficient in its food production.

The KRG seeks to encourage people to move back to their villages and resume farming, but rural income and infrastructure are generally inadequate and remain below that which can be found in the cities. As a result, the young are moving to the urban centers and leaving older people on the farms. Without a strong, revitalized agricultural sector, population movements from rural to urban areas will continue adding to the country's and the Region's social problems and further impact unemployment.

There is a more than 20-year gap in the knowledge of current agricultural technology and development. Progress in redeveloping agriculture will require training to strengthen the skills of government agency personnel, university staff, and farmers. A perceived or real lack of interaction and collaboration between the KRG Ministry of Agriculture and the universities serves to create the appearance of a conflict.

Any serious effort to attract international investment into the agricultural sector requires a modern, comprehensive, and privately owned banking system and full-service financial services and insurance industry as essential elements. The current banking, financial, and insurance services are inadequate. The administration of the *Investment Law* lacks consistency and requires near-term attention.

For the agricultural sector to grow to a point of becoming self sufficient and competitive (domestically and internationally) again, all parts of the agricultural production and processing chain need to be in place and operating effectively. The Region suffers from "underdeveloped irrigation systems" and "problems caused by variation of rainfall in rain-fed land[s]." A lack of reliable electricity, refrigerated storage, sorting, grading and packaging, and transportation and marketing infrastructure contribute to limit marketing and sales options available to producers. The marketplace (consumer demand), not production, increasingly drives agricultural development.

The KRG has recently indicated its intent to follow the development pattern used by Dubai. From an agricultural standpoint it should examine the models, and lessons learned, in Brazil and/or Oman. The KRG should create a public-private authority, similar to the one utilized in Oman, the Public Authority for Marketing Agricultural Produce (PAMAP), as a transitional step to encourage and assist agricultural producers to market their produce, to manage its transportation outside the Region, to make it available in the local markets at reasonable prices, and to improve the produce in terms of quality, quantity, and availability.

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6. Dehydration and the processing of certain vegetables (e.g., tomatoes) into powder should be a matter for a serious near-term development study.
7. Collaborative relationships between sectors (e.g., agriculture, extractive industries, and education) and within sectors (horizontal integration, particularly with small- and medium-sized agricultural enterprises) should be pursued, initially in the form of demand-driven production and processing "proof of concept" (pilot) projects.

The factors that serve to create a cumulative negative impact on the Kurdistan Region's agriculture are:

- Absence of banking, financial services, and insurance industries
- Inadequate infrastructure
- Issues of land tenure
- Absence of food, safety, and health standards
- Inadequate agricultural education, training, and extension
- Lack of governmental transparency and administrative consistency
- Public Distribution System (food basket)
- Bloated bureaucracy

General Assessment and Commentary

Agriculture has the potential to again be a vital, dynamic contributor to the economy of the Kurdistan Region and to the economy of Iraq as a whole. Agriculture and closely related industries support nearly 7.5 million people (27% of the national population). The agriculture sector's contribution to the national economy is second only to that of the oil sector.

Agriculture can serve as the cornerstone to poverty reduction and economic stability. Its role, however, has been heavily influenced by several decades of conflict, poor government policies, international sanctions, and more than 20 years of isolation. Moreover, several factors serve to create a cumulative negative impact on the Region's agriculture, including an absence of banking, financial services, and insurance industries; inadequate infrastructure; issues of land tenure; an absence of food, safety, and health standards; inadequate agricultural education, training, and extension; a lack of government transparency and administrative consistency; the Public Distribution System (PDS); and a bloated bureaucracy.

Any revitalization of agriculture in the Kurdistan Region must begin with local production, through upstream and downstream linkages to farming and the processing and marketing of farm products. Farm production is closely linked to other industries, such as farm input production, food and beverage processing, textiles, and transportation and financial services. Without a strong, revitalized agricultural sector, population movements from rural to urban

areas will continue to exacerbate country and regional social problems and further impact unemployment.³

Agriculture in Iraq

Once export oriented and able to satisfy a substantial portion of the nation's basic food needs, Iraq's agricultural activities have been brought to the brink of collapse. In 1995, the United Nations (UN) Security Council established the Oil-for-Food Program (OFFP), which provided Iraq the opportunity to sell oil to purchase humanitarian goods and finance other UN-mandated activities.⁴ But the artificially priced foreign foodstuffs supplied by the OFFP served to undermine the country's agricultural sector. Moreover, the PDS, which substitutes imported foodstuffs for domestically produced foodstuffs, and globalization in general continue to undermine the domestic agricultural sector by contributing to the Region's reliance on imported produce and goods.⁵

Demography

In the business of food and food production, demographics are fundamental. Iraq has the highest fertility rate in the Middle East; its 2006 population was estimated at about 27 million with a growth rate of 2.7% per year.⁶ Rapid population growth during the past three decades coupled with a general stagnation in agricultural productivity has steadily increased Iraq's dependence on imports to meet domestic food needs. By 1980, the country was importing about 50% of its food supply. By 2002, between 80% and 100% of many basic staples—wheat, rice, sugar, vegetable oil, and protein—were imported. In 2007, 65% of the Kurdistan Region's food was imported, and 35% was produced domestically.⁷

The Agricultural Value Chain

The historical tie of progress in agricultural development to improvements in productivity has shifted to strategies that add to diversification and value-added agricultural production. Contemporary agriculture must now deal with changing patterns of competition not only in local but also in global markets. Technological changes, such as biotechnology and

³ Randy Schnepf, "Iraq's Agricultural Sector," Agricultural Policy Briefing Book, Congressional Research Service, May 2003,

www.cnie.org/nle/crsreports/briefingbooks/Agriculture/Iraq's%20Agricultural%20Sector.htm; Jonathan E. Sanford, "Iraq's Economy: Past, Present, Future," Report for Congress, June 3, 2003; University of California, Agriculture Issues Center, "Agriculture's Role in the Economy," Measurement of California Agriculture 2006, chap. 5, www.aic.ucdavis.edu/publications/MOCA_Ch_5.10aPrePrint.pdf.

⁴ UN, Office of the Iraq Program, "Oil-for-Food," Humanitarian Reports, "Status of ESB Account on 31 Dec. 2002," www.un.org/depts/oip/background/index.html (accessed July 9, 2008).

⁵ Ibid.; Almas Heshmati, "Review of the Recent Trends in Development Economics Research: With Experience from the Federal Region of Kurdistan," Hawler Institute for Economic and Policy Research, No. 6, August 2007.

⁶ "Country Profile: Iraq," Library of Congress, Federal Research Division, August 2006, memory.loc.gov/frd/cs/profiles/Iraq.pdf; ACDI/VOCA, "Opportunities for Agricultural Redevelopment in the Kurdistan Regional Government: Sheep and Wool Production," September 2007.

⁷ Schnepf, "Iraq's Agricultural Sector"; Sanford, "Iraq's Economy: Past, Present, Future"; IZDIHAR/USAID, "The Potential for Food Processing in Iraq," March 15, 2006, www.trade.gov/static/iraq_foodprocessing.pdf; KRG, Ministry of Agriculture, Descriptive Survey, March 3, 2008.

information and communication technology, stimulate continuous innovation, which is often based on knowledge generated in other sectors and in other parts of the world.

Agricultural production is now, more often than not, part of a long sequence of steps to produce a final consumer product. The term “value-added” is used to describe such processes because value is added at each of the forward (marketing) and backward (input supply) steps. Each of the connections in these “production-to-consumption” systems is a link in a value chain. The marketplace (consumer demand), not production, increasingly drives agricultural development.

Agricultural Development in Kurdistan

The Kurdistan Region has a rich agricultural history. In Chermu (Jarmo) Village, for example, remains of wheat and barley cultivation dating back more than 10,000 years have been discovered. In Kurdistan, “the ‘Guti,’ the ancestors of today’s Kurds, established the first village-based agricultural gardens 11,000 years ago.”⁸

Agriculture in the Kurdistan Region has been heavily influenced by several decades of conflict, poor government policies, international sanctions, and more than 20 years of isolation from many technological and educational advances. The OFFP program—through its supplying of artificially priced foodstuffs, coupled with the internal sanctions imposed by Baghdad during the Saddam era—was disproportionately harmful to the Region’s agriculture. Drought, lack of inputs, poor farming methods, and market loss have likewise contributed to the current circumstance—a region unable to achieve agricultural production levels near its potential.

Land, Infrastructure, and Resources

The Kurdistan Region is generally considered to include the governorates of Erbil, Dahuk, and Sulaymaniyah and is bordered by Syria to the west, Turkey to the north, and Iran to the east. There are three different land tenures in Iraq and the Region: (1) private ownership, in which the landowner has the right to buy and sell land and to raise capital against the value of the land; (2) land leased from the government on a long-term basis; and (3) inherited land, which has been passed from generation to generation but frequently results in an unmanageable number of owners. Based on the Kurdistan Regional Government (KRG) Ministry of Agriculture’s total land figures and its estimate that there are 153,669 farmers in the Region the average amount of arable land per farmer is approximately 10 hectares in the Kurdistan Region versus 5 hectares for the country as a whole.⁹

Many concerns confront farmers during the production cycle, among which are water utilization, soil and plant nutrient requirements, pest control, and market competition and policies, all of which interact with, and are impacted by, climatic conditions. Weather and climate are interwoven into the social and economic fabric of life. Farmers in the Kurdistan

⁸ Anwar A. Abdullah, “Sustainable Development in Kurdistan,” in O’Leary, *Kurdistan Region*, 62.

⁹ Ministry of Agriculture Profiles, Kurdistan Region, Directorate General of Planning and Follow-Up, Directorate of Statistics, 2007; KRG Ministry of Agriculture and College of Agriculture, University of Salahaddin, Descriptive Surveys, October 27, 2007; Agriculture Reconstruction and Development Initiative (ARDI), Final Report, December 2006, http://usaid.gov/iraq/contracts/pdf/ardi_finalreport.pdf.

Region, as in any other area, need to know the extent and location of the best land for producing food, feed, fiber, and forage crops. Such knowledge contributes to the development of modern, technologically advanced production practices, allows for better decision making, and reduces farmers' risk in the production, processing, marketing, and sales cycles.

Under the Iraq *Constitution*, "water management, except for international rivers, is a regional power."¹⁰ The sources of water in the Kurdistan Region consist of rainfall, the branches of the Tigris River, and groundwater, which is reportedly in a state of overdraft. The Region suffers from "underdeveloped irrigation systems" and "problems caused by variation of rainfall in rain-fed land[s]."¹¹

Like weather and water data, soil data are generally considered essential to advanced agricultural production. Soil surveys are used to make informed soil utilization decisions regarding crop and varietal selection, productivity, and so forth. Much soil survey data has been lost, and what remains is of uncertain quality.

For the agricultural sector to grow to a point that the Region can become self-sufficient for its basic food needs and competitive domestically and internationally, all parts of the agricultural production and processing chain need to be in place and operating effectively. A lack of reliable electricity; refrigerated storage, sorting, grading, and packaging; and transportation and marketing infrastructure contribute to limit marketing and sales options available to producers.¹²

There is also a shortage of quality feed for livestock in the Kurdistan Region. The International Center for Agricultural Research in Dry Areas (ICARDA) has identified this shortage as the main constraint to the development of the sheep and goat industry in the Region. The shortage of feed stems from poor management and conservation of rangelands (overgrazing) and the lack of proper conservation crops and techniques by farmers.¹³

Any serious effort to attract international investment in the Region's agricultural sector requires a modern, comprehensive, and privately owned banking system and full-service financial services and insurance industries. The current banking, financial, and insurance services are inadequate. In addition, the administration of the *Investment Law* lacks consistency and requires near-term attention.

¹⁰ Jonathan Morrow, "Federal-Regional Relations in Iraq," in O'Leary, *Kurdistan Region*, 117.

¹¹ Center for International Private Enterprise (CIPE), "Kurdistan Business Agenda," November 2007, www.cipe.org/regional/mena/iraq/kba/KBAfinal.pdf; Descriptive Survey, College of Agriculture, University of Sulaymaniyah, November 27, 2007.

¹² ARDI/USAID, "Poultry Survey in Erbil, Dahuk and Sulaymaniyah," Summary Report, 2005, www.usaid.gov/iraq/contracts/pdf/ARDI6-PoultrySurveyErbilDahukSulaymaniyahSummaryReport.pdf; Neville Edirisinghe, "A Study of Food Grain Marketing in Iraq," World Bank and UN World Food Programme, June 2004.

¹³ "Small Ruminant Animals in Iraq."

Trade and Market Development

The Region's share of Iraq's agricultural production is significant. It produces 50% of the nation's wheat, 40% of its barley, 98% of its tobacco, 30% of its cotton, and 50% of its fruit. Its main strategic crops are cereals (e.g., wheat, barley, corn, sunflower, and rice), vegetables (tomatoes, cucumbers, and eggplant), and fruits and grapes (grapes, apples, figs, and pomegranate).¹⁴

The most important "export" market for the Kurdistan Region's agricultural production is the remainder of Iraq. However:

- Foodstuffs, provided by the international community during the OFFP created a dependency and a deficient work ethic, which continues and is further enabled by the central government (and to a somewhat lesser extent by the KRG).
- Programs, such as the PDS and its use of imported versus domestically produced basic foodstuffs and the use of massive public compensation (employment) as a proxy for unemployment, are inefficient. They provide for an excessive bureaucratic burden on private sector investment, indirectly support corruption, undermine domestic agricultural production, and, ultimately, are not sustainable.¹⁵

A significant factor in the Region's limited ability to compete in the market is the flow of unregulated, low-quality imports through what are generally open and uncontrolled borders. Since 2003, when the economy was opened to trade and enterprise, demand for meat and poultry in particular has expanded significantly. Allegedly, "dumping" of low-priced, imported eggs and frozen poultry into the local markets has resulted in the closing of many poultry enterprises in the Region and in the country.¹⁶

Weak marketing and logistical services (agricultural handling, transport, and storage) lead to the post-harvest loss of crops before they reach their destination market.¹⁷ The KRG has recently indicated its intent to follow the development pattern used by Dubai. From an agricultural standpoint it may wish to examine the model and lessons learned in Brazil and/or Oman.¹⁸

¹⁴ Ministry of Agriculture Profile, Directorate General of Planning and Follow-Up, Directorate of Statistics, Kurdistan Region, 2007. Kurdistan Development Corporation, Industry Sectors: Agriculture.

¹⁵ "Country Profile: Iraq."

¹⁶ Kurdistan Federation of Chambers of Commerce, "Descriptive Survey: Poultry and Wheat (Flour) Industries," November 21, 2007; Muayad Abdulrahman Koji, Senior Advisor to the Prime Minister, Quality Control Affairs, Descriptive Survey, December 19, 2007; IZDIHAR/USAID, "The Poultry Industry in Iraq," November 2006, www.usaid.gov/iraq/contracts/pdf/ThePoultryIndustryIraq.pdf; CIPE, "Kurdistan Business Agenda."

¹⁷ CIPE, "Kurdistan Business Agenda"; Schnepf, "Iraq's Agricultural Sector"; Sanford, "Iraq's Economy: Past, Present, Future."

¹⁸ See Fabio R. Chaddad and Marcos S. Jank, "The Evolution of Agricultural Policies and Agribusiness Development in Brazil," *Choices* (2006) 21, no. 2, www.choicesmagazine.org/2006-2/tilling/2006-2-08.htm; and "Agriculture in the Sultanate of Oman," <http://www.nizwa.net/agr/agriculture.html> (accessed July 15, 2008).

Governance

Much of the literature and report data reviewed for this study is from 2003–2004, and a good deal of the remainder is either historical or anecdotal. However, there is a striking similarity in the general conclusions and recommendations of each report—some dating back as many as 55 years. This consistency suggests that any progress in Iraq and the Kurdistan Region must encompass more than mere change in infrastructure, rule of law, transparency, and the political process; it must also be accompanied by a fundamental change in mind set and a commitment to implementation.

Five years following the 2003 war, the Region’s (and the nation’s) agricultural sector remains beset by a legacy of mismanagement, inaccessibility of credit, dated farm machinery, and a lack of processing facilities, basic crop nutrients, and modern technology and knowledge.

The population of the Kurdistan Region is reported as 3,757,058.¹⁹ The KRG currently provides employment compensation—that is, it pays a monthly stipend to—an estimated 1.5 million people in public service, which is approximately 1 of every 2.5 individuals within the Region. The KRG Ministry of Agriculture has 13,320 employees;²⁰ by contrast, the California Department of Food and Agriculture has 1,892, and the Arizona Department of Agriculture has approximately 320. While recognizing the historical nature of this government/citizen relationship, the use of public compensation as a substitute for unemployment continues to divert resources needed to address the Region’s underlying economic constraints. There appears to be an expectation that government will continue to provide basic food items and incomes through public employment.²¹

Standards and Enforcement

The Kurdistan Region has great agricultural potential, but an open border and the lack of a regulatory structure providing for basic, uniformly enforced, quality standards have made the country and the Region an ideal market for products (including food) of an often substandard and contaminated nature. Even diluted, tainted, and out-of-date medicines/veterinary supplies (repackaged as full strength and current) are reportedly entering the Region from outside the country on a routine basis.²²

Fundamental to the Region regaining a domestic or international market share is acceptance of basic quality and safety standards for its agricultural products. However, there is no near- or mid-term prospect of building confidence in the safety of the Region’s (or nation’s) agricultural produce.²³ Yogurt, for example, was once a significant product of the Region but has now been almost totally replaced by imports, and the lack of adequate labeling standards has been repeatedly mentioned as an example of a competitive advantage importing countries currently enjoy. Yogurt entering the country from north of the border has been found to be

¹⁹ UN Development Programme, “Iraq Living Conditions Survey,” vol. 1, 2004, table 1.6.

²⁰ KRG Ministry of Agriculture, Descriptive Survey, March 3, 2008.

²¹ ACDI/VOCA, “Opportunities for Agricultural Redevelopment.”

²² Koji, Descriptive Survey.

²³ Ibid.; Sherzad O. Osman, Descriptive Survey, Agriculture College, University of Salahaddin, Erbil, November 14, 2007.

labeled as requiring no refrigeration and having an expiration date of 6 months. Subsequent testing of the yogurt, however, revealed preservative levels approaching 15,000 parts per million (ppm), when international standards are in the range of 500 ppm.²⁴

With the dubious exception of out-of-date, national food quality standards (a copy of which the Region has been unable to obtain after repeated requests), “there is no regulatory scheme in the food sector, not even a basic food safety code. Without a reasonable regulatory regime there is no possibility of fair competition in the marketplace.” Virtually all product inspection is primitive and “based on personal visual assessment.”²⁵ Acceptance of basic quality and safety standards for agricultural products is fundamental; the lack of such standards effectively precludes access to the export market, undermines confidence in domestic production, and hampers any sustainable effort of the Region’s agriculture sector to regain a market share and to become self-sufficient in its food production.

Baseline Statistics

Any serious effort to attract international investment into the agricultural sector requires baseline agricultural production and market data. The available market data and statistics, however, are faulty, incomplete, and often nonexistent. Statistical data are insufficient and not systematically maintained or made easily accessible through KRG sources.²⁶ Regular updating of information helps to ensure an orderly flow of goods and services among the production, processing, and marketing industries of the agriculture sector. Reliable, timely, and detailed crop and livestock statistics help to maintain a stable economic climate and minimize the uncertainties and risks associated with the production, marketing, and distribution of commodities.²⁷

Rural/Urban Migration

The KRG seeks to encourage people to move back to their villages and resume farming, but it has not yet developed the legal framework, policies, or mechanisms to facilitate this process. While there is general support for the government’s objective of encouraging families to return to their villages and farming, there need to be economic reasons for them to do so. Present agricultural policies provide no incentives for agriculture, and the Region’s produce is currently unable to compete with imported foodstuffs.²⁸ There appears to be little inducement and farm-level capability for private investment in rural infrastructure and production enhancements; income for rural families is generally below what can be earned in the cities. As a result, the young are moving to the urban centers and leaving older people on the farms.²⁹ Without a strong, revitalized agricultural sector, population movements from

²⁴ Koji, Descriptive Survey.

²⁵ Ibid.; CIPE, “Kurdistan Business Agenda”; IZDIHAR/USAID, “Potential for Food Processing in Iraq”; ACIDI/VOCA, “Opportunities for Agricultural Redevelopment.”

²⁶ Zandsht Diaz, “Food Security is the Prerequisite to National Security,” Iraq Updates, February 5, 2007, www.iraqupdates.com/p_articles.php/article/14211.

²⁷ “The Importance of Agricultural Statistics,” United States Department of Agriculture, National Agricultural Statistical Service.

²⁸ ACIDI/VOCA, “Opportunities for Agricultural Redevelopment.”

²⁹ Akram Jaff, “Rolling Investment Plan for Kurdistan Region (2004–2008): The Agricultural Sector,” Kurdish Development Corporation.

rural to urban areas will continue adding to the country's and the Region's social problems and further impact unemployment.

Agricultural Education, Training, Research, and Extension

Wars, sanctions, and internal disruptions have created a more than 20-year gap in Iraq's and the Region's knowledge of current agricultural technology and development. The curricula of the schools of agriculture in the Region's universities are out of date and require revisions to meet current standards.³⁰ Access to modern production and processing techniques and technology without supportive training and international expert advice would be counterproductive at best.

There is limited or no interaction between researchers, extension agents, and farmers, which has contributed to the failure in adopting new technologies, identifying problems, and developing and communicating modern agricultural production management practices. Such lack of interaction and collaboration creates the appearance of a possible conflict between the Ministry of Agriculture and the universities/schools of agriculture regarding agricultural extension.³¹

Agricultural Biotechnology

Any development analysis must perforce be strategic in its view. To meet the future food demand of an expanding population, the introduction of advanced farming techniques and technology is required. These include conventional crop protection, plant breeding, tissue culturing, and plant biotechnology. The Region is blessed with an abundance of native (wild) flora and fauna, some of which have been traditionally used for the treatment of illnesses. A center for agricultural biotechnology should be established to undertake the research and evaluation of such plants to determine their potential for medicinal and therapeutic development.

Given the current fertility rate of Iraq, the nation's reliance on imported food, and the absence of a similar facility for agricultural biotechnology in the Middle East, the development of such a resource in the Region would seem both germane and opportune. As noted in "Promoting Agricultural Biotechnology in the KRG" (December 2007),

"Agriculture in the twenty-first century is facing unprecedented challenges. To satisfy the food demand of the expanding world population and an increasingly fragile natural resource base, the introduction of advanced technology is required to improve agricultural productivity.

Biotechnology provides farmers with tools that can make production cheaper and more manageable. For example, some biotechnology crops can be engineered to tolerate specific herbicides, which make weed control simpler

³⁰ ADCI/VOCA, "Opportunities for Agricultural Redevelopment"; Descriptive Interview, University of Sulaymaniyah, School of Agriculture, February 19, 2008.

³¹ IZDIHAR/USAID, "Potential for Food Processing in Iraq"; Descriptive Survey, Agriculture College staff, University of Salahaddin, Erbil, November 14, 2007; CIPE, "Kurdistan Business Agenda."

and more efficient. Other crops have been engineered to be resistant to specific plant diseases and insect pests, which can make pest control more reliable and effective, and/or can decrease the use of synthetic pesticides. These crop production options can help countries keep pace with demands for food while reducing production costs.

Agricultural Biotechnology also provides benefits for the manufacture of pharmaceutical products. As plants do not carry human diseases, plant-made vaccines and antibodies require less screening for bacterial toxins and viruses.”³²

Recommendations

Land, Infrastructure, and Resources

1. A secure, rational policy allowing for private ownership of agricultural lands and related structures within the Region should be a legislative priority of the Kurdistan National Assembly (KNA):
 - The legislation should resolve the issue of ownership fragmentation due to multigenerational inheritance.
 - Land granted or otherwise provided under such a law should be legally restricted for agricultural use only.
2. Both a plan and a process for land use are required, particularly for any expansion of urban areas. A reasonable and transparent relationship of the value of the land “taken” for such purposes and the compensation to the landowner (if the property is privately owned) is likewise necessary. If the property is publicly owned, a basis for the compensation could be based on the future depreciated loss of income to the farmer/tenant.
3. It is recommended that the Ministry of Agriculture, in collaboration with the colleges of agriculture at the universities of Salah ad Din, Sulaymaniyah, and Dahuk and the Ministry of Irrigation/Water, design, develop, install, and manage a sufficient modern system of metrological stations and soil laboratories.
4. The development of sufficient, reliable electrical power to supply agricultural production and processing should be a high priority of the KRG.
5. The detailed planning undertaken by Polservice Engineering during the 1970s and 1980s to develop the Region’s irrigation infrastructure should be reviewed, revised, updated, and implemented on a phased basis.
6. Given the increasing demands on the Region’s underground aquifers, groundwater management should be part of any water development policy, project, or program.

Agricultural Trade and Market Development

1. A goal of the Region should be basic food self-sufficiency as soon as possible but not later than the year 2020.

³² RTI International/USAID, “Promoting Agricultural Biotechnology in the KRG,” December 2007.

- In cooperation with the central government, a pilot program of a phased reduction (to ensure a sufficient supply of basic foods) of the importation of selected foodstuffs and animal (e.g., poultry) feed should be instituted. Care will need to be exercised to avoid measures that could adversely affect the Region’s competitive position for foreign direct investment.
 - A period of direct minimum price support for the domestic grain industry based on allotted levels of a farmer’s historical production should be examined as an element of this process.
2. The KRG should create a public-private authority similar to that utilized in Oman, the Public Authority for Marketing Agricultural Produce (PAMAP), as a transitional step to encourage and assist agricultural producers, such as poultry farmers, in increasing the production of their crops and livestock by creating a body to market the produce, to make it available in the local markets at reasonable prices, to manage its transportation outside the Region, and to improve the produce in terms of quality, quantity, and availability.
 3. As the PDS is national in scope, the ability of the KRG to change it is limited. However, the Region’s market is segmented and distinct from that of the remainder of Iraq:
 - In cooperation with the central government, a pilot program of providing cash substitute transfers to targeted, means-based beneficiaries should be implemented.
 - The program should be geared to maximize the involvement of the private sector to provide the required services. Private sector markets will be able to respond to the demand for food grains and other commodities that the program will generate.
 4. The Kurdistan Region has many “unique” characteristics, one of which is its agricultural historical significance:
 - A regionally integrated marketing/branding scheme based on that history should be considered to promote agricultural (and perhaps other) sector programs and/or products.
 - Private sector stakeholder involvement is key; agricultural sector involvement through associations and other producer groupings should be utilized to increase impact.

Governance

1. A process to phase out all socially based employment and dependency should be implemented. Public works programs in lieu of the current system of nonproductive government jobs, both for creating employable skills and improving infrastructure, should be undertaken. This should be a transitional scheme integrated with improved education and training leading to longer-term private sector employment.
2. A board of agriculture composed of agricultural and agribusiness representatives should be established within the KRG Ministry of Agriculture. This board of agriculture should be composed of an odd number of members (11–15), appointed by the KRG Prime Minister (for terms of 4–6 years), and carefully selected to represent a broad range of agricultural commodities, geographic regions, of nongovernment, private sector farmers and farm organizations, and representatives of the Region’s agricultural academic system. It should be chaired on a two-year term by one of its members.

- The principal responsibility of the board should be to advise the Prime Minister and the Minister of Agriculture on agricultural issues and consumer needs.
 - The board should also act as a host to bring together local, state, and national government officials, agricultural representatives, and citizens to discuss current issues of concern to the Kurdistan Region's agriculture.
 - The board should also be charged with the following specific responsibilities:
 - Inquire into the needs of the agricultural industry of the Region and the functions of the Ministry of Agriculture in relation to how the agricultural industry and the consumer of agricultural products may best be served by the ministry.
 - Make recommendations to the Ministry of Agriculture regarding project agreements to be funded.
3. The board of agriculture, as one of its first functions, should initiate a review of the Ministry of Agriculture's mission, structure, and essential levels of staffing.

Standards and Enforcement

1. The KRG should seek the federal government's Ministry of Agriculture, in consultation with the ministries of Health and Trade, to review, revise, and promulgate regulations providing for food code regulations and their enforcement. If there is no expeditious action made by the federal government, the KRG should determine its constitutional authority to separately develop and enforce such standards within the Region.
2. A regional institute for molecular genetic and quality control should be established to provide for the routine and systematic:
 - Testing for and identification of human and animal diseases;
 - Testing of domestic and imported agricultural products and medicines for quality, efficacy, and safety.

Baseline Statistics

1. Maintenance and accessibility of agricultural data should be one of the basic responsibilities of the KRG's Ministry of Agriculture.
2. Objective and reliable baseline economic and production data should be collected for each major crop and livestock industry within the Kurdistan Region. Similarly, data to provide comprehensive, regional sets of climate, soil, and topographic information for all areas of the country (including the Kurdistan Region) need to be collected, digitized, and entered into GIS database overlays.

Rural/Urban Migration

1. Redevelopment of the rural villages and their farming economies should include the construction of necessary basic infrastructure, including hospitals and schools. These should be constructed to be jointly utilized by several villages in reasonable proximity to one another.
2. The KRG should develop the legal framework (land ownership), policies (import control, means-based PDS, and public works and private sector employment development versus government employment), and mechanisms (public-private authorities) to facilitate a return to the villages and farming.

Agricultural Education, Training, Research, and Extension

1. A formal partnership should be forged between the university schools of agriculture and the Ministry of Agriculture to increase the knowledge and skills of extension personnel.
2. An integrated strategic plan to redevelop the rural economy and the Region's agriculture should be created. The plan should:
 - Include strategic goals for agriculture within the Kurdistan Region. The goals should include efficient and stable growth, increased food security and self-sufficiency, and high rural employment;
 - Include the introduction of and education and training on the use of modern technology and machinery, plant nutrients, new cultivars, and business management; and
 - Actively support research and innovation in conjunction with the private sector.
3. The KRG, in collaboration with the private sector and foreign institutions, should:
 - Develop a long-term plan for basic research. The development of such a plan should include representatives of the academic community and the Region's research institutions such as the Kurdistan Technical Research Establishment in Sulaymaniyah;
 - Update the core agricultural curriculum in the Region's universities, including the academic areas of agribusiness development, management, policy and planning, marketing, and agricultural economics, which should be required continuing education subjects for all extension agents;
 - Make gender equity a central element in education, training, access to credit, and agricultural development opportunities.
4. The development of a viable agricultural research and extension service to develop and disseminate modern varieties and production practices is needed to restore agricultural productivity. Training and continuing education of extension agents should be elements of this process.
5. Funding for basic supplies, equipment, and facilities (including agricultural land for research, student projects, and applied learning) must identified and allocated.
6. International private-sector expertise (e.g., from returning Kurds or from other expatriates) should be retained to provide advice, assistance, and guidance during the agricultural redevelopment process.

Agricultural Biotechnology

1. A detailed study should be conducted to quantify both the benefit and expenses involved in establishing a center for agricultural biotechnology within the Kurdistan Region.
2. The study should quantify the benefit and expenses of research of the Region's native plants for potential medicinal (drug) development and incorporation into the activities of the recommended center for agricultural biotechnology:
 - The study should involve various ministries, including Agriculture, Health, Environment, Higher Education and Scientific Research, and Planning and Development, and the universities and technical institutes within the Kurdistan Region and Iraq, such as the Kurdistan Technology and Research Establishment (KTRE).

- Should the study confirm preliminary observations and conclusions, the KRG should seek support from international sources for the establishment of such a center.

Development Potential

1. The poultry industry demonstrates potential but still most frequently utilizes an operating model that does not generally provide for economies of scale necessary to be competitive with imports.
 - The introduction of an Integrated Poultry System (IPS) has been suggested as a potential solution. However, there is a lack of financial sophistication in the farming sector that will require careful consideration in the contracting process.
 - A public-private authority similar to that used in Oman should be established as a vehicle to assist in service provision and to act as a transitional intermediary in the poultry industry's revitalization in the Kurdistan Region.
2. The grain industry likewise offers some possibilities but lacks the support necessary to regain a market share when faced with central government policies that undermine domestic production (e.g., the PDS).³³
3. The Kurdistan Region offers a fertile area appropriate for the production of soybeans. A study of soybean production and processing should be undertaken to identify the strengths, weaknesses, opportunities, threats, and costs (capital as well as operating) involved in a pilot project. Assuming a positive report, a pilot project should be implemented to produce and process the soybeans.
 - The Kurdistan Region imports approximately 50,000 metric tons of soy meal to support the feed needs of its poultry industry.
 - Neighboring countries (i.e., Iran, Syria, and Turkey) produce small amounts of soya that satisfy only a portion of their domestic demand.³⁴
 - Surveys of the poultry industry have provided mixed indications as to whether or not a lack of a processing plant to "extrude" bean meal is a constraint to the commercial production of soybeans for use in chicken feed.³⁵
4. Fruit, nuts, and vegetables offer opportunities for the agriculture sector in the Kurdistan Region, but the lack of modern agro-processing and cold chain technology impedes this potential.
5. Organic production provides significant potential for agriculture in the Kurdistan Region and should be exploited. Organic certification for farmers in the Region should be sought.
6. Biotechnology is a strategic key in development of the Region's agricultural future. The establishment of a center for agricultural biotechnology is recommended. The center should research and evaluate the Region's flora and fauna for medicinal and therapeutic development.
7. Conditioned upon the redevelopment of at least a basic agricultural processing industry, certain fruits and vegetables appear to also offer potential; dehydration and the processing of certain vegetables (i.e., tomatoes) into powder should be a matter for a serious near-term market development study.

³³ Edirisinghe, "A Study of Food Grain Marketing in Iraq."

³⁴ Kanakawa Poultry, Descriptive Survey, Sulaymaniyah, November 29, 2007.

³⁵ Ibid.; Kurdistan Federation of Chambers of Commerce, Descriptive Survey of Knowledgeable Poultry Industry Representatives, November 21, 2007; ARD/Unifert, Descriptive Survey, Erbil, December 5, 2007.

8. Potential collaborative relationships between sectors (e.g., agriculture, extractive industries, and education) should be pursued in the form of integrated (with processing and marketing) demand-driven “proof of concept” (pilot) projects.

Construction Sector

Executive Summary

This assessment of the construction sector in the Kurdistan Region has provided an overview of the background, current conditions, challenges, impediments, constraints, and possible restrictions on the continued growth of the construction sector in the Region. Conclusions have been reached and a number of recommendations, both specific and general, for the KRG have been made. It is important to note that construction industry data are sparse for many key measures of sector performance. Therefore, estimates, and in some cases guesstimates, had to be made based on interviews and a consensus of experts in the region.

Application of this data and its use for international cost comparisons should be done with caution. A key recommendation of this report is for the KRG and industry to collect better data on all facets of the industry and report the information. Ideally, the methods used for business activity and construction cost comparisons in this report would have been comparable to the methods used in other countries and international markets, so the key differences between temporal and spatial comparisons from country to country could be identified. Nevertheless, a great deal of valuable information was collected about the current conditions and health of the construction sector in the Kurdistan Region.

The importance of the construction sector in the region's economy is clear. The industry contributes significantly to job creation and the gross domestic product of the Kurdistan Region. Private firms are the driving force of the construction industry, which is the fastest growing sector in the region. However, there are constraints to the sector that must be addressed to streamline the construction process, attract additional investment, transfer technology, improve expertise, provide transparency, and assure a competitive advantage. The KRG should start by addressing these constraints in ways that give firms confidence to invest in the region and sustain the current growth rate. Government policies must be reviewed on a regular basis to identify and respond to changes in the sector. The construction industry must become a partner with the government and have direct input into the making of laws and policies.

This report has also identified a number of key bottlenecks and impediments to the healthy growth of the construction sector, the most important of which is the current condition of the Kurdistan Region's infrastructure. Across the board, all infrastructure—electricity, water/water resources, sewage disposal, solid waste, roads, bridges, railroads, trams, institutions, laboratories, affordable housing, and materials supply—needs to be overhauled to sustain growth. This is a monumental task and cannot be accomplished by government alone. Nor can it be accomplished unless the aforementioned constraints, bottlenecks, and impediments are removed. A cooperative, open, and transparent relationship between government and the private sector must be undertaken to build this infrastructure.

Recommendations

This report recommends a number of actions to establish and maintain Public Private Partnerships (PPPs). A PPP center, a project development facility, a one-stop shop for obtaining building permits and utility hookups, co-ops between construction companies and universities, and percent targets for Iraqi-Kurdistan companies/employees are a few of the major recommendations contained herein.

Additional recommendations in the report include but are not limited to the following:

- Plan and build schools and hospitals to provide needed services in growth areas.
- Provide affordable housing.
- Fund and provide adequate infrastructure to keep pace with development.
- Take measures to train and retain qualified engineers and technicians (several recommendations are contained in the report).
- Automate land lease and land registration application processing.
- Improve and establish materials testing laboratories.
- Develop and publish a manual of policies and procedures for application processing.
- Establish and enforce building codes.
- Institute automated processes for permit applications (including online applications), permit issuance, permit tracking, inspector deployment, and final approvals.
- Introduce oversight and customer feedback capacity.
- Automate utility application and tracking processes.
- Require environmental compliance application at an early stage of the locating process.
- Reevaluate EIA requirement for all projects.
- Develop and publish EIA process guidelines.

The construction sector cannot flourish without the input of human capital and technology transfer. Significant investment needs to be directed toward improving engineering and technological education, providing overseas experiences for professionals, building state-of-the-art construction laboratories, and improving health and welfare. The Bremer directive, which directed pay based only on the years of work experience, should be scrapped. Competitive wage scales and civil service classifications based on experience, education, and performance must be implemented. Without competitive salaries, the loss of professionals will continue and the Kurdistan Region will be unable to sustain the growth in the construction sector.

Sector Assessment: Construction

Introduction

This report on the construction sector in the Kurdistan Region provides an analysis of the size and growth of the construction industry in the Region; the cost, use, and quality of construction materials; and the three areas of the construction industry: commercial and institutional (i.e., industrial and ancillary nonhousing), housing, and infrastructure (i.e., utilities, roads, bridges, and transit systems). Other factors in the construction sector, such as the labor market and human capital investment, land acquisition and site development, building codes and permits, and quality control standards are also analyzed.

This report also identifies and provides recommendations for the major challenges faced by the Kurdistan Regional Government. These challenges include:

- A lack of experienced managers, technicians, and engineers;
- A lack of quality control on materials being used in the construction industry;
- A high demand for affordable housing that is continuing to rise due to the return of displaced persons and immigration;
- A focus by contractors on high-end housing for the wealthy rather than a balance of affordable housing stratified through all income levels.

Size of the Construction Sector in the Kurdistan Region

The construction sector is a major part of the Kurdistan Region's economy because of its size and its influence on other sectors. Construction contributes significantly to job creation and the gross domestic product of the Kurdistan Region. Driven by private sector firms, construction is the fastest growing sector in the Region's economy. The size of the construction market is estimated at \$2.8 billion, with 95% of the market estimated to be controlled by Turkish companies.

The Erbil Contractors' Union (ECU), which is part of the Kurdistan Contractors' Union, reports that the total number of construction contractors in the Kurdistan Region is approximately 2,500. The Kurdistan Contractors' Union has a total of almost 2,000 members: 400 in Dahuk, 735 in Sulaymaniyah, and 863 in Erbil. There are 59 foreign members, of whom 51 are Turkish and 8 are Iranian. The majority of Turkish firms establish partnerships with Kurdish counterparts in the Region.

Due to the lack of statistical information on the construction sector in the Kurdistan Region we have compiled data from foreign sources on companies that export construction services and supplies to Iraq and the Kurdistan Region. For example, Business Intelligence Middle East (BIME) reports that the number of Turkish construction companies currently doing business in Northern Iraq is 380.³⁶ In Erbil alone, BIME cites the presence of 500 foreign

³⁶ "Turkish Contractors Take the Gravy Train in Northern Iraq," *Business Intelligence Middle East*, July 9, 2007, http://www.bi-me.com/doc_print.php?id=11448.

construction companies. The *Turkish Daily News*, however, reports that there are 634 Turkish contracting companies operating in Northern Iraq: 260 in Erbil; 225 in Sulaymaniyah; 97 in Dahuk; 45 in Zakho; and 7 in the town of Acre.³⁷ Of these firms, 150 have undertaken contracting jobs larger than \$30 million in Erbil and Sulaymaniyah. Through 2007, Turkish construction companies in the Region worked on projects valued at over \$2.6 billion, including the airports in Sulaymaniyah and Erbil.³⁸

The difference in the numbers stated above can be attributed to several factors. Many foreign contractors working on large projects worth over \$10 million do not join the Kurdistan Contractors' Union, although their subcontractors may be members. Large construction jobs, especially those with U.S. or other foreign donor funding, go directly through the ministry involved and are not reported by the Kurdistan Contractors' Union. Until one uniform method of registering contractors and reporting activities is implemented, there will continue to be differences in construction sector statistics.

Growth of the Construction Sector

Growth of the construction sector in the Kurdistan Region has been robust over the past four years due to strong economic growth and the demand for housing magnified by the migration of thousands of Arab Iraqi professionals and their families to the Kurdistan Region. Since 2003, it is estimated that 15,000 families have moved to Erbil and 38,000 families have moved to Sulaymaniyah from other provinces in Iraq.³⁹ Assuming an average of four people per family, the population growth due to migration since 2003 has been 4.5% in Erbil and 9.4% in Sulaymaniyah. As a result, there is an immediate need for housing, schools, hospitals, and other infrastructure in the Region, which will require at least \$5 billion to build.

Use of Construction Materials in the Kurdistan Region

Building Cost and Productivity

As in most parts of the world, building costs have been rising significantly in the Kurdistan Region as a result of rising prices for fuel, labor, and materials. For example, since 2000 cement prices have increased from \$25 per long tonne to \$125–\$150 per long tonne, regardless of origin, and rebar steel has increased from \$200 per tonne to \$700–\$800 per tonne. The Kurdistan Contractors' Union states that institutional construction costs have increased 5%–600% over the last 10 years.

The construction materials market in the Kurdistan Region is estimated at \$500 million to \$600 million based on total construction value estimates and “rule of thumb” calculations. Cement, steel, and bricks make up a large share of the construction materials used in the Kurdistan Region. However, much of these construction materials, including steel reinforcing bar, fixtures, wiring, tile, and finishing products, are imported. The Kurdistan Regional Government's (KRG) Ministry of Industry lists 204 firms, of which over 100 are Turkish, that are supplying products to the construction industry in the Region. The lack of

³⁷ *Turkish Daily News*, April 12, 2007.

³⁸ *Ibid.*

³⁹ Eric Davis, “The Uses of Historical Memory,” *Journal of Democracy* 16, no. 3 (July 2005): 54–68.

testing facilities in the Region, however, hinders the industry's ability to ensure the quality of building materials.

Cement

The estimated cement consumption in all of Iraq is estimated to be 10 million tonnes per year, 25%–40% of which is used by the construction industry in the Kurdistan Region. Before the recent renovation and construction of new plants in 2006, an estimated 7 million tonnes were imported from Turkey, Jordan, and Iran. Although cement production capacity has increased, cement will still need to be imported into the Kurdistan Region in the short term to keep pace with demand created by increased construction activity.

There are 15 cement plants operating in all of Iraq; three of these are in Sulaymaniyah, and one is in nearby Kirkuk. One of these plants, the Tasluja plant, was built in 1985 and renovated by a consortium that was headed by Orascom Construction Industries (OCI) of Egypt and that included the Faruk Rasool Group of the Kurdistan Region. In 2005, the rehabilitation of the plant was completed by OCI, and it now produces 2.3 million tonnes per annum (tpa); the plant's operating capacity prior to the rehabilitation was 300,000 tpa. OCI now operates the Tasluja plant under a 12-year contract with the government. A new cement plant at Bazyan, completed by the Egyptian firm United Cement, is producing 2.5 million tpa. The 51-year-old, government-owned Sachinar plant is leased to a private company and produces 150,000 tpa. This plant is soon to be abandoned, but three new cement plants are planned and/or already under construction in the Kurdistan Region. One is in Erbil, and the other two are in Sulaymaniyah. A Japanese-designed cement plant in nearby Kirkuk produces 400,000 tpa but is being upgraded to produce 1 million tpa.⁴⁰ A consortium has taken on the operation of the plant on a 15-year contract with the KRG. The consortium consists of Salahaddin Al-Qabitha (Lebanon), Middle East Company (Lebanon), and Ahati Industries (Germany).

Steel

Steel is imported from Turkey, Ukraine, and China. There has not been a significant effort to recycle scrap steel and iron in the Kurdistan Region. Currently there is one small steel manufacturing facility in the Region, Erbil Steel. Because the iron ore in the Region is low in ferric oxide (Fe_2O_3) content, scrap iron is best used at the facility.

Bricks

The BG Group operates a modern brick factory located in Zakho in Dahuk Province. The Halabja Group operates the Aso Brick Factory, which is located in Takiya Subdistrict, 35 kilometers southeast of Sulaymaniyah. The Aso Brick Factory's standard production is 590 tonnes of green (unfired) products per day, or 138,000 standard-size bricks per day. There is another new brick factory being established in the Koya area between Mosul and Erbil; equipment and machinery are in the process of being installed. The new factory will produce brick with the raw materials found nearby in the Makhmour area.

⁴⁰ Usama Al-Rufaae, director of United Cement in Iraq and general manager of the Bazyan and Tasluja cement factories in Sulaymaniyah, proceedings of survey, April 24, 2008.

Most of the concrete blocks and bricks in the Region, however, are produced by small independent manufacturers, and there are issues regarding the suitability of locally produced blocks and bricks for modern construction applications:

- The quality of the local brick is not consistent and sizes vary.
- Bricks produced outside the Kurdistan Region have better quality control and are larger in size, which reduces the brick laying time since fewer bricks need to be laid.
- Concrete blocks are produced by small independent manufacturers and suffer from the same quality control issues as the local bricks.

Materials Testing

The lack of materials testing capabilities is a problem for the construction industry. There are only two government materials testing laboratories in the Region, and those laboratories are old and have equipment dating back to the 1960s and 1970s. Large private sector contractors operate their own laboratories.

Competent, certified, well-equipped construction labs are needed for quality assurance and control in the Region. The Erbil Materials Laboratory needs \$1.5 million in new equipment to meet modern materials testing standards. In addition, during the *Anfal* campaign of the 1990s, many qualified engineers left the Kurdistan Region, leaving an insufficient number of qualified engineers and technicians to operate the labs.

The Ministry of Construction and Housing faces the following five major challenges:

- A lack of experienced managers, technicians, and engineers;
- A lack of quality control on materials being used in the construction industry;
- A high demand for affordable housing that is continuing to rise due to the return of displaced persons and immigration;
- A focus by contractors on high-end housing for the wealthy rather than a balance of affordable housing stratified through all income levels.

Commercial and Institutional Construction

Commercial Construction

While public infrastructure is suffering from chronic underinvestment, the regional government has approved more than \$4 billion worth of mostly private development projects since 2006.⁴¹ Many of these projects include provisions for commercial facilities as part of their master plans. Turkish companies alone have won over \$653 million in contracts for institutional and commercial construction projects.

One development, Dream City (“the most elegant square kilometer in Iraq”), will include about 1,200 houses with prices between \$180,000 and \$700,000, as well as three schools, a

⁴¹ K. Semple, “Kurdish Iraq Focuses on Investment and Building,” *International Herald Tribune*, June 27, 2007.

supermarket, a restaurant, recreation areas, a casino, and a mosque.⁴² Several luxury hotels are under construction, including one by the hotel chain Kempinski.

In the past 15 years the Kurdistan Region has spent an estimated \$1 million on restoring manufacturing industries by buying essential machinery, equipment, and raw materials, especially for textile, cigarette, and canning factories and marble quarries.⁴³

Institutional Construction

One issue that impacts other sectors of economic development is the lack of hospitals, schools, clinics, and other institutions in areas where housing and businesses are expanding rapidly. For example, officials have identified a need for emergency zone hospitals in the four quadrants of the city of Erbil. There is a substantial backlog of institutional construction and a need for teachers, nurses, physicians, and other professionals to operate these facilities when they are constructed. In Tehran there is one hospital bed per 1,000 people; in Kurdistan the ratio is one per 5,000–10,000 people.⁴⁴ The U.S. Government (USG) provided \$6 million to modernize the Erbil Maternity Teaching Hospital in 2005 and 2006, but there have been problems with its maintenance and operations. The Erbil Cardiac Centre, which opened in December 2007, cost \$16 million to build and equip. A joint venture between Austrian, Turkish, and Kurdish investors is developing a 500-bed hospital in Erbil.

Conclusions and Challenges

- Building costs have risen substantially in the past few years.
- A significant shortage of hospitals, schools, and other institutions and a backlog of institutional projects exist.
- Financing is needed for school, hospital, and institutional projects.
- Iraqi contractors and workers do not always receive a share of the work on construction projects.

Recommendations

- Improve data collection and identify data by sector.
- Plan and build schools and hospitals to provide needed services in growth areas.
- Seek additional foreign direct investment from the private sector for institutional projects such as schools and hospitals.
- Establish and provide for a mentoring program to upgrade the skills of subcontractors in the Region.
- Establish and implement a target proportion for hiring Iraqi nationals in each government contract.

⁴² Alan Attoof, "Pointing to Stability, Kurds in Iraq Lure Investors," *New York Times*, June 27, 2007, http://www.nytimes.com/2007/06/27/world/middleeast/27kurds.html?_r=1&pagewanted=2&oref=slogin.

⁴³ Ibid.

⁴⁴ Interview with Mostafa Hejri, former first secretary to Kurdistan Democratic Party–Iran, "Nation and the National Question for Iranian Kurds, Part 1," *Iran Bulletin*, http://www.iran-bulletin.org/IB_MEF_0/mostafa%20hejri.doc.

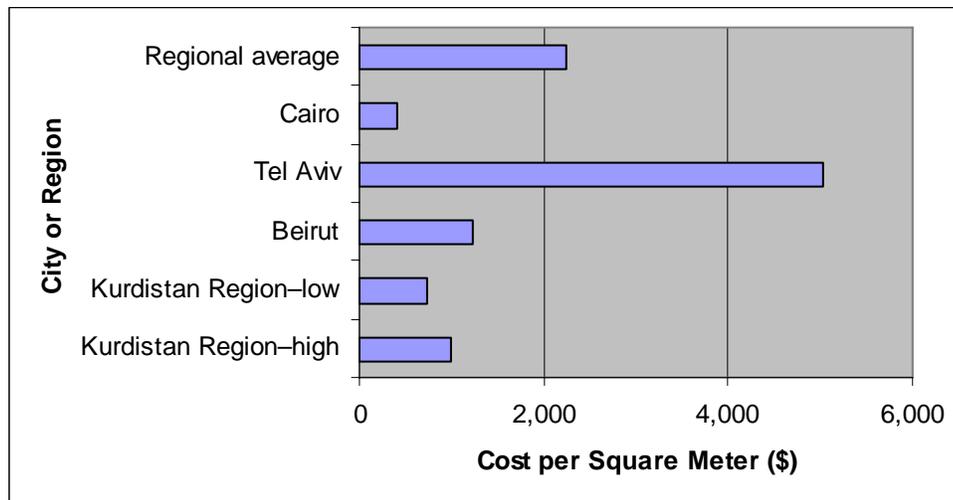
- Hold symposiums and seminars to match investors and donors with project proponents.

Housing Construction

The housing sector produces habitable shelters and has a very strong correlation with the functioning of the urban economy—both in terms of its overall efficiency and its implications for environmental quality and living conditions. Herish Muharam Muhamad, chairman of the regional board of investment, recently announced that construction on 40,000 housing units in the Kurdistan Region is underway.⁴⁵ The actual size of the housing sector is hard to gauge, however, because although many large development projects are announced in the press, some never materialize. “Project 2008” started by UN Habitat, one of a number of unfinished or unoccupied housing projects in Erbil, is an example.

Private sector investors have been active in the Kurdistan Region building several high-end projects. But with the addition of 8,000 units at Tarin Hills (a \$55 billion mixed-use development being built by Dubai-based Damac Properties), another 2,000 at the Ankawa American Village, and another 356 at the Erbil American Village, one has to question the ability of a population of 3.8 million people to absorb this many high-end units. Kurdistan housing costs, though, are still considerably low when compared to prices across the Middle East (see figure 1). The prices for the high-end units currently under construction in the Kurdistan Region range from roughly \$733 to \$1,000 per square meter. These units are offered for sale with 25-year financing at interest rates as low as 4%. When compared to prices in other areas of the Middle East (Beirut’s average price is \$1,237 per square meter, Cairo’s is \$406 per square meter, and Tel Aviv’s is the highest in the Middle East at \$5,021 per square meter).

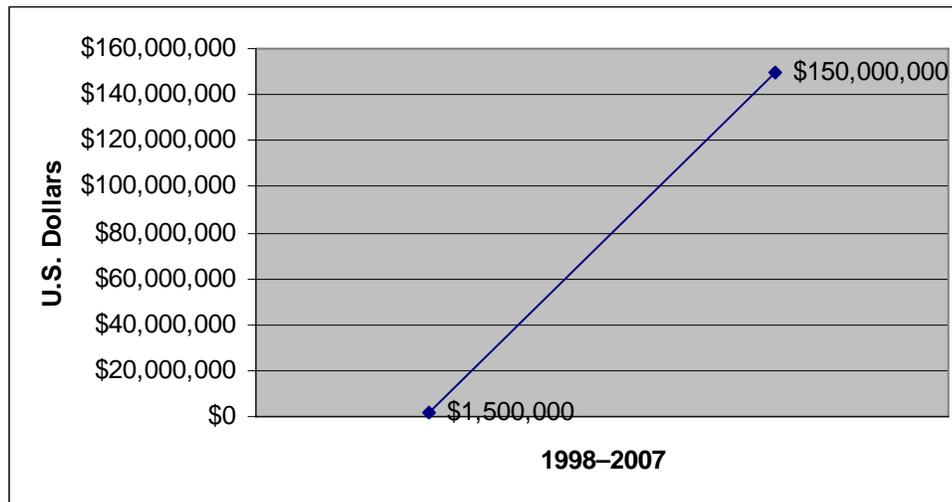
Figure 1. Cost of Housing in the Middle East



⁴⁵ “Kurdistan Becoming ‘Economic Development Gateway’ to Iraq,” *Kurdish Globe*, June 12, 2008; “Government to Review Housing Projects,” *Kurdish Globe*, June 12, 2008.

The number of residential projects undertaken by members of the Erbil Contractors' Union increased from 30 in 2002 to 986 in 2007. Over the same time period, the total value of construction projects by union members increased from \$1.5 million to \$150 million (see figure 2). These contractors' union members constructed 90% of the total number of private housing units from 2004 to 2007.

Figure 2. Value of Construction by Erbil Contractors' Union Members, 1998–2007



On the other side of the spectrum there is a lack of small, affordable residential units for young people in the Kurdistan Region. There is a need for planned unit developments of different sizes and price ranges that are accessible for people with different income levels. There is one such project currently planned, which would build approximately 2,000 affordable units for young families. The aim is to offer these at \$25,000 per unit with a four- to five-year amortization period.

In June 2008, Prime Minister Nechirvan Barzani stated that his government will allocate \$100 million to finance the first stage of a housing project that will benefit low-income residents. Parliament passed a regional housing law, and the Ministry of Finance has been instructed to take measures to implement the project. This action will assist in alleviating the lack of affordable housing in the Region.

The KRG is building new residential units for low-income families and government employees. At least one donor agency, UN Habitat, was initially involved in the construction of a low-income housing project; 3,900 units are planned according to the Ministry of Construction and Housing, but many more units are needed.⁴⁶ The ministry estimates that 60,000 residential units are needed in Erbil and 200,000 units are needed throughout the Kurdistan Region to satisfy the current housing demand. Unfortunately, units from two of these projects have been unoccupied for the past year as they await approval from the Baghdad central government for electricity and other utility hookups.

⁴⁶ "Government to Review Housing Projects," *Kurdish Globe*, June 12, 2008.

Conclusions and Challenges

- There is a building boom but a lack of affordable housing.
- There is a lack of data concerning production, availability, and affordability.
- Housing is overpriced when compared to salaries of the average resident.
- The growth in the population has increased housing demand.
- Returnees cannot afford to return to their places of origin because of the increased price of land.
- There is a lack of small apartments and residences, especially for young people.

Recommendations

- Analyze housing construction regularly and publish findings.
- Provide social assistance for affordable housing in both urban and rural areas.
- Provide attractive financing mechanisms for public sector employees or employees working in essential services.
- Encourage planned unit developments of various prices and sizes.
- Make land available for affordable housing.
- Provide financing mechanisms to increase affordability.
- Seek outside capital financing assistance from donor agencies for construction.

Infrastructure

Providing proper infrastructure is essential for the development of housing and industrial, commercial, recreational, and administrative property. Builders and construction companies must be assured that the infrastructure for their particular projects exists, is reliable, and has sufficient capacity to serve their particular construction activity.

Solid waste, water, sewer, and electricity services are unsatisfactory in the Kurdistan Region. Many households do not receive services, including water, from the main utilities, even though they would be prepared to pay for the services. Others are connected but get water or electricity for only a few hours a day. Even fewer households are connected to a wastewater collection, treatment, and disposal network. In the Kurdistan Region water is not safe to drink much of the time, and wastewater is not properly treated.⁴⁷ The Erbil Contractors' Union and the director general of the Ministry of Construction agree that the lack of adequate electricity is the construction industry's biggest problem and the main impediment to development in the Kurdistan Region.

One of the major problems confronting the modernization of the infrastructure is that customers are not accustomed to paying for services that previously had been provided for free by the central government. In addition, customers are reluctant to pay for poor services. Unless governments make up the difference between prices and costs with subsidies, neither public nor private providers will invest. Private providers will not invest because they do not believe investment will be profitable, and not-for-profit public providers will generate too

⁴⁷ S.O. Perababi, "Investment Opportunity in Iraqi Kurdistan," Shikofa Centre for Strategic Studies, 2008, <http://shikofa.org/pdf%20files/Investment%20Opportunity%20in%20Iraq%20kurdistan.pdf>.

little cash to finance investment internally and will be insufficiently creditworthy to finance it externally.

To increase the quality of water and electricity, the USG and the KRG have brought new capacity online. In June, Pir Daud's dual-fuel, simple-cycle 500-megawatt electricity generating plant began distributing 110–115 megawatts of electricity to Erbil and Sulaymaniyah. The USG-funded Erbil-Ifrac Water Treatment Plant, Stage I, was completed in 2006 and officially opened in 2007. Stage II of the plant, funded by a Japanese soft loan, is underway; it is designed to increase the capacity of drinking water for 10,000 more people in three districts.

It is projected that over \$10 billion will be needed to finance infrastructure projects in the Kurdistan Region over the next five years.⁴⁸ The assets of water utilities are largely underground, and thus their conditions cannot easily be appraised by investors or project implementers, which makes it difficult for construction companies to prepare bids when the government auctions the right to build infrastructure and/or provide services. It is even harder for the government to set appropriate prices for water services. Still more problems are created by the fact that local, provincial, and central governments have overlapping responsibilities.

Sanitary Utilities (Water, Wastewater, and Solid Waste)

Water, wastewater, and solid waste services are critical to the Kurdistan Region's construction sector and to the Region's economic growth and overall well-being. These basic services are important to meet the potable drinking water and sanitation needs of the population, and they are essential to building competitive industries. However, given the current financial and operational condition of the Kurdistan Region's water, wastewater, and solid waste utilities, it is unlikely that future water and sanitation needs can be met unless the KRG takes action to reform existing utilities and mobilize financial resources for the sector.

Water and Wastewater

Water supply in the Kurdistan Region is limited in coverage and quality. Only Erbil (with 250,000 connections) and Sulaymaniyah (with 430,000 connections), have piped water systems. Over \$200 million worth of work was contracted to repair and renovate the water systems in the Region, excluding the new Ifrac Water Treatment Plant funded by the USG.

Access to piped water infrastructure in the Kurdistan Region is low because of poor operations and maintenance and the lack of electricity for water services. A majority of urban residents draw small quantities of water from generally unsafe boreholes, open wells, springs, or streams.

Clearly, operations and maintenance of existing facilities are a serious problem. Water supply projects in Iraq are operating for only a year or two after their completion. Several other networked water systems installed with donor assistance are having severe operational

⁴⁸ Newroz J.I. Khaffar, Kurdistan Contractors' Union, Kurdistan Chamber of Commerce, proceedings of survey, Sulaymaniyah, January 29, 2008.

difficulties as well.⁴⁹ Although the Kurdistan Region is faring better than other areas of Iraq, there are still significant problems with potable water supplies, and many of the projects funded by donor organizations were done unilaterally and/or without full consultation with KRG officials.

Much of the water transport and treatment plant equipment is old and broken. Replacement parts are difficult to find, and facilities do not function while parts are specially made. All of these factors contribute to the constraints on the construction sector and its future development. There are a number of projects planned to alleviate the situation, but they need funding.

The infrastructure for wastewater collection, treatment, and disposal does not exist in most of the Kurdistan Region. Erbil does not have a sewage treatment plant, and all of the sewer systems are designed to drain stormwater and runoff on a temporary basis only. For example, stormwater drainage systems cover only 20% of the land area in Erbil, and the percentage is lower in other urban areas. During the winter rainy season, many areas in the Region flood, which results in discharges of sewage into existing stormwater systems that eventually flow to more rural areas where it is used to irrigate and fertilize crops. Such practices can spread disease and pestilence.

Because of low cost recovery, limited financial capacity exists in Iraq's national system for the maintenance or expansion of water and sanitation services, which results in low service levels and widespread operational problems. Water and sewer utilities need to be reorganized in order to ensure proper operations and maintenance, sufficient capacity, and adequate cost recovery. Overall, the growth in the construction sector will be severally constricted if water and wastewater challenges are not addressed.

Solid Waste

Solid waste collection, treatment, and disposal services in the Kurdistan Region's urban areas and adjoining towns are limited in coverage and quality. Within the Region, only Erbil, Sulaymaniyah, and some suburbs have systems that regularly collect, treat, and dispose of solid waste. These systems are operated under contracts by private sector companies in conjunction with the municipalities in the Kurdistan Region. For instance, under a three-year contract, one private company operates 134 compactor trucks and collects solid waste from households and businesses of Erbil. Additionally, Erbil Municipality has established a public-private partnership (PPP) with a company and has executed a 15-year contract to allow the company to collect, transfer, and dispose of solid waste at their 80-hectare landfill. This PPP is currently seeking funding to construct and implement a new mechanical recycling facility at their landfill and expand recycling efforts.⁵⁰

Sulaymaniyah Municipality has a similar PPP that serves 250,000 households. Both Erbil and Sulaymaniyah are interested in Build-Operate-Transfer (BOT) or Build-Operate-Own (BOO)

⁴⁹ Gary York, Proceedings of Committee Meeting, Ministry of Municipalities, Kurdistan Regional Government, June 22, 2008; Masouod Karrash, Proceedings of Survey with Director of Water, Erbil Governorate, January 22, 2008.

⁵⁰ George D. Maya, Al-Janaeen, Co., proceedings of survey, Erbil, January 21, 2008.

schemes for expanding and improving their operations.⁵¹ The remaining provincial towns and those adjoining urban areas in the Kurdistan Region add additional waste to the waste stream, but it is reported that most of this waste goes to open dumps and/or is openly burned.⁵²

In summary, access to solid waste infrastructure in Iraq is among the lowest in the world. The Kurdistan Region is doing somewhat better, however, thanks to the private sector. The majority of rural and small town residents dispose of solid waste in an unsafe manner in open spaces or in vacant lots. Although in recent years transfer stations and landfills have been constructed with U.S. funds in Iraq's Northern Region, these facilities do not meet international standards for the following: leachate collection, treatment, and disposal; transfer station stormwater runoff collection, treatment, and disposal; worker safety; electrical backup; and hazardous waste/medical waste exclusion.⁵³

In Erbil, 90% of the waste collected is from residential sources.⁵⁴ In Kirkuk, an industrial city outside the Kurdistan Region, the situation is different, where residential waste constitutes 65% of the waste stream.

Operations and maintenance of new transfer and disposal facilities are also a major problem in Iraq. Several solid waste collection, treatment, and disposal projects completed in Iraq are not operating after only one or two years after being completed. Several other solid waste programs installed with donor assistance are also having severe operational difficulties due to a lack of funding.

Due to low cost recovery, limited financial capacity exists to maintain or expand solid waste collection, transfer, and disposal services, which in turn is reflected in the low service levels and widespread operational problems.

Conclusions and Challenges

- Access to piped potable water, sewage collection, and solid waste services in the Kurdistan Region is among the lowest in the world.
- Operations, maintenance, and capital projects are constrained due to low cost recovery for services.
- There is a need for major new legislation for water, wastewater, and solid waste services.
- The administration of sanitary utilities is inefficient, organizationally disjointed, and duplicative.
- Water supply to users is not monitored (metered) and lacks a modern rate structure.

Recommendations

- Develop and implement an improved sanitary utility governance framework and plan for the Kurdistan Region.

⁵¹ Shamel Sh. Margus, Al-Janaeen Co., proceedings of survey, Erbil, January 21, 2008.

⁵² Anees A. Nabaty, proceedings of survey, Erbil, May 21, 2008.

⁵³ Perababi, "Investment Opportunity in Iraqi Kurdistan."

⁵⁴ Maya, proceedings of survey.

- Establish the financial taxation/fee structure needed to adequately fund infrastructure.
- Promote PPPs and establish a PPP center.
- Build and/or rebuild water, sewage, and solid waste facilities to international standards established by the International Conference of Building Officials (ICBO) and the World Health Organization (WHO).

There are several new activities that should be considered by the KRG in a sanitary utility sector reform initiative. These suggested activities include:

- Commissioning a Kurdistan Region sanitary utility revolving or enterprise fund feasibility study;
- Formulating and adopting a Kurdistan Region sanitary utility reform plan;
- Corporatizing the water and sewer sectors; and
- Establishing a Strategic Business Unit approach.

Street, Highways, and Transportation

Once regarded as having one of the Middle East's most comprehensive transportation systems, Iraq's transport infrastructure has suffered from more than two decades of neglect and underinvestment. Between 1980 and 2003, regional conflicts, the utilization of public resources to support military initiatives, an extended period of economic sanctions, and deferred maintenance contributed to a pernicious and general decline in the quality of transport facilities and services and to huge losses in rolling stock. With the onset of the 2003 military intervention, many assets were damaged due to the heavy bombing that occurred, and the looting that followed stripped ministries and transport facilities of equipment, machinery, furniture, and supplies. In addition to these challenges, Iraq must transition from a centrally planned, command economy to one that is market based to improve service and efficiency.

The country faces enormous challenges in reconstructing its transportation networks and facilities and in reestablishing key transport services. The KRG Ministry of Transportation (MOT) states that the railroads need to be almost completely rebuilt, and a feasibility study has been completed. The rehabilitation of the railroads alone will cost \$5 billion. Intermodal stations are needed for the future transportation systems.

Roads and bridges also need to be rebuilt. In 2007, Turkish construction companies were contracted to reconstruct roads (\$90 million in projects) and bridges (\$220 million in projects) in the Kurdistan Region. Included in these projects are two new bridges over the Greater Zab River planned by the MOT.

The MOT reported that there is a need for all-weather roads to connect small towns to each other and trams (light rail) to connect suburban areas to the city centers. There are also problems with quality of materials, quality assurance and control, and availability of heavy equipment. The Erbil Contractors' Union states that its members usually build the

neighborhood streets as part of the construction of dwelling units, but the interconnecting roadways and mass transportation systems should be provided by the government.⁵⁵

Enforcement of weight limits and speeds on highways is cited as a problem by the MOT. Trucks are not prohibited on roads designed for lighter vehicles, but weight limit laws are not enforced. As a result, overweight vehicles cause further damage to the roads.⁵⁶

The construction boom in the Kurdistan Region will increase the demand for alternative means of transportation to the automobile. It is estimated that there are 150,000 commuters traveling into Erbil daily.⁵⁷ Alternative means such as the Iraq Railroad (IRR) or light rail can be used within and between cities to save on road costs and fuel consumption. A 20-year plan for the reconstruction of the IRR has been prepared and should be implemented. The MOT is seeking funding for pre-feasibility and feasibility studies for the various rail and light rail segments.

Conclusions and Challenges

Bridges

- Bridges critical to Iraq's road network and all bridges in the Region are in need of repair.
- Two major bridges (\$30 million each) are needed over the Zab River between Erbil and Dahuk.

Roads

- Key road assets are being lost.
- Quality control measures are absent.
- Capacity to manage road networks is weak.
- Vehicle fleets are rapidly expanding.
- There is a financing gap between needs and capital.
- Feeder roads and town-to-town highways are lacking.
- Regulation of heavy and overweight trucks is needed.

Railroad and Light Rail (Trams)

- Light rail connections between city centers and suburbs are needed.
- A transportation center for intermodal systems is lacking.
- The IRR is in need of expansion and rehabilitation.

⁵⁵ Mr. Hakki E. Haida, owner and consulting engineer, General Trading and Contracting Co., proceedings of survey, Erbil, January 20, 2008.

⁵⁶ Kamarah Sherwani, director general, Roads and Bridges, Kurdistan Region, proceedings of survey, Erbil, January 30, 2008.

⁵⁷ Mr. Chato, chief engineer, Roads and Bridges, Kurdistan Region, proceedings of survey, Erbil, January 30, 2008.

- Urban areas need transit centers, light rail, and expanded bus service to meet the needs of commuters.

Materials and Equipment

- There is a shortage of operable and reliable heavy equipment. Most existing scrapers, bulldozers, trucks, and other equipment are from the 1980s.
- The directorates have only one modern asphalt-concrete batch plant. The other three plants are old and subject to maintenance problems.
- Asphalt concrete purchased from outside lacks quality and cracks and deteriorates within a few years after placement.
- The directorates lack a cement concrete batch plant and must purchase concrete from private suppliers.
- The concrete purchased from private suppliers does not always meet the specifications required for road and bridge construction.
- The directorates lack rock crushers to recycle old pavement and concrete.
- The government construction laboratory is old and equipment dates to the 1960s and 1970s.

Recommendations

Bridges

- Provide a limited number of critical river crossings with safer structures by replacing any old decaying floating bridges with permanent concrete bridges.

Roads

- Provide the resources and experience to support new road sector operations and to complement ongoing investments through the regular federal budget.
- Establish and enforce highway weight limit laws for trucks and other heavy vehicles.
- Fund and conduct pre-feasibility and feasibility studies of transportation and road and highway system projects and make the study findings widely available to attract investors.
- Prioritize reconstruction efforts to put a premium on early, but selective, engagement, flexibility in design and implementation, capacity restoration, coordination with donors and other partners, and close monitoring and evaluation.
- Improve road conditions by rehabilitating highly damaged segments of the Region's highway and rural road network, reestablishing critical river crossings, and restoring the capacity to manage and maintain roads.
- Identify which sections of highways connecting main cities are in very bad condition and cause major travel delays.
- Upgrade village access roads in several locations.
- Develop road maintenance and management strategies and establish a road asset management system.
- Rehabilitate and upgrade major regional highways.

Railroad and Light Rail (Trams)

- Seek donor funding for railroad and light rail pre-feasibility and feasibility studies.
- Utilize PPPs to provide transportation centers, roads, and mass transit systems.

Materials and Equipment

- Provide additional asphalt concrete and new cement concrete batch plants for highway and bridge construction.
- Provide movable rock crushers to recycle pavement, building debris, and concrete.
- Construct and equip a new laboratory for testing materials.

Human Resources

- Establish a transportation training institute, resource center, and traffic control center for the long term in conjunction with security and dispatch functions.
- Develop a program to share international experience and best practices based on work with transport infrastructure projects and institution building in conflict-affected areas.
- Obtain financial support to manage project activities and provide on-the-job training in project management. Set up a project management team under the KRG Ministry of Housing and Construction and provide office equipment, materials, technical assistance, training, and other necessary support.

EIA

- Provide environmental assessments pertaining to involuntary resettlement and construction activities.

Other Factors in the Construction Sector

Labor Market and Human Capital Development

The labor market has a significant impact on the construction sector. The growth of the construction sector as reported could lead to the misinterpretation that the unemployment rate is low in the Kurdistan Region. The Region does in fact experience high unemployment, but much of the unemployment goes unrecorded due to the high number of unemployed in “make-work” jobs in different government ministries. It is estimated that 65% of the KRG’s budget goes to employee salaries.

Another issue is the loss of professionals that has occurred over the last several decades. Engineers, architects, technicians, and other sector professionals have left the Region, and individuals currently graduating from universities and technical schools lack engineering job experience; they must be further trained by their employers before they are fully functional. Moreover, salaries for new engineers remain low until they have gained experience and are

of value to the company. The Engineers' Union states that low-interest loans for housing are needed to assist young engineers and their families.⁵⁸

Complete data on the numbers of people employed in the construction sector are not available, so estimates are based on fragmented information. One of the largest companies in the Kurdistan Region, the Kar Group, reports that they have completed 2,500 projects in the last five years, employing 30,000–35,000 laborers, technicians, engineers, and administrative personnel per year.⁵⁹ In the greater Erbil area, if an average of 70 persons are employed on the approximately 1,000 projects per year reported by the Erbil Contractors' Union, then approximately 70,000 workers are employed in the construction sector there.⁶⁰ Based on the estimate of 1.2 million people in the area, then, 6% of the population (one in four adults) in Erbil is employed in the construction sector.

Conclusions and Challenges

- Employment rate, wages, and buying power are not balanced.
- There has been a “brain drain” over the last few decades, resulting in a shortage of educated and trained Iraqi engineers and technicians in all subsectors of the construction sector.
- Many of the trained Iraqi engineers and technicians lack practical on-the-job experience.
- Engineers and technicians from the Kurdistan Region have difficulty obtaining short-term and long-term visas to receive training outside of Iraq.
- Salaries for engineers and technicians is low (\$150–\$800 per month), based on the amount of education and experience required for their position and the responsibility required for their work.
- The government and professional organizations lack hard data regarding salaries, numbers, and priorities for training in the engineering field.
- Universities do not provide training on materials testing in the construction sector.

Recommendations

- Offer special compensation packages for qualified engineers and technicians.
- Provide bonuses for professional engineers and technicians returning to the Region from abroad.
- Establish a salary chart and scale for engineers and technicians based on level of education and experience with “super steps” (adjustments over and above the specified civil service or merit system salary scales, generally given for longevity of

⁵⁸ Mr. Abdulkhliq, president, Kurdistan Engineers' Union, proceedings of survey, Erbil, January 30, 2008; Mr. Abdulmajeed A. Shekhany, consulting electrical engineer, Kurdistan Engineers' Union, proceedings of survey, Erbil, January 30, 2008; Mr. Phillip P. Rashoo, consultant engineer, Kurdistan Engineers' Union, proceedings of survey, Erbil, January 30, 2008.

⁵⁹ Baz R. Karim, president, Kar Group, proceedings of survey, Erbil, February 7, 2008.

⁶⁰ Mahmoud R. Karim, vice president, Kar Group, proceedings of survey, Erbil, February 7, 2008; Dr. Hamad M. Jassim, construction and engineering director, Kar Group, proceedings of survey, Erbil, February 7, 2008; Awat Al-Barzenji, projects and marketing director, Kar Group, proceedings of survey, Erbil, February 7, 2008.

- service, special skills or training, and/or exceptional service) for professional licensure and special skills.
- Provide bonuses for extra education coupled with a contract to remain in government or local employment for a specified number of years.
 - Provide loan assistance, subsidized interest rates, and/or housing, family allowances, and other amenities for engineers and technicians in hard-to-recruit disciplines.
 - Establish student exchange programs for high school and college students.
 - Prioritize training needs and establish a list of subjects or areas.
 - Continue plans to build two new technical schools and study the need for additional resources.
 - Develop the coursework in materials testing at the university level.
 - Provide government-funded stipends for construction and material scientists to study abroad. Require a contract to remain in Iraq for a specified period of time after they return from the course.

Land Acquisition and Challenges

The *Investment Law for the Kurdistan Region*, adopted in July 2006 to encourage foreign investment, provides tax exemptions and full property ownership rights to foreign investors. The law has encouraged foreign investment, but there are still challenges facing investors. The Erbil Contractors' Union states that ownership of land is sometimes difficult to determine because land records are ambiguous. They also state that auction procedures are inconsistent and lack transparency. Therefore, both foreign and Iraqi investors face obstacles when acquiring a property, developing a property, connecting to utility networks, and complying with environmental standards and regulations. Following are the main issues investors face when acquiring and developing land and the recommendations to decrease administrative and procedural barriers.

Conclusions and Challenges

- Identifying available land is difficult.
- Government control over the majority of Iraq's land restricts easy, market-based access to land for investment.
- Lack of market information increases the difficulty in site acquisition.
- Numerous landlords decrease transparency in the public land acquisition process.
- Poor condition of industrial estates deters investment.
- Inconsistencies with government lease auctions increase site acquisition confusion.
- Limited publication of lease auction announcements decreases transparency.
- Unclear rationale for the lease auction process increases acquisition uncertainty.
- Manual land application processing and documentation increases processing time.
- Unclear free zone lease approval process increases locating confusion.

Recommendations

- Consider long-term leases of sufficient lease term, transferability, protection, right to develop, and clear breach provisions.

- Develop centralized site for market information.
- Condense land-related legislation.
- Reevaluate the role of all ministries and agencies involved in the public land acquisition process.
- Study revenue implications and necessity of subsidizing land leases.
- Evaluate industrial estate/free zone potential.
- Reevaluate deposit and bidding amount for lease auctions.
- Announce state land auctions in additional publications.
- Reevaluate rationale of lease auction process.
- Automate land lease and land registration application processing.
- Develop and publish a manual of policies and procedures for application processing and the documentation required for same.
- Clarify and publish free zone approval process, criteria, lease rates.

Site Development, Building Codes, Permits, and Quality Assurance and Control

After acquiring land, an investor must apply to the relevant municipal government to obtain a building permit to either construct a new structure or alter an existing one. The legislation regulating site development activities includes provisions designed to deter unregulated development.

The Erbil Contractors' Union receives all tender announcements and information from the government or others soliciting bids for projects in the Erbil area of Iraq. They have a list of projects that are submitted to their members for bidding. Some of the ministries in the Iraq government announce their projects only through their own ministries. All of the tenders for government work and most for private work are published in the local newspapers.

The contractors have not complained about the time frame for processing permits (consents) to the Erbil Contractors' Union. One of services the organization provides to its members is obtaining the necessary permits for their projects. Larger companies hire their own attorneys to obtain permits. However, if you are a small independent contractor, the permit process is complicated and time consuming. Requirements vary from office to office and from project to project.

Rezoning a property for a different use is time consuming and disorganized and can take up to one year. The process is confusing, and procedures are not well documented.

This lack of documentation also exists for building permit procedures, and there is a great deal of confusion regarding building codes and materials testing. The Ministry of Municipalities and Public Works is responsible for building codes and permits. Yet, one contracting firm stated that Iraq used British building codes, while another said the engineers establish the design and comply with international codes (International Conference of

Building Officials and/or International Code Council).⁶¹ Nevertheless, plans are submitted to the Ministry of Municipalities and Public Works and require its approval. This takes from one week to one month depending on the size of the project.

The government operates materials testing laboratories, but the equipment in these facilities is very old and inefficient. The laboratory employees are dedicated but lack training in current technologies and methods. Most, if not all, of their work is for public works projects.

Conclusions and Challenges

- Lack of building codes, inspections, and occupancy permits creates potentially unsafe building environments.
- Lack of procedural guidelines increases application time.
- The municipal committee inspection process is unclear and potentially intrusive.
- Manual administration and processing is cumbersome.
- There is a lack of specific rezoning procedures.
- No single facility exists for obtaining permits, requesting utility hookups, or identifying projects for investment.

Recommendations

- Establish a “one-stop shop” permitting facility for each province or large municipality.
- Establish a project development facility.
- Establish and enforce building codes.
- Boost capacity of municipal government to issue building permits.
- Develop information brochures and Web sites for the site development process.
- Terminate municipal committee inspections.
- Institute automated processes for permit applications (including online applications), permit issuance, permit tracking, inspector deployment, and final approvals.
- Document and streamline rezoning processes.

Connections of Utilities

The cost and reliability of infrastructure services and the speed with which connections are obtained influence an investor’s decision to locate to a particular site. While the process for connecting utilities in Iraq appears fairly straightforward and connection times seem quick when services are available, it is not clear how efficiently the system operates. The country has a limited sewer system, and water treatment is both limited and poor. Anecdotal evidence suggests that landline telephone connections are limited and that new applicants must wait until existing subscribers cancel service. Moreover, Iraq continues to operate on less electricity than the country demands, particularly in urban centers. The official procedures for connecting to water, electricity, sewer, and telecommunications services, therefore, are

⁶¹ Mr. Fidaden M. Garde, board member, Building Sector, Kurdistan Federation Chamber of Commerce and Industry, proceedings of survey, Erbil, February 6, 2008; Abdulkhliq, proceedings of survey, Erbil, January 30, 2008.

unlikely to be borne out for either residential or commercial users on the ground. Industrial users likely face even bigger hurdles in connecting to utility services in Iraq.

Conclusions and Challenges

- Insufficient capacity limits business opportunities.
- Insufficient application processes increase connection times.

Recommendations

- Establish a “one-stop shop” connection facility.
- Introduce oversight and customer feedback capacity.
- Automate utility application and tracking processes.

Environmental Compliance

An environmental impact assessment (EIA) is required for every project that may have an impact on the environment, including historic or archeological sites. Enforcement of these requirements is often neglected and is spotty at best. Managers of some projects constructed with U.S. funds have not performed EIAs prior to commencing work, such as for the work on the water reservoirs, landfill, and transfer stations in Kirkuk.

Conclusions and Challenges

- An unclear certification process increases the risk that projects are not compliant with environmental regulations.
- Requiring full EIAs for all projects is unnecessary and increases locating time and cost.
- Lack of process guidelines decreases process transparency.

Recommendations

- Require environmental compliance application at another stage of the locating process.
- Reevaluate EIA requirement for all projects.
- Develop and publish process guidelines.

Extractive Industries Sector

Executive Summary

The first known exploration efforts to discover oil and gas in the Kurdistan Region (KR) of Iraq date back to the 1920s. Post-invasion efforts began in 2003 and can be divided into three stages. Prior to the Kurdistan Regional Government (KRG) passing its own oil and gas law and the signing of the first Production Sharing Contracts (PSCs) in 2007, the parallel administrations of the Patriotic Union of Kurdistan and the Kurdistan Democratic Party signed six contracts with foreign oil companies between 2003 and 2006.

In 2007, 17 international oil companies signed Production Sharing Contracts (PSCs) with the KRG. This was followed by three other companies in 2008 including the original six signed before 2007 and the two KRG oil companies. A total of 28 companies are thus involved in oil exploration in the region.

The KRG Ministry of Natural Resources lists 49 oil and gas concessions. As of November 2008, 30 exploration blocks have been fully awarded to foreign oil companies or in conjunction with the Kurdistan Exploration and Production Company (KEPCO). Of the total, four were awarded directly to KEPCO and 15 have not been either announced or awarded. The Korean National Oil Company (KNOC) has the largest number of blocks, with eight. Hunt Oil has three and Crescent/Dana, OMV, Reliance, and TTOPCO have two blocks each.

Based on the PSCs, when all the royalties and profits are distributed, 90% goes to the KRG and 10% to the contractor. The PSC contracts include company-specific commitments to capacity building, consisting of building refineries, pipelines, and other infrastructure such as hospitals, schools, and utilities.

Estimates by PSC company managers and geologists interviewed indicate that reserves range from 10 billion to possibly as high as 45 billion barrels of crude oil reserves. The 45 billion reserve estimate would place the KR's reserves on a par with those of Nigeria and Libya.

The estimated potential reserves for the two major gas fields in the Kurdistan Region, targeting only upper pay zones, is 3,575,000 m³ (trillion cubic meters or TcM) or 11.7 trillion cubic feet (Tcf) of natural gas. All proven and unproven gas reserves in the KR could exceed 82 Tcf.

The KRG has two realistic possibilities for exporting oil. The first is to tie into the North-South pipeline in Dahuk province. The second possibility is from the Taq-Taq field to the main pipeline linking the Kirkuk oilfields to the Turkish port of Ceyhan and Iraq's southern export facility offshore from Basrah.

There is no modern oil refining capacity in the Kurdistan Region. Included in certain PSC agreements is a requirement to build petroleum processing facilities. Heritage Oil has agreed to build a 20,000-barrel-per-day refinery in their Miran Block, but to date a

site has not been chosen. A site has been identified for Topco's 20,000-barrel-per-day refinery in their Taq-Taq Block, and it is scheduled for completion in about two years.

The Pir Daud 500 megawatt (MW) power plant is operating approximately 40 km southwest of Erbil. On October 4, 2008, natural gas began flowing at 75 million cubic feet per day (mcf) from the Khor Mor gas field approximately 160 km southeast of the Pir Daud power plant in Erbil.

Mass Global is also building a 750MW power plant near the Taq-Taq Field in Sulaymaniyah Province. This plant will be fed by the same natural gas pipeline that feeds Pir Daud.

Natural gas in the KR is primarily produced by only one firm, Dana Gas, and its partner company Crescent Petroleum. Dana Gas plans to provide natural gas throughout KR and southern Iraq.

Capacity building is a direct benefit resulting from the natural resources extractive industry. Several oil and gas companies who signed PSCs have committed to spending millions, and in some cases billions, of dollars building infrastructure in support of the extractive industry sector.

The service sector value chain supporting the oil and gas industry can be an extensive employer of skilled and unskilled labor. A field like TTOPCO's Taq-Taq employs about 250 local personnel to provide a variety of services in its camp and it can be expected to increase employment by 150 people once construction of a planned petroleum refinery is underway.

The extractive industry sector support services can add 11,000 to 13,200 oilfield service jobs over and above the 5,000 to 6,000 actual oil and gas production jobs expected once crude oil and natural gas production and downstream petroleum refining and LPG processing are fully developed.

A wide variety of oilfield services, equipment, and personnel will be needed to support the extractive industries sector companies as they seek, find, and produce crude oil, natural gas, and mineral deposits. The KRG needs to initiate a program to align the petroleum companies with local universities to establish a mentoring and training program where professional skills can be developed. A scholarship program should be established to support and attract the best-qualified students to support petroleum industry in the future.

A Kurdistan Region Mining Act is currently being drafted by KRG's Ministry of Natural Resources. The mining act is intended to generate increased interest in mining development in the KR and includes some of the same features as the Oil and Gas Law.

Sector Assessment: Extractive Industries

Introduction

The first known exploration efforts to discover oil and gas in the Kurdistan Region (KR) of Iraq date back to the 1920s. Post-invasion efforts began in 2003 and can be divided into three stages. Prior to the Kurdistan Regional Government (KRG) passing its own oil and gas law and the signing of the first production sharing contracts (PSCs) in 2007, the parallel administrations of the Patriotic Union of Kurdistan and the Kurdistan Democratic Party signed six contracts with foreign oil companies between 2003 and 2006.

In 2007, 17 international oil companies participated in the signing of PSCs with the KRG. This was followed by three other companies in 2008. Including the original six signed before 2007 and the two KRG companies, this means a total of 28 companies are currently involved in oil exploration in the Region.

The KRG Ministry of Natural Resources lists 49 oil and gas concessions. As of November 2008, 30 blocks have been awarded fully to foreign oil companies or in conjunction with the Kurdistan National Oil Company (KEPCO). Of that total, four were awarded to KEPCO and 15 have not been awarded. The Korean National Oil Company (KNOC) has the largest number of blocks, with eight. Hunt Oil has three and Crescent/Dana, OMV, Reliance, and TTOPCO have two blocks each.

Based on the PSCs, when all the royalties and profits are distributed, 90% goes to the KRG and 10% to the contractor. The PSC contracts include company-specific commitments to capacity building, consisting of building refineries, pipelines, and other infrastructure such as hospitals, schools, and utilities.

Estimates by PSC company managers and geologists indicate that Kurdistan Region reserves are between 10 billion and 45 billion barrels. The 45 billion reserve estimate would place the Kurdistan Region on par with oil reserves projected for Nigeria and Libya.

The estimated potential reserves for the two major gas fields in the Kurdistan Region, targeting only upper pay zones, is 3,575,000 m³ (trillion cubic meters or TcM) or 11.7 trillion cubic feet (TcF) of natural gas. All proven and unproven gas reserves in the KR could exceed 82 TcF.

The KRG has two possibilities for exporting oil. The first is to tie into the North South pipeline in Dahuk province. The second possibility is a tie-in further south in the KR with a pipeline from the Taq-Taq field and Basrah.

The extractive industry sector support services can add 11,000 to 13,200 oilfield service jobs over and above the 5,000 to 6,000 actual oil and gas production jobs expected once crude oil and natural gas production and downstream petroleum refining and liquid petroleum gas (LPG) processing are fully developed. A variety of oilfield services, equipment, and personnel will be needed to support extractive industries sector companies as they seek, find, and produce crude oil, natural gas, and mineral deposits.

Natural gas in the KR is primarily produced by only one firm, Dana Gas, and its partner company, Crescent Petroleum.

A Kurdistan Region Mining Act is currently being drafted by KRG's Ministry of Natural Resources. The mining act is intended to generate increased interest in mining development in the KR, and includes some of the same features as the Oil and Gas Law.

History of the Hydrocarbon sector in the Kurdistan Region

The first known exploration efforts to discover oil and gas the KR date back to the 1920s. Post invasion efforts began 2003 and can be divided into three stages. Prior to the KRG passing its own oil and gas law and the signing of the first PSCs in 2007, the parallel administrations of the PUK and the KDP signed six contracts with foreign oil companies between 2003 and 2006.

2003

PUK signed a contract with Pet Oil (joined by Prime Natural Resources, Oil Research)

2004

PUK contract with Genel Enerji (joined by Addax Petroleum)

DNO

Western Zagros

2006

Crescent Petroleum/ Dana Gas

A&T Petroleum (Sub of Pet Oil) and Prime Natural Resources

In 2007, 17 international oil companies signed PSCs with the KRG. Three other companies signed PSCs in 2008. Including the six signed before 2007 and the two KRG companies, this makes a total of 28 companies.

Companies Signing Production Sharing Contracts
A&T Petroleum (Turkey)
Addax Petroleum (Canada/Switzerland),
Aspect Energy (U.S.)
Crescent Petroleum/ Dana Gas (UAE)
DNO (Norway)
Genel Enerji (Turkey)
Groundstar Resources (Canada)
Gulf Keystone Petroleum (UK)
Heritage Oil and Gas (Canada)
Hillwood International Energy (U.S.)
Hunt Oil (U.S.)
MOL /Kalegran (Hungary)
Korea National Oil Corporation (South Korea)
Niko Resources (Canada)

Norbest (an affiliate of TNK-BP of Russia)
Oil Search (Australia)
OMV Petroleum Exploration (Austria)
Perenco (France)
Pet Oil (Turkey)
Prime Natural Resources (U.S.)
Reliance Energy (India)
Sterling Energy International (U.S.)
Talisman Energy (Canada)
Texas Keystone (U.S.)
Vast Exploration (Canada)
Western Zagros (Canada)
KRG Companies
Kurdistan Exploration and Production Company (KEPCO)
Kurdistan National Oil Company

Production Sharing Contracts

The KRG Ministry of Natural Resources lists 49 oil and gas concessions. As of November 2008 30 blocks have been awarded to foreign oil companies or in conjunction with the Kurdistan Exploration and Production Company (KEPCO). Four were awarded to KEPCO and 15 have not been publicly announced. The Korean National Oil Company (KNOC) has eight, Hunt Oil has three, and Crescent/Dana, OMV, Reliance, and TTOPCO have two each.

The Kurdistan Region model PSC includes an initial five-year exploration term extendable for seven years for economic evaluation. The entire development period is 20 years, extendable for 10 additional years (two five-year options), for a maximum of 30 years. During or following one five-year extension term, or after the 30-year period, KEPCO or KNOC will assume ownership.

There are several detailed articles in the PSCs that define the KRG's allocations of royalties, bonuses, surface rentals, personnel recruitment, profit sharing, recoverable petroleum costs, training, post-allocation of assets, contributions to an environmental fund and when the KRG must declare KEPCO or KNOC as owner. The KRG interest during the initial period will be executed through one of the two public companies whose production-sharing participation interest would be a minimum of 5% to a maximum of 25%. The KRG will retain 85% of the production from these fields once the exploration expenses have been recovered by the PSC contractor. The remaining 15% will be revenue for each contractor. At the time when all the royalties and profits are distributed, the actual working interest will be closer to 90% for the KRG and 10% for the contractor.

In addition, there is a "signing bonus" that each company has agreed to pay. The amount of these bonuses varies based on the specific block location, size, or quantity occupied. The

only published number on PSC signing bonuses is a news release from Reliance Petroleum indicating that the company paid between \$15.5 million and \$17 million for two blocks. From interviews the general estimate is that the signing bonuses are in the range of \$5 million to \$10 million, but in some cases have been substantially higher based on the quality of the block.

Given that the Kurdistan Region has no history of oil and gas sector development, the KRG has decided to rely on PS Agreements to attract new exploration and development to the hydrocarbon sector. With PSCs, oil companies bear the entire burden of risk associated with exploration and development in return for greater potential profit. After recovering their initial capital investment and operational expenditures, they divide any ensuing profits with the government as set forth in the agreement. After a set period (30 years is typical), the contract terminates and the entire operation is turned over to the government.

PSCs can provide an incentive to oil companies to find as much oil as quickly and as efficiently as possible, the companies benefit from using the most advanced and cost-effective technology available. Technology transfer to the host government is a helpful by-product. However, critics of PSCs argue that they are not good mechanisms for developing an oil industry because they lock in fiscal and legal terms of a country for an extended period (30 years as in the KRG contracts) and freeze the political, legal and economic situation that existed at the time of signature.

Reserve Estimates, Kurdistan Region

Iraq has the world's third-largest proven petroleum reserves and some of the lowest extraction costs, although just a fraction of the known fields are in development. Iraq's proven reserves, based on dated 2-D seismic surveys, are 115 billion barrels. Experts estimate that the unproven fields in Iraq could conservatively yield another 160 to 200 billion barrels.

Estimates by the experienced PSC company managers and geologists interviewed indicate that reserves for KR range between 10 billion to possibly as high as 45 billion barrels of reserves. The 45 billion reserve estimate would place KR reserves on par with oil reserves projected for Nigeria and Libya.

Crude Oil Production, Kurdistan Region

Currently the petroleum companies are establishing field operations and planning and scheduling seismic surveys. Most companies have completed or are near completion of the exploration stage. Crude production is estimated to be 15,000 barrels per day (bbl/day). The two producing fields are DNO's Tawke field in Dahuk and TTOPCO's Taq-Taq field. DNO is currently producing an estimated 10,000 to 11,000 bbls/day. Should the pipeline issue be resolved, KRG officials have predicted that total production could reach 1 million bbl/day by 2013. Independent oil experts suggest a more conservative figure of 500,000 bbl/day.

DNO's Tawke field in Dahuk is estimated to have oil ranging from 0.9 to 1.9 billion barrels with a current expected value of 1.3 billion barrels. Gross recoverable oil reserves are

ranging from 150 million barrels to 370 million barrels, with a current expected value of 230 million barrels.

TTOPCO is the second PSC block holder, currently producing crude oil (API 46-48). TTOPCO's Taq-Taq field is producing from six wells with a production capacity of 40,000 to 50,000 bbl/day. TTOPCO believes the Taq-Taq field contains 2 billion barrels of oil and it could pump 75,000 bbl/day and increase capacity to 300,000 bbl/day if the oil could be exported.

The Oil Pipeline Dilemma

The KRG needs access to a strategic pipeline, which must be approved by the Federal Ministry of Oil. The Kurdistan Region has two possibilities of exporting oil. The first is to tie into North-South pipeline. DNO has completed a 34 kilometer (km) section of 12-inch-diameter above-ground pipeline that is ready to tie into the existing main north-south Ceyhan pipeline to Turkey. The second possibility is by tying into the pipeline linking Kirkuk's oilfields to the Turkish port of Ceyhan.

In an October 28, 2008 report the International Crisis Group points out the KRG's inability to export will soon be costing it \$1.7 million a day (\$620 million a year), based on 100,000 bbl/day at \$100/barrel and current budget allocations. And it would have the same effect on the federal government, which would be losing \$8.3 million a day (just over \$3 billion a year) from the same sales.

Natural Gas

Iraq's proven natural gas reserves are 112 trillion cubic feet (Tcf); the 10th largest in the world. Probable reserves range from 275 to 300 Tcf. Estimated potential reserves for two major fields in the KR is 11.7 Tcf of gas. Unproven KR gas reserves could exceed 82 Tcf.

Natural gas resources are underutilized in the KR, due to insufficient infrastructure to capture, store, process, and transport the gas for energy use. Lack of power plants in the KR is why natural gas resources are not fully developed. In many fields, gas is flared off due to lack of gas pipelines to deliver natural gas to electric power stations and industrial manufacturing plants.

KR's natural gas is primarily produced by Dana Gas and its partner company, Crescent Petroleum. The two fields that are currently being explored and developed in the KR by Dana/Crescent are Kor Mor and Chamchamal

Potential reserves from these two fields are 11.7 Tcf of gas. A gas production life for a typical well in this region ranges from 50 to 75 years. Actual production volumes will be based on supply demands for liquid natural gas (LNG) and liquid petroleum gas (LPG), as required by the KR and the new power plants.

Gas Pipeline/ Pierdaud /Gas City

Crescent/Dana is implementing an integrated natural gas project in the KR. The natural gas development project investment of \$650 million is the largest private-sector investment

currently in Iraq. It involves construction of 180 km of pipelines and production and processing of 300 million cubic feet per day of natural gas to fuel two new power plants. The 180 km, 24-inch-diameter pipeline has been completed to Erbil, and 40 km of pipeline that will transport gas to Sulaymaniyah is scheduled for completion in 2009. It will provide both LPG and LNG to new power plants.

The Pir Daud 500 megawatt (MW) power plant is operating at a location 40 km south of Erbil. On October 4, 2008, natural gas began flowing at 75 million cubic feet per day (mcf) from the Khor Mor gas field 160 km southeast. Gas flow will rise to 300 mcf in the first half of 2009. In June 2008 the first unit of the dual fuel, simple cycle 500 MW plant began supplying 110-115 MW of electricity. Currently two units of 125 MW (GE Frame 9) each are fired by this gas. The third unit of 125 MW is complete and the fourth will be ready before November 2008. Pir Daud is a Build-Own-Operate (B-O-O) contract with Mass Global Trading to operate and maintain the plant for 15 years with the KRG Ministry of Electricity paying an estimated 2.9 cents per kilowatt hour (kWh). The plant is a \$390 million project.

Mass Global is also building a 750MW power plant near Sulaymaniyah and fed by the same pipeline as Pir Daud. The Chamchamal BOO project will be completed in three stages with the first 250 MW unit to begin operation in November 2008 and the project complete by the end of 2009. The two new power plants will have combined generating capacity of 1,250 MW, sufficient if fully utilized to power 1.8 million homes or several large industrial projects.

Crescent/Dana also agreed to be a KRG consultant to plan and construct "Gas City," a 461-million-square-foot business park and industrial complex that will include steel, cement, and fertilizer production, feed plants; and eventually will provide gas for residential housing. Gas City will be located in Chamchamal. Gas City is expected to attract \$40 billion of foreign investment for downstream industries and is expected to generate job opportunities for 200,000 citizens.

Pipelines

1. DNO has completed a 34-km section of pipeline awaiting legal approval to connect to the main north-south Ceyhan pipeline system.
2. Crescent/Dana has invested \$650 million to construct the 180-km gas pipeline supplying 300 mcf of LPG and LNG to two new power plants.
3. Additional pipelines will be required as production from new fields increases.
4. Security and maintenance of current and new pipeline systems are essential.

Refining Capacity

There is no modern oil refining capacity in the KR. Included in some PSC agreements are a requirement to build petroleum processing facilities. Heritage Oil has agreed to build a 20,000 bbl/day refinery in the Miran Block, but it has not yet been built. Topco's 20,000 bbl/day refinery in the Taq-Taq Block has been sited, but is scheduled for completion in two years. DNO is close to completion of its 6,000 bbl/day, which will not produce gasoline.

KNOC, the government-owned development company, was awarded a concession for a refinery in the Khurmala Dome oil field. The project was awarded as a Service Contract for a 30-month construction of a 50,000 bbl/day refinery.

Petroleum Refining

1. KR's petroleum refining capability is nearly non-existent.
2. Several petroleum companies plan to build refineries on their respective blocks once production comes on line and the export ban lifted.
3. Larger capacity refineries are needed to process the anticipated oil production.
4. Local sale of low-quality petroleum products should be discouraged and eventually prohibited by the KRG as new refineries come on-line.

Infrastructure Projects from Oil Companies

Oil and gas companies have signed PSCs to build infrastructure, including Crescent/Dana, DNO, Heritage, TTOPCO, KNOC, and Talisman, which have agreed to rehabilitation projects that will benefit the Kurdistan Region.

TTOPCO has provided the Taq-Taq field area with roads, fuel storage capacity, electricity, treatment plants, security, and potable water. The company has extended water resource services and medical support to local community. It provided water to families that did not have running water at their homes and medical support to both men and women in the nearby villages.

DNO's site near the Iraqi village of Tawke has produced an average of 6,000 to 7,000 bbl/day of oil as a production test in 2008. In the process of development studies of the Tawke oilfield, DNO has improved existing roads to local villages in order to access drilling sites more easily, and it has provided electricity and water supply project from the Khabor river for local villages, rehabilitate schools as well as employing workers from local villages.

Crescent Petroleum/Dana Gas' site near the Iraqi village of Khor Mor in Qader Karam Sub-District has begun to produce natural gas and related condensate liquids. Crescent/Dana Gas along with USAID's ACIDI/VOCA project have renovated parks and improved housing and donated a \$75,000 250KV generator to the town of Qader Karam. Crescent/Dana has improved existing roads to local villages in order to access drilling sites more easily, and it has provided electricity and drilled wells for potable water for local villages, as well as employing workers from local villages.

KNOC was awarded eight blocks; three blocks are located near Sulaymaniyah, and five near Erbil. The blocks are estimated to contain 7.2 billion barrels of oil, and KNOC would have 26% ownership rights, in exchange for capacity building. The agreement includes an 80% stake in the existing Bazian field, estimated to hold 500 million barrels of oil. Capacity building is based on a memorandum of understanding (MOU) that includes investment of \$2.1 billion in projects including highways and social infrastructure facilities. The infrastructure projects need be financed by South Korea's domestic financial institutions, but

as a result of the current weakness in the worldwide capital markets, it is questionable if these amounts can be raised in Korea's domestic markets.

Talisman (Canada) also signed a PSC and agreed to invest \$220 million in capacity building with a focus on rehabilitating communities in areas related to petroleum activities by building new schools, hospitals, and power and water plants in the northern region of Iraq.

Extractive Industry Sector Support Services

The value chain supporting the oil and gas industry can be an extensive employer of skilled and unskilled labor. TTOPCO's Taq-Taq field used 250 local personnel to provide a variety of services. The KRG Ministry of Natural Resources lists 49 blocks with 30 awarded fully or in conjunction with the KEPCO to foreign oil companies. Assuming that 20 of those are commercially viable and five would construct and operate oil and LPG processing plants, a conservative number of local employees in the oil fields is 5,000-6,000 people directly employed by petroleum companies.

More than 20 service companies support DNO's current 12 producing well operation at its Tawke Field. The services are provided by companies from southern Iraq to local KR companies. DNO provides training and utilizes as much local labor as possible, but additional service sector resources and professional expertise are still needed to meet full-scale production and exportation. Iraqi oil and gas technical and professional experts are available and can be enticed to return if conditions stabilize to acceptable international standards. It is estimated that the first and second tier support services can create an additional 2.2 oilfield service jobs for each direct oil production job, based on the oil industry's historical ratios. Accordingly, additional support resources could add 11,000 to 13,000 oilfield service jobs over and above the 5,000 to 6,000 oil and gas production jobs expected once crude oil and natural gas production, downstream petroleum refining, and LPG processing are fully developed.

The anticipation of a vibrant oil industry has already proven to be positively affecting the region through investments. The chairman of the Investment Board of the KR of Iraq indicated that foreign investments in the region since enactment of the Investment Law in 2006 totaled \$16 billion, with 48% from foreign investors. The largest is UAE's DAMAC Properties project that plans to build Iraq's first luxury tourist and commercial complex in the KR. The DAMAC development is being spurred by the anticipated petroleum reserves that will be used to leverage economic revitalization in the region. Oil field services will continue to grow as the petroleum production increases. Below are examples of oilfield support services required to sustain KR's economic development for the extractive industry.

Industrial/petroleum support services

A wide variety of oilfield services, equipment, and personnel will be needed to support extractive industry sector companies as they seek, find, and produce crude oil, natural gas, and mineral deposits. The following is a list of the types of support services that both international and domestic investors should consider establishing or partnering with local companies.

1. Drilling supply services, including piping and connection collars, mud and water supplies, lubricants, welding gases.
2. Large and small warehouse facilities.
3. Lighting and generator equipment, fencing, and oilfield crew support services, including laundry, catering, waste disposal, and portable toilets.
4. Exploration and development consulting services, including geologists, petroleum engineers, seismologists, and geographic information systems (GIS) equipment and services.
5. Safety services, including testing and certification services, blowout prevention, on-site safety support and training, safety equipment.
6. Fire suppression team services and equipment.
7. Transportation services such as personnel and heavy lift helicopters, heavy construction equipment, truck and tanker support service, truck and vehicle rentals.
8. Security and transportation services to support engineers and various personnel.
9. International level medical facilities and evacuation services.

In addition to the essential “first tier” support services, other secondary support needed includes:

1. Trailer rental, temporary housing, office equipment, air conditioning and heating units, generator rental.
2. Telecommunication services, such as internet, two-way radios.
3. Increased infrastructure accompanying petroleum development, such as additional electric power, potable water, new and improved roads, sewerage, solid waste disposal, medical facilities.
4. Environmental regulation support services for spill clean-up and remediation, environmental impact studies, and erosion and sediment control and disposal.
5. Travel and recreation, including hotel space, restaurants, recreation facilities, gyms.

Training and Extractive Support Services

The KR has the potential for significant crude oil and natural gas reserves, and commercial mining and processing of minerals. With full-scale production of crude oil and natural gas, the sector will create opportunities for foreign investment and private sector development by generating revenues for the KRG and investors. It will also demand qualified, well trained local staff to help meet the demands of the growing industrial and related extractive industries sectors.

The local workforce is willing to learn and cooperate. However, they are limited in their capacity to provide upper-level tasks without extensive training. The time to prepare the local workforce to support this industry sector is three to five years. It is essential to start planning now during the exploration phase to develop a qualified workforce. This time should be used for education and training to assure maximization of the associated short- and mid-term economic benefits, but ultimately to prepare the KRG to assume full operation after the PSCs have expired. This allows more than two decades to build and develop a workforce with the properly trained personnel and infrastructure to position the KR to be a leading oil producing region. With proper planning and execution, the petroleum sector can be the primary driver of economic growth in the region.

The KRG needs to align the petroleum companies with local universities to establish a mentoring and training program in which professional skills can be developed. University staff should meet with the PSC holders to identify the professional services required. The program should establish the proper curriculum and tools needed to prepare university graduates for oil and gas business opportunities. In addition, programs should be established whereby university students interact directly with petroleum companies to provide them with practical experience working directly with experienced petroleum company engineers and other experienced personnel.

A scholarship program should be established to attract and financially support the best qualified students to support this vital economic industry in the future, and to keep them employed in the KR with the promise of new, long-term, well paid, high-level jobs.

Mineral Sector Challenges

Mining

A Mining Act is being drafted by KRG's Ministry of Natural Resources. The act is intended to generate increased interest in mining development in the KR and includes some of the same features as the Oil and Gas Law. The mining sub-sector should be developed by private sector companies because several types of mineral deposits exist in the KR, including decorative stones, and metallic and non-metallic minerals including copper, gold, and barite.

Extractive Industries Sub-sectors Offer Opportunities

1. The crude oil value chain depicts linkages from crude oil exploration and production to marketing and illustrates the economic development opportunities for the sector. Partnerships with oil field service companies to develop technology transfer and quality control procedures should also be established. A regional oil field supply center should also be established near the producing fields.
2. Modern petroleum refining capacity is limited and new facilities need to be built to produce high-quality motor fuels and other refined products because demand for high-quality benzene (gasoline) and other refined products exceeds supply.
3. Natural gas needed to fuel electric power plants is a priority, followed by development of Gas City. Development of regional natural gas pipeline systems must be important elements of the KR's economic development plan to help meet the new demand.
4. Crude oil and natural gas pipelines are the only cost-effective method of transporting crude oil and natural gas to export markets. Developing multiple options to export crude oil and natural gas to international markets is essential. One key export route for the KR requires connecting to Iraq's existing Ceyhan pipeline infrastructure for exporting crude oil (and natural gas) to international markets, including export through Basrah.
5. Use of the Ministry of Oil's Kirkuk-to-Turkey Ceyhan crude oil pipeline, which has a capacity of 1.4 million bbls /day when fully operational, is essential

Summary of Recommendations

Petroleum refining recommendations

1. Encourage and initiate via Service Contracts the construction of additional refineries and pipelines in strategic locations throughout the KR, including replacing or upgrading the private sector ‘topping plants.’
2. Bring KNOC’s proposed 50,000 bbl/day refinery on-line as soon as possible.
3. Strengthen engineering and management programs to support petroleum refining.
4. Conduct a detailed market analysis to determine the type and quantity of petroleum products that will be required as the demand in this market increases.
5. Increase local refining capabilities to eliminate importing of transportation fuels and other refined products.

Pipeline recommendations

1. New pipelines are needed to export crude oil and gas to monetize private investment.
2. Develop plans that best serve the KR as new fields are discovered and developed.

Crude oil recommendations

1. Diversify and create new economic growth in the KR from the oil and gas sector. The only barrier to developing the resources is the inability to export oil.
2. Encourage the growth of logistical support services, such as freight forwarding, air freight, and trucking, with safe, secure transportation routes to Turkey.
3. Encourage the growth oil field service companies that provide equipment and service support to the petroleum industry, along with security, import clearance, and required infrastructure (fuel, electric power, roads, office space, and housing).

Natural Gas Recommendations

1. Facilitate construction of new processing plants to maximize the export of natural gas.
2. Encourage the construction of natural gas pipelines to transport and distribute natural gas to business and residential areas such as the proposed gas city.
3. Increase utilization of natural gas to fuel electric power generation plants, businesses and residential developments as done with Pir Daud.
4. Facilitate infrastructure development projects like Gas City, which result in accelerated development of industrial companies and residential communities using natural gas.

Training and Mentoring Recommendations

1. Establish a mentoring program with the petroleum companies to provide training and professional skills required to support development of the oil, gas, and mineral industry.
2. Align local universities with the PSC holders to assure that the education programs provide instruction in the latest technology to support the required skills.

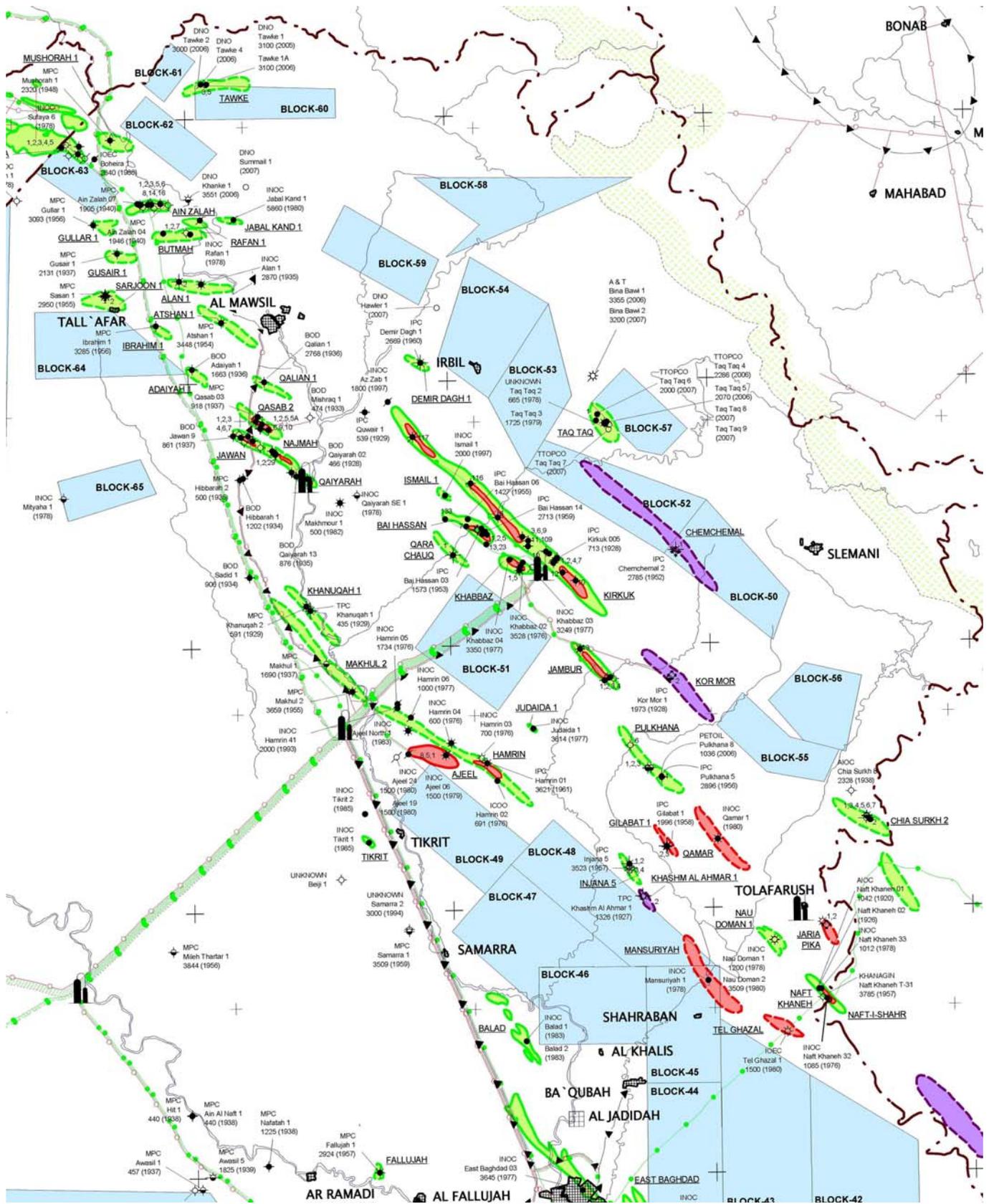
3. Offer scholarships to attract and recruit the most gifted students to the petroleum industry to assure the brightest and best students enter the field.
4. Encourage local oil and gas professionals who have left Iraq to return to the KR to assist with exploration and development of the unproven reserves, and to help train and prepare future professionals.
5. Establish a technical skills training center to develop industry-related services to support the sector's field activities.

Mining Recommendations

1. Implement a mining development program, including passage of a Mining Law, development of mineral deposit maps, and creation of mining block leases.
2. Encourage information sharing to attract and facilitate commercial mineral exploration.
3. Prepare a long-term development strategy to enhance commercial mining development resources available in the KR.

LIST OF REFERENCES

IHS-GLOBAL EXPLORATION & PRODUCTION SERVICE CHARTS



Information and Communications Technology (ICT)

Executive Summary

Many companies around the globe use the Internet for everything from accounting to staff management, and cannot function without it. With the ubiquitous use of electronic communication and online business transactions, it is unlikely that any modern business can develop or maximize profit without comprehensive Internet access.

By extension, the development of a modern economy is predicated on its ability to take part in global data exchange. This data exchange requires high-speed data access through fiber-optic connections. Therefore, the most important ICT task for the Kurdistan Regional Government (KRG) is to create a robust fiber-optic communications infrastructure and leverage the national fiber-optic backbone to sustain economic growth. To facilitate economic growth it is necessary, therefore, to develop a high speed data network, initially based on wireless technologies, with a long-term goal to develop an optical fiber-based network as soon as practical.

In the last three years in the KR, all investment in communications in the Kurdistan Region has been private, and primarily focused in one area of communications infrastructure—mobile phones—which is typical of most developing economies. The ease of deployment combined with a massive demand for communications has made mobile communication extremely successful and very profitable in developing economies. There are also significant additional services available such as short messaging service (SMS) and 3G and 4G standards for Internet access, although these services will not suffice for general Internet applications. More significantly, many countries have now developed mobile commerce, a way to make payments and transfer funds using a mobile phone. This last development has great potential in economies with weak banking infrastructure, particularly in developing rural economies.

The traditional landline-based network has not developed at the same pace as mobile networks or received any significant investment. There are efforts under way in the KR and nationally to maintain or complete a national fiber network, but this has not yet been installed in the KR. The traditional copper wire telephone network (POTS or Plain Old Telephone Service) has been neglected. This is unfortunate because broadband services in Europe and the U.S. are based on POTS networks. There is now little point in developing POTS networks because fiber-to-home/office connections are replacing copper networks in modern telecommunications installations.

Education is a critical sector that requires the transformation of the use of ICT in the KR. A high-speed Internet connection is required to facilitate the free flow of ideas among academics, as well as research for students. High-speed connectivity is a primary requirement to raise educational standards and to create focal points of excellence for ICT development in the region. It is from the universities that the ICT-aware businesspeople and entrepreneurs of

tomorrow will emerge and drive forward regional growth. In addition, universities themselves need to ensure computer literacy among their students and, to facilitate computer literacy even farther; the KR secondary schools need extensive computer courses and exams.

The KRG needs to lead societal change by becoming an early adopter of ICT strategies to help build knowledge and create a pool of skilled citizens.

Equally important are the infrastructure requirements for financial services. Modern banks operate on connectivity, from remote automated teller machines (ATMs) and Internet banking to credit cards and online share trading. Without high-speed links, this sector cannot develop.

Personal and public security also can benefit from the development of ICT. Security cameras, ID cards, vehicle licensing, vehicle tagging, and emergency services can all make use of ICT but will need specialist skills.

Medicine will also benefit from high-speed connectivity. Telemedicine is playing an ever increasing role in bringing advanced techniques to remote areas.

The development of a robust ICT backbone, based on fiber optics, is not simply an industrial installation project. Rather, the technology must be matched with a pool of skilled labor to operate and maintain it. It will be necessary to train local workers to develop the required skilled ICT workforce, but it is logical to begin growing the KRG ICT skills by importing them in the early stages.

International Internet connectivity in Iraq is only available from satellite, a mixture of shared very small aperture terminal time division multiple access (VSAT TDMA), and dedicated services (single channel per carrier digital video broadcasting [SCPC DVB]). All these are inefficient and expensive broadband services. The desired option is to connect to both Iran and Turkey via fiber; discussions are already taking place with Iran. In the short term, it may be possible to use a central inclined orbit satellite link, which will provide low-priced Internet access, which can then be distributed to service and access providers at low cost. International connectivity in Iraq is only available from expensive and inefficient satellite services. The desired option is to connect to both Iran and Turkey via fiber; discussions are already taking place with Iran. In the short term some cheaper satellite options can be considered.

This report provides a detailed analysis of the current situation, highlights potential problem areas, and recommends solutions.

Information and Communication Technology (ICT)

Introduction

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In the last three years in the Kurdistan Region, all investment in communications in the Kurdistan Region has been private, and primarily focused in one area of communications infrastructure—mobile phones—which is typical of most developing economies. The ease of deployment combined with a massive demand for communications has made mobile communication extremely successful and very profitable in developing economies. There are also significant additional services available such as short messaging service (SMS) and 3G and 4G standards for Internet access, although these services will not suffice for general Internet applications. More significantly, many countries have now developed mobile commerce, a way to make payments and transfer funds using a mobile phone. This last development has great potential in economies with weak banking infrastructure, particularly in developing rural economies.

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businesspeople and entrepreneurs of tomorrow will emerge and drive forward regional growth. In addition, universities themselves need to ensure computer literacy among their students and, to further facilitate computer literacy, the Kurdistan Region secondary schools need extensive computer courses and exams.

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ICT Development in the Kurdistan Region

There are two distinct aspects to ICT development. The first is infrastructure, an enabler for all other industrial development, via fast, efficient communications and access to knowledge. Effectively taking over from traditional voice-based communications, some aspects of ICT also overcome language problems and some legal problems by reducing many

communications to writing (e-mail) and providing a communications trail for others to follow. It puts vast amounts of data at the fingertips of academics and industrialists, bringing the global marketplace closer to everyone. It can enable free face-to-face conversations across the world. In short, ICT is revolutionizing the telecommunications industry and, without it, developing countries will fall further and further behind the developed world.

Secondly, ICT is also an industry in its own right, in such areas as software engineering, call centers, Internet service providers (ISPs), equipment supply and installation, and infrastructure installation. The growth of these industries is often seen as a marker of economic development in poorer economies. An economy with a strong information technology (IT) sector indicates that a strong and thriving communications infrastructure exists, which is a requirement for a modern industrial society. The growth of the Indian economy over the past 10 years is an example of this.

The ultimate goal of any country's ICT sector is universal access to all services via a single delivery system. This report will look at what needs to be done to achieve a ubiquitous fiber network and fiber-to-home to deliver voice, video, and data to all. There will be several steps leading up to this, which will be designed to provide access to all services for the maximum number of people in the shortest time and at the lowest cost.

Infrastructure and Internet Access

The development of communications industries related to ICT does not necessarily require heavy investment in equipment, but more in human capital. Activities such as software engineering and call centers can be based anywhere. This is a double-edged sword for developing economies. While local universities can, for example, join in worldwide projects and offer higher quality education, major international companies can use local skills, but other than wages to local employees, they make no significant capital investment into the local economy. For example, the capital required to build production facilities is an investment, whereas wages paid to local employees are transitory.

A key requirement for successful businesses to develop is fast and low-priced Internet access. Affordable and fast Internet access is also a prerequisite of the so-called knowledge economy. Such access requires a connection to the fiber-optic-based Internet backbone to achieve both high speed and low prices. If this is not available as with many landlocked developing countries/regions, then satellite links to Internet hubs in developed countries become the only option. At more than five times the price of a fiber-optic connection, the cost of a satellite connection can and does present a major hurdle to economic development. Even where the optical fiber backbone does reach developing countries, many incumbent telephone companies have inflated the price of Internet bandwidth, seeing it as a revenue stream rather than an essential infrastructure.⁶²

⁶² In the U.S., wholesale Internet prices range between \$350 and \$800 per month for a T1 (1.5 Mbps in and out, 3 Mbps total). The same bandwidth via satellite will not cost less than \$6,000 per month and can easily reach \$12,000, depending on the satellite and the hub. The reasons vary, usually related to power, coverage, and frequency, but the point to note is the significant cost comparison between U.S. prices for T1 service and the cost of Internet service via satellite, not the variation in satellite prices.

Internet connection via satellite presents two major drawbacks to developing countries: (1) price—the bandwidth can be 10 to 20 times more expensive than a fiber-optic backbone; and (2) high latencies—satellite signals take 10 times longer to travel from one place to another than signals over the fiber-optic connection.

This is the first ICT barrier for developing economies. Internet connectivity carries with it many advantages—low-priced communications, access to a vast knowledge base, up-to-the-minute information, and many more. However, the developing economies that need this most urgently have to pay 10 times more than developed economies for access. This lack of cheap access can delay the development of an economy, while allowing competitors to get even further ahead.

Education

In the early development of the sector, forward-thinking education is critical. There are several important strategies needed to help develop education. Firstly the infrastructure of universities must be such as to allow universal Internet access to staff and students. Secondly the universities must be able to become a part of the worldwide academic network. Thirdly courses of study must be instituted that will train students in fields appropriate to employment in the local industry and lead to academic research that is relevant to local industry. Syllabi must be kept relevant and current through research and communication with other centers of learning excellence around the world.

There are many different ways of strategizing these objectives, which must be the subject of separate research. Here it is sufficient to say that if ICT is to become a tool for industrial development, there must be people readily available with appropriate skill sets.

It is important that the education sector looks at innovative methods to speed up the establishment of centers of excellence. One obvious route is to work with the oil and gas extraction companies to set up education facilities to supply specialist skills to those industries. Other organizations must also be encouraged to establish graduate schemes to absorb qualified candidates. Universities should be looking both nationally and in the Middle East region at skills shortages when designing courses.

An alternate and tangential area of education is basic computer education, such as “A Plus,” which provides detailed knowledge of the computer hardware, versus product-specific training, such as Cisco, Microsoft, Oracle, and SAP. Such product-specific training is usually handled by the private sector, via authorized education centers and certified trainers. The education is paid for by the student and tends to be expensive because the minimum hardware requirements for the school imposed by the licensing companies are usually quite stringent. The KRG may want to examine the possibility of offering some form of sponsored education in these areas to help develop a pool of skilled workers.

Schools also must be made a part of the ICT education stream. Secondary schools should have computer labs, Internet connectivity, and syllabi that prepare students for entry into hardware- and software-related engineering degrees.

Government

A key area for ICT development, government, has four important areas.

1. The use of server-based technology for data storage and retrieval (Storage Area Networks or SAN).
2. The installation and operation of a government/regional fiber-optic-based network for data entry and communication.
3. The establishment of an e-Government network and information strategy to interact with the population at large.
4. It is important that consideration be given to security implications at every step of the way. Universities should be able to provide knowledge and research in this area, particularly in cryptography.

Government can also play a key role in education by helping to fund academic programs at universities, establishing training schools for government employees, and sponsoring students for product-specific training. A word of warning in this regard: the companies, such as Microsoft or Cisco, who will interact the most in terms of assisting with education are not always the best. This means that in a developing economy there is little use for a plethora of Microsoft or Cisco qualified staff, but both Microsoft and Cisco will be anxious to build training facilities to promote their products. A developing economy needs to give itself more choices. There is a limit to how many Cisco Certified Network Associates an economy can use. The delivery of these qualifications must also be monitored to make sure they are a service, not a business.

There will have to be a measure of government intervention in the ICT sector if it is to develop along meaningful lines, as can clearly be seen from the privatization of telecommunications. Rapid growth of the profitable mobile networks has occurred at the expense of investment in backbone infrastructure, without which broadband Internet cannot be delivered.

Another arm of government that can make good use of ICT infrastructure is security—assisting in the increasing deployment of such measures as security cameras, online vehicle databases and police records, immigration and passport control, transit goods tracking, vehicle tracking, and customs collection and control. The development of identity cards with embedded chips for the general population can also be considered, and would make a useful project for a university. The use of mobile data communications for emergency services will also assist in building infrastructure and falls in line with the development of a Worldwide Interoperability for Microwave Access (WiMax) network (a standards-based technology enabling the delivery of broadband internet to home and office access as an alternative to cable and digital subscriber line [DSL]). A regional ICT infrastructure will enable the roll out of online systems capable of creating a secure and safe environment for industrial development.

The development of some e-Government measures can also start fairly quickly, such as creating Web sites to disseminate information, downloading forms, and submitting electronic documents via e-mail. True e-Government will not happen for sometime in the Kurdistan Region because connectivity is not yet pervasive enough in the general population to make it effective. Being able to avoid queues at government offices will quickly attract people to online transactions.

Government has an important role to play in ensuring the latest equipment is always imported. Many developing economies use import duties as a major revenue source and penalize the import of ICT equipment by charging high tariffs. It is absolutely vital that the KRG accept that all ICT-related equipment should be imported duty free. The free flow of low priced, easily available, late model equipment is essential to developing ICT.

Financial Services

One of the key infrastructures in trying to attract foreign direct investment (FDI) is the provision of banking and other financial services. There is little point in trying to attract investors who have to carry their money in the overhead locker of an aircraft. Internationally recognized banks with branches around the world and in Iraq are absolutely essential and for such international banks, their first consideration is connectivity to their other offices and to the world's financial markets. These links need to be both international and national. There are latency constraints and privacy concerns that also need to be addressed. A national VSAT hub and network is a good idea for delivering financial and government services securely to remote areas, and ultimately for delivering Internet bandwidth and serving as another incubator for ICT development.

Industrial Development and FDI

Given the existing ICT infrastructure, we believe that the oil and gas companies (extractive industries) will be one of the few in the Region certain to invest in IT, but they will bring their infrastructure and human resources with them. It is important then in the early stages that these investors are encouraged to develop human capital in the Kurdistan Region, by establishing training centers, close cooperation with universities, and generally agreeing to, and actively participating in, skills transfer.

The oil and gas companies (extractive industries) will bring with them a variety of support industries, which the KRG should be prepared to help get established. Because all these oil and gas businesses are likely to be linked to each other and to the world, they are the obvious choices for customers of a fully equipped business park. Business parks should include fast Internet access as part of its services. On-site training schools, to encourage incoming businesses to look for locally trained labor and cooperate with the trainers to design appropriate courses, should be encouraged. These business parks will form specialist clusters, to further enhance local development.

If such a business park or parks can be established for support industries, they will be a suitable location for ICT incubation and development projects, concentrating on areas such as network infrastructure and installation, and equipment sales and support, as start-up enterprises that will support ICT development in the districts.

An important inducement to develop business parks and the ICT industry is import duties. All incoming FDI companies will be duty free for 10 years, according to the investment law. If this is the case, to avoid all ICT equipment being brought in directly by foreign companies through duty-free purchases, it is important to allow local businesses to be competitive by allowing them to acquire and sell equipment duty free from and to foreign companies.

Many governments use old outdated tariff books that predate computers, which is an example of how bad legislation can interfere with development. In fact the KRG has very forward looking policies, but is constrained by Iraqi customs law, which is in the process of revision. Some have been known to reduce duty on complete machines while keeping tariffs on the component parts, thus discouraging even local assembly and repairs. It is important to create appropriate and suitable legislation at the outset.

The KRG will require common desktop applications, such as word processors, to be available in the Kurdish language. While developing such applications is unlikely to attract FDI, it will present an opportunity to create a medium-sized ICT project that can help form the basis of an ICT cluster. A funded university project would be an ideal vehicle for this. Other areas the government should study are training in use of Linux and Unix server technologies, large-scale database management and operation such as Oracle, and other enterprise-type software such as SAP or PeopleSoft.

Medicine

Medical services are increasingly using the Internet and ICT in various ways. Enabling remote clinics to go online for diagnostics, guidance, and collection and analysis of data is helping to pinpoint potential medical problems. Students unable to attend international events to be updated on the latest techniques in treatment can now attend online seminars to keep their skills up to date.

Other ICT-related Development

The Kurdistan Region has been isolated from industrial development for many years and major improvements in infrastructure are needed before any ICT-focused industries can become a reality in the Region. One possible immediate ICT-related initiative is call centers. Call centers are traditionally based on low-cost labor with a good knowledge of the English language. It is not certain whether these conditions currently exist in the Kurdistan Region. It should be remembered that India's call centers are a US\$23 billion per annum industry that has been a key stepping stone on the country's road to ICT development. Call centers provide a large pool of computer-literate staff who are proficient in the English language and can be a key contributor to the development and empowerment of women.

In a first-stage initiative, the U.S. Department of Defense's Task Force, led by the Business Transformation Agency (BTA), has signed a contract with Enterra Solutions (<http://www.enterrasolutions.com/>) to provide call center services. According to an Enterra Solutions press release, the Call Center will support both Iraqi state-owned enterprises and private industries⁶³ and will be the first center to be established in Erbil. This may or may not

⁶³ Enterra Solutions Press release 2008. Available at: <http://www.enterrasolutions.com/callCenter.html>.

be the right solution. We question if this initiative will be as effective as a low-cost Indian operator, for example, who has experience in markets with limited infrastructure.

Incubator Projects

The best start-up option for developing Internet-related business is an incubator project. A wired office, where small offices can be leased daily weekly or monthly, with facilities including computers, high-speed Internet access, secretarial services, and interpreters, is included in the cost. These incubators can assist small, local businesses to overcome high start-up costs, while still enjoying the facilities of a modern connected office. A similar project, in collaboration with a nonprofit organization, to promote an IT cluster has been successfully established in Cape Town, South Africa. Called the Bandwidth Barn, it offers many advantages to start-up companies and provides an excellent model to follow in Kurdistan Region. It would be appropriate to establish such incubator projects in each of the three provinces and ensure that they are connected for information sharing.

A visit to the University of Koya in the Kurdistan Region, a four-year-old building still in the process of construction and expansion, revealed that it has little connectivity with the rest of the academic world. With an Internet connection only capable of sending e-mails, no place to house visiting academics, and no funding to send academics to overseas conferences, the university is unlikely to become the center of excellence it needs to be. The IT department has been recently reduced to a faculty of the Department of Engineering, a retrograde step toward any kind of IT development.

If the University is to stand at the forefront of ICT development in Kurdistan, together with the other Universities in the Kurdistan Region, it is vitally important that it can connect to the rest of the academic world. Then the University of Koya can be certain it is teaching the latest syllabi using the latest methods.

Universities have to provide the human capital to fuel growth and development. Industry and especially the oil and gas industries are by nature always at the forefront of development and spend billions of dollars each year on ICT. The KRG needs to adopt education policies that will lead to information exchange and interaction with the world's leading universities if the Kurdistan Region is to take full advantage of the opportunities offered by the development of extractive industries here.

The Revenue Problem

An important corollary to the development of the Internet is the change in telecommunications revenue. Up to the mid-1990s in international voice settlement (payment between economies), the terminating country was paid by the originating country for each call, while satellite links were shared between countries. Developing economies had a very healthy revenue stream from this arrangement. With the growth and spread of the Internet and Voice over Internet Protocol (VoIP), international voice settlement has all but disappeared, so not only is there no revenue, but in many cases users in developing countries now need to pay to connect to the network and terminate the connection. Because of this falling revenue stream, most developing countries have resisted the development of VoIP,

which they see as threatening their income stream because it provides cheap calls. History shows that overpricing communications is a detriment to progress.

More recently, incumbent mobile operators in developing economies are also resisting VoIP and pressuring governments to protect them as they also see a threat to their income stream and investments.⁶⁴ The net effect of this resistance is to keep the price of international voice traffic at a level much higher than is necessary, penalizing industry and the general public. Most importantly, this leaves fledgling industries in developing economies paying several times more for less efficient communications services than those in the developed world—economies with which they are trying to compete.

Developing countries have a tendency to follow western countries and auction mobile phone licenses. In a developmental context this is not necessarily good practice; if a mobile operator has to pay US\$10 million for a license, how will the cost be recovered? The answer is from call charges. The general public and users of the network, not the mobile phone operator, pay this license fee, which becomes another indirect tax on an already overburdened economy

The Current Situation—Internet

The Kurdistan Region currently enjoys a typical mix of Internet access methods. The major institutions employ satellite systems, usually provided by foreign companies, thus ensuring that less than 1% of the tens of thousands of dollars per month they spend on Internet connectivity stays in the Kurdistan Region to help develop local infrastructure. There are two dedicated ISPs who bring in satellite bandwidth, which is distributed over poor quality copper wires via DSL and dial-up. Mobile companies are also offering 3G and 4G services. The overall effect is one that has discouraged investment in last-mile solutions, which would provide broadband Internet access, voice and TV over a single link, and converged services (voice, video, and Internet) that will enable the delivery of telephone, TV, and internet over a single link

There are some last-mile copper telephone networks of dubious quality in the Kurdistan Region with an electrical network that needs an enormous amount of repair work. The rapid development of mobile phone networks, meanwhile, has ensured that all investment in communications infrastructure has been in mobile voice and in the hugely profitable (for the operators) Global System for Mobile (GSM) communications arena, rather than in the more long-term quality of buried copper or fiber networks.

The Current Situation—Voice Networks

Existing Fixed and Mobile Services

There is low teledensity across Iraq, including the Kurdistan Region, because of a lack of infrastructure and investment. The immediate need to provide a communications infrastructure led to mobile (GSM) licenses being issued. Unfortunately, these were issued without the oversight of a regulatory body, and although the Iraq National Communications

⁶⁴ In Afghanistan, ISPs are prevented by government regulations from providing voice services, driving up the price of communications to and from Afghanistan.

and Media Commission in Baghdad now exists, it appears to do little to bring the mobile phone companies in line with international accepted quality standards and connectivity and coverage practices, which would enforce interconnection between international and domestic (Iraq) operators and rural coverage. The licensing practices have led to the bizarre situation where a user may have 3G services, such as Internet, on mobile phone coverage where a customer cannot connect with or call another network in Baghdad. These gaps in coverage need to be addressed urgently and the industry properly regulated.

Regional and National Links

The original fixed-line telephone service has been privatized into a joint venture called NewRoze Telecom that has done nothing to improve the network in the first year. However, they have now issued a tender for a fiber ring, which will go north from Erbil to Dahuk and the Turkish border (Zakho), returning to Erbil via a different route. NewRoze has also made a commitment to roll out a WiMax last-mile network but have not yet issued a tender for this work.

Regionally, there is a fiber link from Erbil to Baghdad that has not been built, but has not yet been commissioned. The World Bank has also agreed to fund a microwave backbone that will run up the eastern border of Iraq.

There is a fiber link to Mosul from Erbil, which is working, and a microwave link to Dahuk from Erbil, which carries all current telecommunications traffic and is fully utilized. There is no current link to Sulaymaniyah from Erbil, but plans are in place for a private fiber link connecting both locations.

In Erbil City there are three fiber networks: a 20-year-old network carrying voice between exchanges, a more recent network linking major telephone exchanges and including government offices, and finally a new network covering all government offices for voice and data. This last network is also intended to connect to an Internet gateway.

Last Mile

There are two wireless local loop (WLL), or wireless fixed line, providers: Aria and Spheron. Although Spheron will only start operating later this year, both companies have equipment in place. Both offer Internet access, with Spheron also offering DVB downloads, which will come close to broadband speeds (up to 2 Mbps) but the outbound leg will be via the WLL and be limited at 128 kbps or less.

There are several GSM companies—Korek, AsiaCell, and Mobitel—although, so far, only AsiaCell offers access in all areas of Kurdistan Region. All services offer some form of Internet access via the GSM networks and are accordingly restricted in terms of bandwidth offerings. As noted above, NewRoze owns the existing copper network but this is of poor quality and cannot sustain either voice or broadband services. To date there appears to be no movement toward creating either a copper or fiber last-mile network.

Currently there are no suitable options in place to deliver high bandwidth solutions to homes and business in Kurdistan Region. The bandwidth that is brought in is expensive and heavily

shared. The biggest satellite operator in the Kurdistan Region appears to be a German company called Skyway.net.

The current critical infrastructure demands on the Kurdistan Region (electricity and water) makes it impractical to suggest burying cables to replace the chaotic network of cables currently in place until such time as city planning is enforced to prevent repeated breakages as these other services are installed. Good city planning could also save cost by having all these services use the same cableways, and install them at the same time. The development of a fixed line service, therefore, will have to be delayed until such time as city planning can address that problem. It is appropriate to plan for fiber to new homes as an ultimate solution. New housing complexes should be taking into account the ducting needed to carry this out. Building and planning codes need to be strictly enforced to enable the roll out of a fiber network.

Short- and medium-term solutions then will have to be wireless based; however, there is a limited amount of radio spectrum and an apparently unlimited need for bandwidth. At best, this can only be a stop-gap solution.

Solutions

There is a need for connectivity to the Internet that will allow not only for the ever increasing demand for high bandwidth, but also provide this at an affordable price. To gauge how much bandwidth is needed, we have to look at what is happening in the broader Internet economy.

Modern Internet usage requires large amounts of bandwidth; Internet applications are written assuming that every user has at least a 512 kbps link, when many have 1 or 2 Mbps. The use of these applications has done much to create a level playing field in terms of knowledge and competitive information for companies in the developed world.

As the speed of Internet connections increases, developers will write software that will demand higher bandwidth. In much the same way as personal computers need to continuously upgrade to be able to run the latest applications, Internet bandwidth needs to be continuously increased. What was being viewed as a limitless, “free” resource three years ago is now considered to be insufficient to power the knowledge economy in the U.K.

International Connectivity

Because satellite connections simply cannot provide bandwidth in these Gigabit quantities, the KRG needs terrestrial connectivity. Terrestrial Internet is available in Iran, Turkey, Syria, and Jordan. To provide terrestrial connectivity in the KRG, fiber connections to each of these countries is required; however, fiber is expensive and takes time to bury in this terrain. In addition, all the cross-border formalities would first have to be dealt with. This is a medium-term solution because, although urgent, cross-border issues cannot be dealt with quickly because of the processes needed prior to connecting to the Kurdistan Region’s neighbors. Although the Government of Iraq has approached the Iranian government about developing a terrestrial connection between the two countries, such a development would have to be a

transit agreement with Iran and the international Tier One provider (Flag Telecom), rather than a direct purchase from Iranian service providers.

Mobile phone companies have networks close to border regions and it may be the best possibility to negotiate with them to carry Internet on microwave links using their existing towers and power sources. If arrangements can be made with neighboring governments to transit bandwidth (and if infrastructure exists in over border areas), it will be possible to purchase sufficient quantity of Internet bandwidth from international Tier One providers for immediate requirements at reasonable rates. The logical place to start would be in Turkey, which has a modern telecommunications infrastructure and existing links to the European backbone.

Turkey is politically stable and physically close to the European backbone and to Kurdistan Region. This represents a short- to medium-term solution but depends on being able to use existing GSM infrastructure, ultimately transferring to the new fiber link.

If a short-term solution is required to kick-start the industry and provide immediate solutions, the best alternative is to add all the bandwidth together and make one large purchase, taking advantage of bulk purchasing to reduce prices. This can then replace all the existing small scale and expensive connections in major cities, thus reducing costs overall and help to bring in more bandwidth by using more efficient link types. Thus, the best short-term solution would be to aggregate all existing satellite bandwidth and try to remove private satellite dishes where they are within range of the main networks in order to drive down prices, while ensuring more revenue for Internet access is kept inside Kurdistan Region and Iraq to help develop infrastructure. Satellite bandwidth over this Region is in short supply currently. By aggregating bandwidth, an organization such as the KRG increases its purchasing power. In addition, there are also sharing algorithms that come into play, where increasing numbers of users will need less bandwidth per user to be purchased. It is also possible to use better equipment that enables a more efficient use of satellite bandwidth space, although this is too expensive for a single user, it is possible for a large single supplier because it increases throughput. It would therefore make sense to begin negotiations fairly quickly with potential providers.

The KRG should build an Internet Exchange Point (IXP) to bring in high-volume bandwidth at cheaper prices, possibly using inclined orbit satellites to ensure they obtain the lowest possible prices.

By adding bandwidth at the lowest possible cost, and distributing it on a low-cost economic model, it is possible to provide good services at reasonable prices (although not comparable to Europe or U.S.) and force all foreign satellite businesses out of the Kurdistan Region urban areas. These are wholesalers not satellite operators. The KRG needs to deal directly with the major hubs in Europe and the Far East and to purchase bandwidth directly from the satellite operators. Anything less is inefficient and requires a price premium. Dealing directly with hubs in Europe or Southeast Asia is more efficient and will keep more revenue inside the Kurdistan Region economy.

Regional Distribution

Mobile phone companies already have infrastructure that reaches from the Syrian border in the northwest to the Iranian border in the southeast, which indicates that high elevation tower/broadcast sites and associated electrical power is already in place. If the mobile phone industry were properly regulated, it would be fairly straightforward to rent space on these towers and quickly build a microwave network carrying a minimum of 155 Mbps of information across the Region. Unfortunately all the existing traffic from the north is currently carried on an overused microwave link between Erbil and Dahuk. It may be worthwhile to upgrade this link while fiber is laid, and provide a backup once fiber is operational. In order to achieve this, the KRG will either have to regulate the industry or negotiate use of signal distribution/broadcast towers with the mobile phone companies.

The planned fiber links north to Dahuk and south to Sulaymaniyah should be sufficient for regional connectivity, will provide the required bandwidth for the present moment, and will be able to handle international traffic once connectivity is negotiated with Turkey and Iran. Further consideration needs to be given to transit agreements with Syria and Jordan, and how such traffic could be carried to the Kurdistan Region IXP.

Last Mile—Service Delivery to the Client

The ultimate solution is a fiber-to-home/office network that will deliver all three services—Internet, voice, and television services (triple play)—to all users. As with regional connectivity, some aspects of this can be implemented fairly quickly in new industrial parks/technology centers, universities and schools, and areas where the infrastructure is being constructed or is already in place and not likely to be changed or regularly disturbed.

However, the ultimate goal of ubiquitous fiber will take several years to achieve, and there is certainly going to be demand for high-speed Internet and voice services long before that as various industries develop and infrastructure, such as banking and insurance, is put in place. It is of great importance that services are commissioned urgently to meet this demand to ensure that lack of communications infrastructure does not hamper industrial growth.

The obvious solution is wireless, but the usual 2.4/5.2/5.7 GHz services are unlikely to be able to provide a cohesive and managed solution for broadband access due to congestion and an unregulated environment. Recent developments and deployment of WiMax makes this an obvious choice for roll out by using an unused frequency that is easily controlled, that has no other users, and can enable good frequency planning and management. The equipment to set up a wireless network is in mass production, making it comparatively low cost; the service can be mobile and can offer voice traffic as well if required, although this market is already well-served. It will provide a gateway to VoIP services, potentially reducing the cost of international calls dramatically.

Mobile Commerce

In view of the extensive development of mobile networks, there are options for using this technology that should be considered. Mobile commerce has proven to be very successful in assisting development in many economies. Essentially, funds can be transferred from one

phone to another, usually by means of an SMS message. Once the recipient has the message, which will contain a PIN number, she or he can collect the money in person using some form of ID and the PIN number. This simple but safe way of transferring funds can reach into areas where no banks exist and can assist rural and agricultural economies to develop quickly. The development of farmers' networks in rural areas has also proved highly successful in providing up-to-date market information, enabling farmers to select the market that will give them the best price for their produce.

Conclusions

Voice services are currently very well-catered for and, although a little expensive, has many subscribers. There are plans in place to deliver privately financed regional connectivity within the next 2 years that will provide sufficient voice services to the Kurdistan Region for the next 10 years. What is lacking is international connectivity at a reasonable cost. To provide international connectivity, discussions with neighboring countries and Tier One service providers should commence immediately, as should consideration of how to transit international traffic in Kurdistan Region.

Of the planned networks, only the northern link to the Turkish border can be considered for international connectivity as this is the only link that goes to a border. Therefore, urgent consideration needs to be given to linking to Iran and or Syria. Unfortunately, the privatization of the POTS network in Kurdistan Region has resulted in a plethora of mobile and fixed wireless services, but zero investment in last-mile infrastructure that will be adequate for data. This represents the biggest challenge; in the short term, only a WiMax-based solution will offer sufficient speeds and even that cannot offer video.

If the KRG wants to provide fast, reliable Internet access to education and industry (primarily) the KRG will first have to build a suitable delivery mechanism. Relying on a private company may or may not prove to be successful. It is suggested that the KRG negotiates or even enters into a partnership agreement with NewRoze to ensure that the roll out is professional and capable of delivering all they want and that it happens sooner rather than later.

The major problems facing the Kurdistan Region are the lack of supporting infrastructure, insufficient city planning preventing cableways being built, and the lack of regulations, allowing the mobile operators to act without governance.

At the next tier, the lack of financial services will continue to hamper development, and the lack of connectivity will in turn hamper the development of the financial sector.

Korek charges US29 cents per minute for a call to the U.S., their cheapest international destination. In comparison, Skype charges US4 cents for a similar call, which is cheaper than Korek's domestic tariff. As can be seen from this cost comparison, the Kurdistan Region is paying too much for communications.

Outside the telecommunications industry it is often known that the Internet was built around an existing infrastructure which had already been paid for by POTS, which simply does not exist in the Kurdistan Region.

There were zero (or near negligible) costs incurred to set up the infrastructure for the Internet in the developed world. This is the major reason for its incredible growth and low cost in the developed world. It is impossible to emulate this in the developing world, as little or no infrastructure exists in the first place. From the late 1990s through to the early 2000s, bandwidth between Europe and the U.S. was trebling every year. This vast amount of bandwidth resulted in U.K. companies effectively giving away Internet connectivity to customers and only charging for value-added services, typically the three-in-one package of voice video, and data (telephone, TV, and Internet). Domestic connections in the UK, are now reaching 2 Mbps for as little as US\$50 per month. It is against this background of falling prices and increasing speeds that the KRG must look to provide comparable services, if it is to achieve economic growth and develop as an IT center.

Tourism Sector

Executive Summary

Tourism is one of the world's largest and fastest growing industries. Because barriers to its entry are generally lower than for other industries, tourism is an especially attractive economic option for emerging markets such as the Kurdistan Region. Tourism generates new revenue through visitor spending, which, in turn, stimulates employment, increases tax revenues and export earnings, and attracts additional foreign investment. Tourism also contributes to the development of an integrated economy, due to its interdependence with other sectors, including banking and insurance, construction, ICT, trade, and manufacturing.

The Kurdistan Region, often referred to as "the other Iraq", is gradually gaining recognition as a tourist destination that is distinct in many ways from the rest of Iraq. It is attracting increased tourism-related investment because the Region is relatively peaceful, safe, and stable. However, isolation, external oppression, wars, and security issues, have slowed its development as an international tourism destination. Internationally, little is known or has been documented regarding the potential of tourism in the Kurdistan Region because the tourism research, visitor surveys, resource inventories, and tourist statistics required to make that assessment have not been produced and disseminated.

Visitors coming to Kurdistan for business and other travel have increased and the resultant potential for increased tourism is growing. For example, Erbil International Airport (EIA) currently handles 46 commercial flights per week with a total of 290,000+ visitors yearly. And the new EIA terminal currently being constructed has the capacity to handle 3 million visitors annually. The new commercial airport in Sulaimaniyah also brings additional visitors to the Kurdistan Region.

Accordingly, tourism in the Region is still in the developmental stage, and existing problems, including infrastructure and site restoration and protection, must be resolved before tourism can become a more prominent contributor to the economy. Quality and reliable transportation at key gateways and along important corridors (including roads, airports, rail, and waterways), are necessary to facilitate access for both visitors and trade. This basic infrastructure benefits both tourism growth and the broader economy, especially employment.

Aviation services, including the new airports in Erbil and Sulaimaniyah, are important catalysts to international tourism growth. And because tourism's vitality is linked to the competitiveness of its services, its development also depends on the effectiveness of businesses and organizations that support the tourism sector⁶⁵.

The Kurdistan Region (KR) has been described as the "Switzerland of the Middle East". Many tourists are drawn to its dramatic landscape and its topographical contrast with the rest of Iraq, including high mountains along border with Iran in the north, rolling hills in the

⁶⁵ Stan McGahey, *Tourism as an Economic Engine of Kurdistan* (unpublished, August 2004).

south, and many other valleys, forests, rivers, waterfalls, and pastoral plains. The north and eastern mountains and valleys also feature areas with flora and fauna that are well-suited as tourist destinations. The Region's semi-arid climate, which is divided into three rainfall and temperature areas according to their topography and altitude, features cold, wet winters and hot, dry summers, except in the mountains, where moderate temperatures in summer and occasional snow in the winter prevail. Thus, the Kurdistan Region's location and its contrasting climate and topography are an asset that appeals to tourists from southern Iraq, the greater Middle East, and other international locations who are able to pursue unique recreational opportunities not found at home.

In addition to its abundance of natural resources, the Kurdistan Region also features the history of ancient peoples, as well as numerous and varied archeological sites and artifacts, which have substantial tourism appeal. Historical treasures are found throughout the Region, including caves, ruins, castles, citadels, irrigation systems, and other antiquities which have yet to be explored and developed, or even discovered.

The Kurdistan Region's economy is currently dominated by the Trade, construction, agriculture and an emerging petroleum and gas industry. Its abundant natural resources, ancient cultural sites, and diversity of culture endow the Region with significant tourism development potential. For example, the Region is largely mountainous, with the highest point at 3,611 m (11,847 ft), known locally as Cheekah Dar (Black Tent). Many rivers flow through the mountains and distinguish the Region by its fertile lands, plentiful water, and picturesque landscape. The Region's mountainous nature, its variations in weather, and its wealth of water, make it a land of agriculture and tourism.

Tourism stakeholders envision a tourist industry capable of great expansion as all of Iraq settles into a post conflict existence. Students in the Region are learning English as a second language. As the great majority of visitors to the Region will be from Middle East countries this report recommends that Arabic also be encouraged as a second language in the schools. The safety of the Region has caused development organizations and nongovernmental organizations (NGOs) based in the non-Kurdistan regions of Iraq to hold numerous conferences at the Erbil Convention Center and nearby hotels. In addition there is a growing number of international business people traveling to the Region. Currently, no reliable data are available on any of these tourist segments or their activities, expenditures, or levels of satisfaction.

Many potential tourism attractions, which are the basis for tourism development and promotion, exist upon which to build a viable tourism industry. A detailed inventory of the attractions, especially the approximately 1,300 cultural, archeological sites in the Kurdistan Region is needed. There is no formal, well-organized inventory of heritage and cultural sites either in hard or electronic copy, except a large written listing of cultural and archeological sites that was prepared in Baghdad in the 1970s. Efforts are currently being made by the KRG's Ministry of Tourism to attract foreign investment to help develop additional attractions and hospitality facilities. The KRG Minister of Tourism clearly recognizes that tourism can bring the Region substantial economic and socio-cultural benefits through appropriate planning, management, and investment, and is attempting to bring to fruition as

many of these efforts are possible. However, modern international tourism is still underdeveloped, and the difficulty of the Kurdish language is an obstacle to international communications, although English is widely spoken in the towns. In addition, the multitude of checkpoints and omnipresent security, including most buildings and hotels, restrict normal tourist flows.

Currently, few tourists visit the Region, due to the perceived security concerns that limit their activities. Despite the advantages of the superb natural scenery and cultural heritage, there is still not enough available for tourists to see and do because the attractions and hospitality services are not well-packaged or marketed. This is true even in Erbil which boasts over 500 archaeological and historic sites. Some of the main attractions include its 8,000 year old Citadel, which claims to be the oldest continuously-inhabited city in the world, the Mudhafaria Minaret, and the Qayassaria Bazaars. Yet, opportunities for tourism growth exist, and the benefits of an expanded tourism and hospitality sector are significant in terms of creating jobs, expanding the tax base, generating spin-off development, and bringing outside income into the Region.

Future tourism success can be created through significant investment in developing and implementing comprehensive tourism plans concerning infrastructure, site development, training, and other elements. An updated strategic framework for development of a tourism master plan should be prepared so that the tourism sector can compete successfully in the international marketplace. Thus, the long-term tourism sector goal is to identify and then develop projects of varying durations and costs, including a tourism master plan, based on an objective assessment of tourism's current situation, trends, and projected potential.

In addition, investment is needed to develop tourist services, such as hotel quality and capacity, and infrastructure, such as airport and road capacity, to accommodate increases in tourist to accessible attractions such as the Erbil Civilization Museum and other cultural heritage centers within the Region. In conjunction with the acquisition of basic infrastructure investment, the assistance of international institutions is needed to provide the funding for training qualified tour guides and for procuring visitors facilities, such as restrooms, teashops, and souvenir shops, as well as the continual financing of ongoing archeological excavations of the Citadel and many other important archeological sites.

Tourism products in the Kurdistan Region that have the potential to satisfy demand in likely target markets include the following:

Adventure travel, with a worldwide growth rate of 18% per year, is one of the fastest growing markets segments in the tourism industry

The Meeting, Incentives, Conferences, and Events (MICE) tourism segment attracts large groups of affluent travelers.

Cultural tourism is one of the fastest growing market segments and accounts for approximately 10% of tourists worldwide (60 to 70 million each year).

Regional tourism continues to draw visitors from southern Iraq, the Gulf Coast countries, and other areas of the Middle East. In particular, they are attracted to the mountains during the hot summer months.

Religious tourism (Christian pilgrimage destinations) also commonly referred to as faith tourism and spiritual tourism, includes individuals and groups traveling for pilgrimage, missionary, or fellowship purposes.

Sector Assessment: Tourism

Introduction

Tourism is one of the world's largest and fastest growing industries. Because barriers to entry to the tourism industry are generally lower than for other industries, tourism is an especially attractive economic option for emerging markets such as the Kurdistan Region. Tourism generates new revenue through visitor spending, which, in turn, stimulates employment, increases tax revenues and export earnings, and attracts additional foreign investment. Tourism also contributes to the development of an integrated economy because of its interdependence with other sectors, including banking and insurance, construction, information and communication technology (ICT), trade, and manufacturing.

The Kurdistan Region, often referred to as “the other Iraq,” is gradually gaining recognition as a tourist destination that is distinct in many ways from the rest of Iraq. It is attracting increased tourism-related foreign investment because the Region is relatively peaceful, safe, and stable. However, isolation, external oppression, wars, and security issues have slowed its development as an international tourism destination. Internationally, little is known or has been documented regarding the potential for tourism in the Kurdistan Region because the tourism research, visitor surveys, resource inventories, and tourist statistics required to make that assessment have not been produced and disseminated.

The number of visitors coming to Kurdistan for business and other travel has increased and the resultant potential for tourism is growing. For example, Erbil International Airport (EIA) currently handles 46 commercial flights per week with a total of more than 290,000 visitors yearly. The new EIA terminal currently being constructed has the capacity to handle 3 million visitors annually and is expected to open in late 2008 or early 2009. The new commercial airport in Sulaymaniyah also brings additional visitors to the Kurdistan Region.

Accordingly, tourism in the Kurdistan Region is still in the developmental stage and existing problems, including infrastructure and site restoration and protection, must be resolved before tourism can become a more prominent contributor to the economy. High quality and reliable transportation at key gateways and along important corridors (including roads, airports, rail, and waterways), are necessary to facilitate access for both visitors and trade. This basic infrastructure benefits both tourism growth and the broader economy, especially employment. Aviation services, including the new airports in Erbil and Sulaymaniyah, are important catalysts to international tourism growth. And because tourism's vitality is linked to the competitiveness of its services, its development also depends on the effectiveness of businesses and organizations that support the tourism sector⁶⁶

The Kurdistan Region has been described as the “Switzerland of the Middle East.” Many tourists are drawn to its dramatic landscape and its topographical contrast with the rest of Iraq, including high mountains along the border with Iran in the north; rolling hills in the south; and many other valleys, forests, rivers, waterfalls, and pastoral plains. The north and

⁶⁶ Stan McGahey, *Tourism as an Economic Engine of Kurdistan* (unpublished, August 2004).

eastern mountains and valleys that feature areas with flora and fauna are well-suited as tourist destinations. The Kurdistan Region's semiarid climate, which is divided into three rainfall and temperature areas according to their topography and altitude, features cold, wet winters and hot, dry summers, except in the mountains, where moderate temperatures in summer and occasional snow in the winter prevail. Thus, the Kurdistan Region's location and its contrasting climate and topography are an asset that appeals to tourists from southern Iraq, the greater Middle East, and other international locations who are able to pursue unique recreational opportunities in the Kurdistan Region that are not found at home.

In addition to its abundance of natural resources, the Kurdistan Region also features the history of ancient peoples, as well as numerous and varied archeological sites and artifacts, which have substantial tourism appeal. Historical treasures are found throughout the Region, including caves, ruins, castles, citadels, irrigation systems, and other antiquities that have yet to be explored and developed, or even discovered.

The Kurdistan Region's economy is currently dominated by the trade, construction, agriculture and an emerging petroleum and gas industry. Its abundant natural resources, ancient cultural sites, and cultural diversity endow the Region with significant tourism development potential. For example, the Region is largely mountainous, with the highest point at 3,611 m (11,847 ft), known locally as Cheekah Dar (Black Tent). Many rivers flow through the mountains and distinguish the Region by its fertile lands, plentiful water, and picturesque landscape. The Region's mountainous nature, its variations in weather, and its wealth of water make it a land of agriculture and tourism.

Tourism stakeholders envision a tourist industry capable of great expansion once all of Iraq settles into a normal existence. Students in the Region are learning English as a second language. As the great majority of visitors to the Region will be from Middle East countries this report recommends that Arabic also be encouraged as a second language in the schools. The Region's first group of American tourists arrived from California in June 2008. The Kurdistan Region continues to receive a limited number of tourists from the southern part of Iraq. The safety of the Region has caused development organizations and nongovernmental organizations (NGOs) based in the non-Kurdistan regions of Iraq to hold numerous conferences at the Erbil Convention Center and nearby hotels. In addition there is a growing number of international business people traveling to the Region. Currently, no reliable data are available on any of these tourist segments or their activities, expenditures, or levels of satisfaction.

Many potential tourism attractions, which are the basis for tourism development and promotion, exist upon which to build a viable tourism industry. A detailed inventory of the attractions, especially the approximately 1,300 cultural and archeological sites in the Kurdistan Region is needed. There is no formal, well-organized inventory of tourism facilities except for a handwritten list of cultural and archeological sites that existed in the Kurdistan Region and Iraq overall that was prepared in Baghdad in the 1970s. Efforts are currently being made by the Kurdistan Regional Government's (KRG's) Ministry of Tourism to attract foreign investment to help develop additional attractions and hospitality facilities. The KRG Minister of Tourism clearly recognizes that tourism can bring the Region substantial economic and sociocultural benefits through appropriate planning, management,

and investment, and he is attempting to bring to fruition as many of these efforts are possible. However, modern international tourism is still underdeveloped, and the difficulty of the Kurdish language is an obstacle to international communications, although English is widely spoken in the towns. In addition, the multitude of checkpoints and omnipresent security, including in most buildings and hotels, restrict normal tourist flow.

Currently, only a limited number of tourists visit the Region because perceived security concerns that limit their activities. Despite the advantages of the superb natural scenery and cultural heritage, there is still not enough available for tourists to see and do because the attractions and hospitality services are not well-packaged or marketed. This is true even in Erbil that boasts more than 500 archaeological and historic sites. Some of the main attractions include its 8,000-year-old Citadel, which claims to be the oldest continuously-inhabited city in the world; the Mudhafaria Minaret; and the Qayassaria Bazaars. Opportunities for tourism growth exist, and the benefits of an expanded tourism and hospitality sector are significant in terms of creating jobs, expanding the tax base, generating spin-off development, and bringing outside income into the Region.

Future tourism success can be created through significant investment in developing and implementing comprehensive tourism plans for infrastructure, site development, training, and other elements. An updated strategic framework to develop a tourism master plan should be prepared so that the tourism sector can compete successfully in the international marketplace. Thus, the long-term goal of the tourism sector is to identify and then develop projects of varying durations and costs, including a tourism master plan, based on an objective assessment of tourism's current situation, trends, and projected potential

Investment is needed to develop tourist services, such as hotel quality and capacity, and infrastructure, such as airport and road capacity, to accommodate increases in tourist traffic to accessible attractions such as the Erbil Civilization Museum and other cultural heritage centers within the Region. In conjunction with the acquisition of basic infrastructure investment, the assistance of international institutions is needed to provide the funding to train qualified tour guides and hospitality management staff, as well as to continually finance ongoing excavations of the Citadel and many other important archeological sites⁶⁷.

A multifaceted tourism development plan formulated by the KRG's Minister of Tourism should include the following:

1. Identify and restore tourism sites, some of which are in the conceptual and detailed site development stage.
2. Target Middle Eastern tourists by featuring 5-star hotels, casinos, night clubs, restaurants, transportation, and associated premium quality guest services.
3. Target European and other foreign tourists by featuring quality hotels, restaurants, transportation, and associated tourist services, including well-trained tour guides;

⁶⁷ Stan McGahey, *The Erbil Citadel: A Tourism Perspective on Preservation, Prosperity, and Pride* (presentation, 2004).

- interesting historical, cultural, religious history, and ecological sites; and recreational attractions.
4. Target local and regional tourists from Iraq, Turkey, Syria, and other nearby locations with a variety of the above attractions, facilities, and infrastructure.
 5. Develop the research and marketing capabilities within the Ministry of Tourism.
 6. Enhance the knowledge, skills, and abilities of human resources within various sectors of the tourism industry.
 7. Upgrade tourism distribution and promotion systems to all source markets to include a strong Internet marketing presence with links to the primary tourism products; the development of familiarization trips for related organizations, travel agencies, tour companies, and photojournalists; and membership and participation in related organizations and attendance at conferences and trade shows.

A number of individual initiatives should be combined in order to create a strategic framework to develop a tourism master plan for the Kurdistan Region so that the tourism sector can compete successfully in the international marketplace. Accordingly, the long-term tourism sector goal should be to identify and then develop projects of varying durations and costs, including a tourism master plan, based on the previously mentioned assessment of tourism's current situation, trends, and projected potential.

Tourism products in the Kurdistan Region that have the potential to satisfy demand in likely target markets include the following:

1. Adventure travel, with a worldwide growth rate of 18% per year, is one of the fastest growing markets segments in the tourism industry. The primary activities within the adventure travel market segment are hiking, cycling, rock climbing, desert trekking, sailing, camping, ballooning, mountain biking, water sports, and horseback riding. These represent development opportunities for the Region, based on its natural resources of mountains, lakes, rivers, and other scenic wonders.
2. The Meeting, Incentives, Conferences, and Events (MICE) tourism segment attracts large groups of affluent travelers. MICE has a significant economic impact on the regional and local community because tourists are likely to return to the destination for leisure activities. As the Kurdistan Region develops and diversifies its economy, more business and government travelers will create MICE tourism opportunities.
3. Cultural tourism is one of the fastest growing market segments and accounts for approximately 10% of tourists worldwide (60 to 70 million each year). The cultural and archeological tourism segment could be one of the major components of the Region's master tourism plan, because of the number and historical significance of its many ancient sites, such as the Citadel.
4. Regional tourism continues to draw visitors from southern Iraq, the Gulf Coast countries, and other areas of the Middle East. In particular, they are attracted to the mountains during the hot summer months and to traditional religious and cultural heritage events throughout the year. Further development of sites, accommodations, and other tourist facilities, along with aggressive promotional activities, could increase interregional tourism.
5. Religious tourism, also commonly referred to as faith tourism and spiritual tourism, includes individuals and groups traveling for pilgrimage, missionary, or fellowship

- purposes. Its estimated value is \$18 billion worldwide. Some of the most popular Christian pilgrimage destinations are available in the Region and could be developed and packaged as part of religious tourism itineraries.
6. Treatment tourism (medical tourism, health tourism, and spa tourism) are growing worldwide and could become an important tourism segment as the number of MICE and other upscale forms of tourism grow within the Region. Rejuvenation/wellness is one of the earliest travel motivations. Appropriate climate, scenery, spiritual sense of place, and specialized, high-quality facilities and service are required.

Factors that create a negative impact on the Region's tourism development are:

1. Inadequate banking, financial services, and insurance industries.
2. Inadequate roads, electric power, potable water, sewerage, solid waste disposal, and telecommunications.
3. Lack of sufficient tourist facilities, including accommodations, food service, rest and relaxation settings, tourist information centers, and restrooms that meet tourists' standards.
4. Issues of land tenure concerning tourism sites and facilities.
5. Inadequate tourism education and training, including knowledgeable tour guides.
6. Security restrictions that prevent tourists from other parts of Iraq from visiting the Kurdistan Region.
7. Strong awareness of the Region's turbulent past and current circumstances, but weak awareness of its attractions and facilities among international tourism trade distribution channels and the travel public.

Recommendations

A. Adventure Tourism

1. Organize an adventure tourism program with certified and well-equipped service providers to promote and deliver adventure tourism, especially hard adventure tourism in the mountains and rivers and soft adventure tourism for camping and sightseeing in remote areas.
2. Collect demographic and other market information from participating adventure tour companies and tourists.

B. Sports Tourism

1. Organize a sports tourism program and train service providers to promote and deliver a variety of these products.
2. Develop and learn to operate properly specially designed venues and facilities for sports tourism that appeals to the Region's primary source markets.
3. Collect demographic and other market information from participating sports tourism companies and tourists.

C. Conference Tourism (MICE)

1. Increase appropriate conference and meeting venues to attract MICE events from within the Region, as well as from other areas in Iraq, the Middle East, and other international locations.
2. Develop relationships with meeting planners responsible for arranging corporate, association, and government events.
3. Create a section within the Ministry of Tourism and at local convention and visitors bureaus to assist meeting planners in selecting a venue and arranging the meeting to include dates, program, entertainment, accommodations, food and beverage, transportation, sightseeing, registration, freight forwarding, and border formalities.

D. Cultural Heritage/Archeological Tourism

1. Restore and protect cultural heritage and archaeological sites.
2. Recover stolen artifacts, especially those from the Citadel, which should serve as the cornerstone of KRG's tourism development strategy and promotional focus, based on United Nations Education, Scientific and Cultural Organization (UNESCO) status.
3. Develop visitor facilities, licensed guides, detailed guidebooks and maps, and educational programs.
4. Identify and select a private sector destination marketing organization (DMO) to represent and market tourism in the Kurdistan Region.
5. Use the Internet to provide information on existing tourism and restoration activities.
6. Establish and promote a Heritage Development Fund to provide capacity building, training, technical assistance, implementation support, awareness raising, and tool development in order to build the capacity of private businesses.
7. Establish relationships with the Global Heritage Fund, Getty Conservation Institute, World Monuments Fund, and other NGOs providing technical, educational, and financial assistance.
8. In conjunction with the Directorate of Culture, develop a master plan for the creation of a new Erbil Civilization Museum with facilities for staff, curator and exhibition space, interpretation and licensed guides, visitor facilities (restrooms, tea shop, and gift shop), and ongoing archeological excavations.

E. Interregional Tourism

1. Configure two or three tourism packages tailored to the specific needs of interregional tourists from Iraq, as well as Iran, Syria, and Turkey.
2. Conduct tourist surveys to collect demographic and other interregional tourism information from participating tourists.
3. Work closely with tour operators, travel agencies, and photojournalists in those source markets to create awareness of the Kurdistan Region's attractions and facilities and to customize tourism products to suit the tourists' needs.
4. Ensure tour guides are licensed in the languages spoken by the various source markets.

F. Recreational Tourism

1. Create proper facilities and train staff to facilitate recreational activities.
2. Ensure availability of proper internal transportation and visitor facilities.
3. Cross-promote recreational sites as multiseasonal and year-round destinations for a variety of seasonal activities.
4. Integrate recreational tourism into the overall attractions mix of the area.

G. Religious Tourism

1. Establish relationships with international religious tourism organizations, universities, and DMOs to establish itineraries and tourist guides.
2. Add a link to the KRG's tourism Web site that promotes religious tourism.
3. Protect the integrity of sites and respect the religious significance of each.
4. Ensure the well-being of the host community by giving it some use of the site for its own needs, but not at the exclusion of tourists who pay fees to visit the site.
5. Reconcile the commercial needs of the tourism industry with the spiritual and religious needs of pilgrimages and worshipers.

H. Shopping Tourism

1. Upgrade the language, product knowledge, and service capabilities of sales personnel.
2. Improve packing and shipping capabilities.
3. Create capability to accept credit cards at most establishments.
4. Capitalize on pricing advantages on clothing, shoes, and electronics.
5. Package and promote shopping tourism once major brands and shopping amenities are in place.

I. Treatment Tourism

1. Identify the target tourism markets and design a spa and wellness package to fit their needs.
2. Develop facilities and train staff.
3. Promote health and wellness spa packages to interregional tourists in Iraq, Iran, Syria, Turkey, and other Middle East countries if religiously acceptable and allowable, as well as to visiting European and other tourists, including petroleum company executives living temporarily in the Region.

Trade and Industrial Sector

Executive Summary

The Kurdistan Region has enjoyed a long history of both external and internal trade. The region can capitalize on its strategic geographic location by establishing policies that can attract investment and generate economic growth. Caravan trade routes between the Far East and Europe have run through the Region for 6,000 years. The trade sector in the Kurdistan Region currently constitutes the principal sector of the region's economy. Although trade does not generate significant revenue for the region's public sector, it is a large source of revenue for the private sector, especially for small and medium-sized businesses.

There are few reliable economic statistics in the Kurdistan Region, which is a serious impediment for potential trading and investment partners for the region, and internal and external trade sector statistics are no exception to that. The magnitude of trade done in the region ranges from a low World Bank estimate of US\$1.4 billion to a high estimate of US\$9.6 billion by the Federal Government of Iraq. It is our view that external trade lies in the US\$5.0–5.5 billion range, based on discussions with the Minister of Finance in Erbil, economic advisors to the Kurdistan Regional Government (KRG) and economic statistics from exporting countries to the Region.

Trade

Imports account for 85 percent of the estimated US\$5.0–5.5 billion of annual external trade in the Kurdistan Region. Most imported goods are consumed in the region and are not re-exported as value-added products. The largest external trading partner for the region is Turkey. Turkish exports to Iraq amounted to US\$2.8 to 3.5 billion in 2007, based on official Turkish government figures. The region's second largest trade partner is Iran. Iraq is Iran's second-largest, non-oil export market. Iraqis bought some US\$1.3 billion worth of goods from Iran during 2006. In 2007 Iran exported nearly US\$2.8 billion worth of goods to Iraq, of which approximately US\$1 billion was imported via the Iraqi Kurdistan Region.

There are no regulatory standards for the food sector or basic food safety standards. Regulatory standards are needed for fair competition in the marketplace. This absence of standards has resulted in Iraq and the Kurdistan Region becoming an ideal market for goods and products (including food and medicines) that are often substandard, contaminated, diluted, tainted, or outdated.

Exports from the Kurdistan Region involve 5 percent of trade activities. While there are some agricultural exports from the region, currently much of the export trade in the region involves the re-export of alcohol and tobacco from Turkey to other countries such as Iran.

Industrial and manufacturing sector

The industrial and manufacturing sector is small and underdeveloped. There are many reasons for the small size of the industrial sector, but the most significant one is that the former Ba'athist regime purposely did not develop state-owned enterprises in the Region. There were only four state-owned enterprises when the Ba'athist regime fell in 2003.

Industrial production in the region is characterized by small-scale family businesses serving, almost exclusively, the Kurdistan Region's economy. The region suffers from a lack of infrastructure, especially the lack of reliable electricity and clean water, that deters many would-be manufacturers,

The industrial sector has become uncompetitive in the face of international competition. This industrial sector can and will develop if it is allowed to follow a natural course of economic development. The trade sector can pull the industrial sector forward.

Nevertheless, there is no absence of opportunity. Because of the growing national and world demand for agricultural products, agro-processing offers the Kurdistan Region a near-term prospect for industrial development and trade. To capitalize on these opportunities, the KRG must support investment in integrated technology to improve productivity.

Foreign direct investment (FDI)

Foreign direct investment (FDI) is defined as an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor. Foreign direct investment is the investment of foreign assets into domestic structures, equipment, and organizations. It does not include foreign investment into the stock markets.

The Kurdistan Region's economy has been growing from 8 to 25 percent per year over the past several years. Companies from neighboring countries, led by Turkey, currently dominate investment and trade in the region, followed by companies from Gulf countries, Asia, and Europe. Private investment in the region was US\$7.6 billion in 2007.^[6] U.S. trade and investment in this region remains remarkably low in comparison, at less than 2 percent of the total investments.

The KRG Investment Law of July 2006 incorporates more attractive terms and conditions for foreign investors than both the Iraqi national investment law and similar laws in other developing countries. It allows 100 percent foreign ownership of land and does not prohibit majority ownership of banks and insurance companies

The lines between pure FDI and a joint venture project or investments from other parts of Iraq are somewhat blurred statistically. The Investment Law does not differentiate between local and foreign investors in an attempt to encourage foreign investors to invest their capital in the Region..

Hersh Muharram, the chairman of the KRG's Investment Board, stated in July 2008 that foreign investments in the region during the previous 18 months were estimated to total US\$15 billion, half from Arab investors, especially from the Gulf States. According to Erbil Governor Nawzad Hadi, before the licensing of Damac's Tarin Hills for US\$6 billion, around 86 percent of all the investment in the region was owned by local companies, 9.2 percent by foreign companies, and the remaining 4.8 percent were joint ventures between local and foreign companies.

^[6] U.S. Commercial Service.

Hindrances to Foreign Direct Investment

Although the law is materially more liberal than the Iraqi National Investment Law in several key respects, other than foreign oil companies, there have been few cases of real FDI investing in the region's economic sector. FDI in the KRG has been predominantly from Turkey and Iran—those countries with the largest economic stake in the Kurdistan Region.

The Kurdistan Region's investment laws and procedures, while intended to be generous, are in actuality complex; application requirements and approval levels for investors are excessive and time consuming.

The KRG seeks to attract FDI but hinders development by serving as the region's largest employer. Senior KRG officials often state that approximately 70–75 percent of the KRG budget is used for salaries of government employees, keeping salary levels artificially high in comparison with nearby countries. Another serious concern for investors is the government's inability to produce meaningful economic statistics that can guide potential investors and entrepreneurs. Multinational investors need basic economic statistics to determine if investing in the region is a justifiable business risk.

The KRG has worked hard to promote the region as a superior business location in the Middle East. However, it is not enough to have a competitive advantage in prices, cost of labor, and security to encourage investment; corruption and a lack of transparency can quickly reduce any advantage.

The presence of corruption in a country acts, in effect, as a tax, resulting in a sharp reduction in FDI. Related to corruption, non-transparency has also been found to have a dramatic effect on FDI.

Sector Assessment: Trade and Industrial

Introduction

The Kurdistan Region has enjoyed a long history of both external and internal trade. The Region can capitalize on its strategic geographic location by establishing policies that can attract investment and generate economic growth. Caravan trade routes between the Far East and Europe have run through the Region for 6,000 years. The trade sector in the Kurdistan Region currently constitutes the principal sector of the Region's economy. Although trade does not generate significant revenue for the Region's public sector, it is a large source of revenue for the private sector, especially for small and medium-sized businesses.

There are few reliable economic statistics in the Kurdistan Region, which is a serious impediment for potential trading and investment partners for the Region, and internal and external trade sector statistics are no exception to that. The magnitude of trade done in the Region ranges from a low World Bank estimate of US\$1.4 billion to a high estimate of US\$9.6 billion by the Federal Government of Iraq. It is our view that external trade lies in the US\$5.0–5.5 billion range, based on discussions with the Minister of Finance in Erbil, economic advisors to the Kurdistan Regional Government (KRG) and economic statistics from exporting countries to the Region.

Imports account for 85 percent of the estimated US\$5.0–5.5 billion of annual external trade in the Kurdistan Region. Most imported goods are consumed in the Region and are not re-exported as value-added products. The largest external trading partner for the Region is Turkey. Turkish exports to Iraq amounted to US\$2.8 to 3.5 billion in 2007, based on official Turkish Government figures. The Region's second largest trade partner is Iran. Iraq is Iran's second-largest, non-oil export market. Iraqis bought some US\$1.3 billion worth of goods from Iran during 2006. In 2007 Iran exported nearly US\$2.8 billion worth of goods to Iraq, of which approximately US\$1 billion was imported via the Iraqi Kurdistan Region

There are no regulatory standards for the food sector or basic food safety standards. Regulatory standards are needed for fair competition in the marketplace. This absence of standards has resulted in Iraq and the Kurdistan Region becoming an ideal market for goods and products (including food and medicines) that are often substandard, contaminated, diluted, tainted, or outdated.

Exports from the Kurdistan Region involve 5 percent of trade activities. While there are some agricultural exports from the Region, currently much of the export trade in the Region involves the re-export of alcohol and tobacco from Turkey to other countries such as Iran.

Foreign Direct Investment (FDI) in the Region has been predominantly sourced from Turkey and, to a much lesser extent, Iran. The two countries with the largest economic stake in the Kurdistan Region and are also the closest geographically.

Material impediments to non-oil FDI include: (1) underdeveloped electricity production and transmission infrastructure; (2) a small Iraqi Kurdish population of approximately four

million people, speaking two very different Kurdish dialects; (3) a weak banking system operating within a largely cash-based economy; (4) corruption whether perceived or actual remains a significant deterrent to foreign direct investment; and (5) relatively high salary levels and sometimes unrealistic salary and workplace environment expectations. Under the assumption that ongoing exploration activities will uncover significant new oil deposits in the Kurdistan Region, it is believed oil companies will dominate FDI of the Region

The Iraqi Federal and Kurdistan Regional Investment laws were passed in 2006, replacing the Coalition Provisional Authority (CPA) Order No. 39 of 2003. Both laws follow the same basic structure, calling for investment bodies to license and regulate new investment. The law is unsettled with regards to those provisions in the Kurdistan Regional Law that deal with what can be deemed foreign sovereign trade, and customs policy or deals with trade across internal and international borders. Some of these provisions contradict or are not found in the Federal Law and their legality must be questioned.

Unlike the trade sector, the industrial and manufacturing sector is small and underdeveloped. There are many reasons for the small size of the industrial sector, but the most significant one is that the former Ba'athist regime purposely did not develop state-owned enterprises in the Region. There were only four state-owned enterprises when the Ba'athist regime fell in 2003.

The Kurdistan Region is faced by a multitude of internal and external hurdles that impede industrial capacity development. An array of essential requirements are absent: a coherent trade and industry policy; telecommunications; sustainable production; relevant technologies; energy facilities; entrepreneurial, managerial, and technical skills; business/trade support institutions; efficient, transparent government agencies; and a business-oriented legal framework. External hurdles include rules-based nontariff barriers to trade, the high cost of technology transfer, increasing protection of agriculture production in developed countries, and limited access to international supply chains and external market information.

The KRG has worked hard to promote the Region as a superior business location in the Middle East. However, it is not enough to have a competitive advantage in prices, cost of labor, and security to encourage investment; corruption and a lack of transparency can quickly reduce any advantage. The KRG must undertake measures to improve transparency and the rule of law.

Trade and its liberalization can contribute to economic growth and development. However, they are insufficient to generate dynamic and sustainable development on their own. Stimulating entrepreneurial activities (domestic competitiveness) in the private sector will create jobs, foster learning processes, attract private capital flows, increase foreign exchange earnings and resources for sustainable development, and alleviate poverty.

Trade and Industrial Sector Analysis

The Kurdistan Region has a long history of both external and internal trade. The Region can capitalize on its strategic geographic location by establishing policies that can attract investment and generate economic growth. Trade constitutes the largest sector of the economy. The industrial and manufacturing sector, unlike the trade sector, is small and

underdeveloped. There are many reasons for the small size of the industrial sector; the most significant is that the former Ba'athist regime purposely did not develop state-owned enterprises in the Region. There were only four state-owned enterprises when the Ba'athist regime fell in 2003. This review will analyze three aspects of the trade and industrial sector: 1) trade, imports, and exports; 2) the industrial and manufacturing sector; and 3) FDI.

Trade Sector

The Kurdistan Region's long history of external and internal trade is based on its geographical position. Trade routes have run from the east through the Region for 6,000 years. The trade sector constitutes the largest contribution to the Region's economy. Although trade does not generate significant revenue for the government sector, it is a large source of revenue for private entrepreneurs, especially for small and medium-sized businesses. Trade involves many family-run, sole proprietorship businesses.

There are few viable economic statistics in the Kurdistan Region as a result of a long period of oppression from South and the Region's own civil war. The lack of statistics is a serious impediment for potential FDI partners. The majority of trade comes through customs crossing points with Turkey and Iran. Imports from Syria enter the Region primarily by way of Mosul, but represent a lesser economic factor compared to the provinces south of the Kurdistan Region. Duties are levied by the customs service, part of the KRG Ministry of Finance, at the major crossing points for Turkey and Iran. The revenues collected in the Region remain at the Central Bank of Iraq in Erbil (CBI-Erbil) and are an offset item against the yearly budget allocation from the Federal Government in Baghdad. The magnitude of trade in the Region ranges from a World Bank estimate of US\$1.4 billion to a high estimate of US\$9.6 billion by the Federal Government of Iraq. It is our view that external trade lies in the US\$5.0–5.5 billion range, based on discussions with the Minister of Finance in Erbil, economic advisors to the KRG, and economic statistics from countries that export to the Region.

Imports

Imports account for 95 percent of the estimated US\$5.0–5.5 billion of annual external trade in the Kurdistan Region. Most imported goods are consumed in the Region and not re-exported as value-added products. The major trade entry point for the Region is Turkey, through the Ibrahim-Khalil crossing point near Zhako. Actual Turkish exports to Iraq exceeded US\$5 billion in 2007.^[1] The Turkish State Minister for Trade, Kursad Tuzman, has estimated that two-way trade between the Kurdistan Region and Turkey was US\$3.5 billion in 2007 and will total US\$6 billion in 2008 with a target of US\$10 billion by 2009.^[2] Almost all exports from Iraq to Turkey are oil related. Iraqi exported US\$650 million of oil to Turkey in 2007 according to Turkish Government figures. Presently there are no oil exports from the Kurdistan Region to Turkey because there is no agreement with the Federal Government of Iraq to allow the oil to flow through the Northern Pipeline to Turkey.

^[1] "Turkish contractors take the gravy train Northern Iraq," *Business Intelligence Middle East*, August, 9, 2007, <http://www.bi-me.com/main.php?id=11448&t=1>.

^[2] "Turkey's trade with Iraq to exceed \$10 bln," *Hürriyet*, March 10, 2008, http://www.iraquupdates.com/p_articles.php/article/28350.

The Region's second largest trade partner is Iran. The majority of goods from Iran to the Kurdistan Region flow through the official customs crossing points at Bashmakh, Haji Omran (official as of April 2008), and Perwis-Khan crossings. Iranian trucks that carry food or other products usually go to border transloading points where they are unloaded and their cargoes are transferred to empty Iraqi trucks. Iraq is Iran's second-largest, non-oil export market. Iraqis bought some US\$1.8 billion worth of goods from Iran during 2006. Trade between Iran and Iraq is expected to reach US\$4 billion in 2008 as their economic cooperation continues to rise. Iran exported nearly US\$2.8 billion worth of goods to Iraq in 2007, of which approximately US\$1 billion was imported via the Iraqi Kurdistan Region⁶⁸. The U.S. Congressional Research Service estimates that non-oil trade between Iran and Iraq for 2007 was US\$2 billion, according to a report by. Iraq imports a wide variety of goods from Iran, including air conditioners, construction material, office furniture, carpets, clothes, medicine, fish, spices, and fruit. Because of the long border that Iraq shares with Iran, it is difficult to precisely estimate value of the unofficial black market trade conducted through the unofficial border crossings with the Kurdistan Region. Interviews with officials in the Kurdistan Region lead us to an estimate of US\$1 billion dollars for trade with the Region. In addition to the land border crossings with Turkey and Iran, goods also enter the Region by air through international airports in Erbil and Sulaymaniyah.

Challenges to Import Sector

The absence of a regulatory structure that provides for basic uniformity of enforcement of quality standards has resulted in Iraq and the Region being an ideal market for goods and products, including food and drugs that are often substandard and contaminated. This includes diluted, tainted, and out-of-date (repackaged as full strength) medicines and veterinary supplies that routinely enter the Region from outside the country.^[3] Strict enforcement of existing import regulations and the enactment of appropriate new import regulations will be important steps in reestablishing the Kurdistan Region's trade sector and reversing the import-export balance of trade. This will assist the Region in becoming a net exporter, rather than an importer, of food, over-the-counter drugs, and other construction materials, and prevent substandard products from being dumped into the Kurdistan market.

There are no regulatory standards for the food sector or basic food safety standards. Regulatory standards are needed for fair competition in the marketplace. Virtually all product inspection is based on visual assessment rather than with labs and procedures that test and ensure product quality.

Two KRG government institutions have market inspection responsibilities.

1. The Trade Inspection Committee (TIC): With few inspectors, the TIC only checks the expiration dates of packaged food sold by personal businesses and within commercial markets.

⁶⁸ 18 August, *Iran Daily* 2008

^[3] Dr. Muayad Abdulrahman Koji (Senior Advisor to the Prime Minister, Quality Control Affairs), interview, November 19, 2007.

2. The Health Inspection Committee (HIC): The HIC also employs a few trained inspectors. They seldom make visits to businesses, factories, or border crossings. Their responsibility is to supervise or check
 - a) Animal meats sold in the market—processed or unprocessed
 - b) The expiration date of any food item
 - c) Restaurant health inspection and certification.

Customs policy is the exclusive domain of the Iraqi Federal Government.^[4] But the management of customs is a power that can be shared with the Federal Government and the Regions unless the Region decides to claim the power as its own.^[5] In this case, the KRG has opted to manage the customs crossings. Those revenues collected in the Region remain at the Central Bank account for the Ministry of Finance in Erbil or in Sulaymaniyah and are an offset item taken against the yearly budget allocation from the Federal Government.

Iraq is applying to become a member of the World Trade Organization (WTO). As of January 2008, all entry points in Iraq were operating under the same international regulations, tariffs, and procedures that were needed to apply for membership in the World Customs Organization (WCO) and the WTO. The setting of standards for weights and measures is the exclusive authority of the Iraqi Government under the Constitution. Absent a clarifying court decision, it is impossible to say whether this exclusive authority includes product safety and food purity standards. It certainly makes sense to have national rather than regional standards in such matters; the Federal Government has exclusive authority over trade across international and internal borders, so it is best suited to perform the required testing and screening of products.

Exports

Exports from the Kurdistan Region involve about 5 percent of trade activities. While there are some agricultural exports from the Region, much of the export trade in the Region involves the re-export of alcohol and tobacco from Turkey to other countries such as Iran.

While the constitutional regime grants the Federal Government the power to set minimum national standards, it should not prevent the KRG from promoting its products as premium brands that meet higher standards as defined by regional law or international conventions. It is our opinion that the future for exports is dependent on the rejuvenation of the agricultural sector and development of value-added food processing and consumer and industrial products. To do this extensive technical management, English and Arabic language training and other extensive training programs for public and private sector stakeholders are necessary for the Region to be competitive.

Kurdistan Region Industrial Sector

The industrial sector of an economy is generally defined as the goods-producing segment, which includes agriculture, construction, fisheries, forestry, and manufacturing. Agriculture and construction are reviewed in other sections of this report. We are limiting the discussion

^[4] Iraqi Federal Constitution Article 110.

^[5] Ibid.

in this section to manufacturing because forestry and fisheries are very limited in the Kurdistan Region.

Typically an industrial/manufacturing sector in a country is driven by supply value-chain economics. In the Kurdistan Region, weakness in the supply chain has created large gaps in the industrial sector, resulting in products of unreliable quality that do not meet international standards. Numerous reasons can be given for the underdeveloped industrial sector in Kurdistan Region, but the most significant is the former Ba'athist regime's policy of restricting the development of state-owned enterprises in the Region. There were only four state-owned enterprises of significant size when the regime fell in 2003. The sector has become uncompetitive in the face of international competition. This industrial sector can and will develop if it is allowed to follow a natural course of economic development. The trade sector can pull the industrial sector forward.

Industrial production in the Kurdistan Region for manufactured goods includes metal pipes, furniture, construction materials, detergent, agro-industrial production, and simple clothing items. Industrial production in the Region is characterized by small-scale family businesses serving, almost exclusively, the Kurdistan Region's economy. The Region suffers from a lack of infrastructure that deters many would-be manufacturers, especially the lack of reliable electricity and clean water; technology transfer from foreign companies; and a skilled workforce.

In developing economies, trade and growth in the industrial sector are inextricably linked. The internal purchasing power of the Kurdistan Region is too small for industrial expansion on its own and requires the expansion of trade to achieve sustainable development and create employment.

The Kurdistan Region faces a multitude of internal and external hurdles that impede industrial capacity development. An array of essential requirements are absent, such as a coherent trade and industry policy; telecommunications; sustainable production; relevant technologies; energy facilities; entrepreneurial, managerial, and technical skills; business/trade support institutions; efficient and transparent government agencies; and a business-oriented legal framework.

Nevertheless, there is no absence of opportunity. Because of the growing national and world demand for agricultural products, agro-processing offers the Kurdistan Region a near-term prospect for industrial development and trade. To capitalize on these opportunities, the KRG must support investment in integrated technology to improve productivity. The Region's enterprises need to link with the global supply chains to market their products internationally. This requires increased supply chain capacity to improve the quality of goods produced, competitive pricing, and meeting importer-mandated product standards. Linking with the global supply chain involves increased investments at the enterprise level and in the Region's infrastructure. A lack of transparency and inefficient government agencies are an indirect tax on the cost of production.

With growth occurring in the construction and petroleum sectors, opportunities exist to develop value-added equipment and product components for these sectors. With further

training and development, including technology transfer from foreign investor-partners in oilfield services and construction products can be manufactured and sold in the Region. High precision products such as valves and drill bits will be imported, but opportunities remain for products requiring lesser technical expertise.

The Kurdistan Region needs to “think globally and act locally.” Its comparative advantages include geographic location and a potentially large reservoir of natural resources above and below ground. New agro-industries (e.g., agro-processing) currently under consideration have many positive development-oriented attributes, such as economy-wide linkages, dissemination of knowledge gained from the mastery of new production technology, higher productivity skills, international marketing expertise, and entrepreneurial skills involved in export success.

The constraints on industrial development and productivity growth in the Kurdistan Region can be summarized as

1. A lack of a sharply targeted industrial development strategy, for industrial development and investment promotion.
2. A weak infrastructure base that adversely affects the efficiency and growth of the industrial production system.
3. Inadequate human resource and entrepreneurial development.
4. An inadequate banking, financial, and insurance system.

Foreign Direct Investment (FDI)

Foreign direct investment (FDI) is defined as an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor. Foreign direct investment is the investment of foreign assets into domestic structures, equipment, and organizations. It does not include foreign investment into the stock markets.

The lines between pure FDI and a joint venture project or investments from other parts of Iraq are somewhat blurred statistically. The Investment Law does not differentiate between local and foreign investors in an attempt to encourage foreign investors to invest their capital in the Region. The KRG states that actual FDI into the Kurdistan Region totaled US\$1.1 billion in 2007, compared to US\$4.5 billion spent by Iraqi firms on investment projects in the Kurdistan Region and US\$2 billion of joint venture investment projects involving both a foreign and an Iraqi partner according to the KRG statistics.

The Kurdistan Region’s economy has been growing from 8 to 25 percent per year over the past several years. Companies from neighboring countries, led by Turkey, currently dominate investment and trade in Region, followed by companies from Gulf countries, Asia, and Europe. Private investment in the Region was US\$7.6 billion in 2007.^[6] U.S. trade and investment in this Region remains remarkably low in comparison, at less than 2 percent of the total investments

^[6] U.S. Commercial Service.

In May 2008, prior to the announcement of Dubai-based Damac's US\$6 billion Tarin Hills development in Erbil, Hersh Muharram, the chairman of the KRG's Investment Board stated that the Investment Board had licensed investment projects worth US\$8 billion under the two-year-old investment law. The licenses were given under Investment Law No. 4 of the year 2006, which came into effect on July 30 of the same year. Mr. Muharram stated that "nearly 15 percent of the investment licenses were granted to foreign companies, and 25 percent to joint investments and 60 percent to local companies."^[7]

Separately Nawroz Mawlud Mohammed Amin, director general of the KRG's Investment Board said in an interview in London-based *Asharqalawsat* newspaper in June 2008 that investment projects already licensed by the Kurdistan Region's Investment Board were valued at US\$16 billion. One hundred and five investment projects with private capital have been registered since the second half of 2006. Projects over the past year have been valued at US\$11.5 billion. Fifty-three projects have been licensed in Erbil Province with a value of more than US\$9 billion. The remaining are in the other two provinces Dohuk and Sulaymaniyah. Eighty-six percent of all the investment in the Region was by local companies, 9.2 percent by foreign companies, and the remainder was joint ventures between local and foreign companies.

On July 7, 2008 in *Iraq Updates*, Hersh Muharram declared that foreign investments in the Region during previous 18 months were estimated to total US\$15 billion dollars, half from Arab investors, especially from the Gulf States. According to Erbil Governor Nawzad Hadi, before the licensing of Damac's Tarin Hills for US\$6 billion, around 86 percent of all the investment in the Region was owned by local companies, 9.2 percent by foreign companies, and the remaining 4.8 percent were joint ventures between local and foreign companies.

The Kurdistan Region Investment Law

The KRG Investment Law of July 2006 incorporates more attractive terms and conditions for foreign investors than both the Iraqi national investment law and similar laws in other developing countries. It allows 100 percent foreign ownership of land and does not prohibit majority ownership of banks and insurance companies, while the national investment law prohibits any degree of foreign ownership in all three areas. The KRG law also explicitly states that the regional government will bring basic services (water, electricity, sewage, public road access, and telecommunications) on a cost-free basis up to the boundary of a foreign investor's project site, while the Iraqi national law makes no such offer. Both laws offer foreign investors 10 years of income tax exemption, unhindered repatriation of project investment funds and accrued profits, and other attractive financial incentives. As allowed under the Iraqi constitution, the KRG Investment Law's provisions currently are more generous (for foreign investors) than the national investment law. Investors remain uncertain, however, about the potentially turbulent legal interface between differing provisions in the regional and national investment laws as the rules of federalism become established.

The Iraqi Federal and Kurdistan Regional Investment laws were passed in 2006, replacing CPA Order No. 39 of 2003. The KRG Law was based on a previous version in place in

^[7] *Iraq Updates*, May 9, 2008.

Sulaymaniyah and Al Sulaymaniyah Administration Law No. 89 of 2004. Both laws follow the same basic structure, calling for investment bodies to license and regulate new investment. Each law explicitly states that the benefits of the respective laws apply equally to both national and international investors. The Iraqi Constitution, although silent on authority to regulate investment in particular, does grant exclusive authority to the Federal Government in matters relating to formulating foreign sovereign economic and trade policy, and customs policy regulating commercial policy across regional and governorate boundaries in Iraq.^[8] The Federal Law does call on Region to pass their own investment laws, but does not explicitly delegate authority to the Regions in areas deemed by the Constitution to be exclusively Federal matters.^[9] Finally, Article 33 of the Federal Law states that “No text shall be valid which contradicts the provisions of this law.” The law is unsettled with regards to those provisions in the Kurdistan Regional Law that deal with what can be deemed foreign sovereign trade, and customs policy or deals with trade across internal and international borders. Some of these provisions contradict or are not found in the Federal Law and their legality must be questioned. Below is a chart comparing key provisions of the two laws; legally problematic sections are noted.

Iraqi Federal Investment Law	Kurdistan Regional Investment Law
Investor may only rent or lease project lands 50 years at a time.	Allows ownership of non-oil, gas, or mineral bearing land.
Law does not cover investment in petroleum, banks, or insurance.	Allows Supreme Investment Council to allow investment in any sector.
Full repatriation of project investment and profits allowed.	Full repatriation of project investment and profits allowed.
Project income tax exempt for 10 years or 15 years if Iraqis make up more than 50 percent of original project investment.	Project income tax exemption for 10 years.
Import of spare parts tax exempt up to 20 percent of project cost.	Import of spare parts exempt up to 15 percent of project costs. <i>Problematic: The Federal Government has exclusive authority over commercial trade across all borders. This power is not delegated to the Regions in the Federal Law and provision is inconsistent with Federal Law. As a practical matter it puts the Region at a competitive disadvantage with other Regions.</i>

^[8] Iraqi Federal Constitution Article 110.

^[9] Iraq Investment Law, Article V, Chapter II.

Iraqi Federal Investment Law	Kurdistan Regional Investment Law
<p>Employment of foreign workers allowed, provided no Iraqis available.</p>	<p>Employment of foreign workers allowed, provided no Iraqis available.</p> <p><i>May be seen as sovereign trade policy because it deals with foreign labor but because it is consistent with Federal Law, it is not a serious issue.</i></p>
<p>Vehicles, equipment, etc. exempt from duties, taxes, and import license for three years.</p>	<p>Vehicles, equipment, etc. exempt from duties, taxes and import license for two years.</p> <p><i>Problematic: Trade across international borders and control of customs is the exclusive authority of the Federal Government and this provision conflicts with the Federal Law. As a practical matter, it puts the Region at a competitive disadvantage with other Regions.</i></p>
<p>Foreign investors and capital treated on an equal footing with national investors.</p>	<p>Foreign investors and capital treated on an equal footing with national investors.</p> <p><i>May be seen as sovereign trade policy because it deals with foreign labor but because it is consistent with Federal Law, it is not a serious issue.</i></p>
<p>Law does not provide for government supply of basic services or hook ups.</p>	<p>Law offers basic services to the boundary of approved projects.</p>
<p>Law does not provide incentive for the import of raw materials.</p>	<p>Import of raw materials for production is tax exempt from customs duties for five years.</p> <p><i>Problematic: The Federal Government has exclusive authority over commercial trade across all borders, and over customs policy. This power is not delegated to the Regions in the Federal Law.</i></p> <p><i>As a practical matter, the duty-free import of raw materials may exacerbate an already unbalanced trade situation with the</i></p>

Iraqi Federal Investment Law	Kurdistan Regional Investment Law
	<i>Kurdistan Region's neighbors.</i>
Law silent as to specific additional incentives for projects in less developed areas or for Iraqi/international joint projects.	Law provides specific incentives for projects in less developed areas and for joint Kurdistan/international projects.
Law includes for no nationalization or seizure of investment property without a final judicial decision.	No assurance of non-“nationalization” non-seizure.

Hindrances to Foreign Direct Investment

Although the law is materially more liberal than the Iraqi National Investment Law in several key respects, other than foreign oil companies, there have been few cases of real FDI investing in northern Iraq’s economic sector. FDI in the KRG has been predominantly from Turkey and Iran—those countries with the largest economic stake in the Kurdistan Region.

The Kurdistan Region’s investment laws and procedures, while intended to be generous, are in actuality complex; application requirements and approval levels for investors are excessive and time consuming.

The KRG seeks to attract FDI but hinders development by serving as the Region’s largest employer. Senior KRG officials often state that approximately 70–75 percent of the KRG budget is used for salaries of government employees, keeping salary levels artificially high in comparison with nearby countries. Another serious concern for investors is the government’s inability to produce meaningful economic statistics that can guide potential investors and entrepreneurs. Multinational investors need basic economic statistics to determine if investing in the Region is a justifiable business risk.

The legal and regulatory framework governing business investment and competition requires build up and further clarification. Competition and consumer protection laws would reduce investment uncertainty and help cut down on price fixing and bid rigging.

Corruption, whether perceived or actual, remains a significant deterrent to foreign direct investment. Government corruption must also be aggressively—and publicly—combated. As in the rest of Iraq, the number of corruption cases successfully prosecuted remains negligible. The statutory and regulatory provisions intended to control corruption will require substantial revision to be effective. Tighter statutes and regulations must be followed by much more aggressive enforcement action. KRG’s financial inflows and outflows remain difficult to obtain from government ministries and the Central Bank branches in Erbil and Sulaymaniyah. KRG officials are not required to publicly declare their assets or sources of income; we are aware of no corruption convictions against KRG officials during at least the past year. Harvard’s Shang-Jin Wei studied the relationship between FDI and corruption in

his paper, “How Taxing is Corruption on International Investors.”^[10] His primary finding is that the presence of corruption in a host country acts, in effect, as a tax, resulting in a sharp reduction in FDI. Related to corruption, non-transparency has also been found to have a dramatic effect on FDI. This has been confirmed not only anecdotally from this assessment team’s interviews but in academic studies as well. According to Drabek and Payne in the *Impact of Transparency on Foreign Direct Investment*, small increases in transparency have the potential to result in relatively large gains in FDI^[11] (a one point increase in the International Country Risk Guide transparency score resulted in a 40 percent increase in FDI).^[12] In a regional context, even a perception of corruption, encouraged by a lack of transparency, may cancel out the positive effect on FDI gained from the Kurdistan Region’s Investment Law’s incentives, such as tax discounts

The KRG has worked hard to promote the Region as a superior business location in the Middle East. However, it is not enough to have a competitive advantage in prices, cost of labor, and security to encourage investment; corruption and a lack of transparency can quickly reduce any advantage. In order to truly compete with other countries in the area for investment, the Kurdistan Region must also beat its competitors in transparent and open government. Transparency International’s Corruption Perception Index (CPI) for 2007 lists countries by how they are perceived by business people and country analysts. The Kurdistan Region’s local competitors’ ranks on the CPI are as follows: Jordan, 53; Turkey, 64; Iran, 131; and Syria, 138. CPI does not include ratings for subnational regions such as the Kurdistan Region. The rating for Iraq as a whole, however, is 178 out of 179, ahead of only Myanmar and Somalia

There are several legal steps that the KRG can take in order to increase transparency in relation to economic governance. The first is to require each ministry to collect and disseminate information that would be helpful to investors such as CPI, including unemployment, customs, and trade figures. Currently ministries are not required by law to take such steps, and therefore, it is difficult for prospective investors to gather the information they need to make rational business decisions. The respective Ministries Laws should be amended to require each economic ministry to collect basic information on the volume of goods and services and pricing within its purview and publish the data, first on a yearly basis then more often as they gain expertise.

The process of ministry rule/regulation making could also benefit from greater transparency. As it stands, ministers are given great discretion in both the Kurdistan Region and Government of Iraq (GOI) laws to create rules and regulations to implement laws. There is no law that governs the scope of the rules, the process of determining which rules are needed, what public input is required to create or change a rule, and whether or how the public will be informed of the new rule. Finally, there is no mechanism for appealing rule changes. As a result, the ministry can create rules that have an impact equal to that of a new law. The lack

^[10] Shang-Jin Wei, “How Taxing is Corruption on International Investors,” *Review of Economics and Statistics*, No. 1 (Boston, MA: Harvard College and the Massachusetts Institute of Technology, February 2000).

^[11] Zdenek Drabek and Warren Payne, *Impact of Transparency on Foreign Direct Investment* (World Bank, 2001).

^[12] Ibid.

of a notice or publication requirement means that investors can never be sure what rule is in place and when rules change. Because there is no law limiting the scope of a rule and requiring that a legally competent person or body promulgate the rule, investors are at the mercy of ministerial fiat without a means to appeal.^[13] Determining whether this lack of transparency in the rule-making process leads to actual corruption is beyond the scope of this assessment; however, it is clear from the reports cited above and from anecdotal evidence collected for this paper that the lack of transparency and the mere appearance of corruption are enough to limit investment.

Under an assumption that ongoing exploration activities will uncover significant new oil deposits in the Kurdistan Region, it is believed oil companies will dominate FDI of the Region. Given the FDI constraints outlined in preceding paragraphs, investment in non-oil industrial activities is likely to be dwarfed by FDI in the extractive industries (oil, gas, and minerals) sector. Areas of opportunity exist in housing, agriculture production and processing, construction materials, and service sectors such as the hotel industry.

Material impediments to non-oil FDI include: (1) ongoing incursions into northern Iraq by the Turkish military, (2) the area's underdeveloped electricity production and transmission infrastructure, (3) a small Iraqi Kurdish population of 4.6 million people, (4) a weak banking system operating within a largely cash-based economy, and (5) relatively high salary levels and sometimes unrealistic salary and workplace environment expectations.

Conclusions and Recommendations

A. Governance

Conclusions

1. While the Kurdistan Investment Law is very liberal in principle for investors, the actual implementation of a project is difficult. There are complex, contradictory, and inconsistent administrative procedures by ministries to manage trade policy and regulatory, operational, and procedural matters.
2. A written, detailed manual of the government policies and procedures required to establish and operate businesses and for PPPs does not exist. There is a lack of necessary business information. Basic Regional statistical data and information are not available or do not exist. When there is information (i.e., trade), it is not shared.
3. The Ministry of Trade (MOT) mandate and responsibilities are unclear and lack focus. The Ministries of Agriculture, Health, and Trade do not exercise adequate and effective control of the security of imported food, drugs, and consumables because there is no enforcement of safety and health standards or a quality assurance system.

^[13] A lawyer interviewed for the Economic Development Assessment (EDA) related how a rule change by the Council of Ministers of the GOI changed the conditions for a major telecommunications contract with the GOI and meant the cancellation of a multimillion dollar investment. A GOI court ruled that because the Council of Ministers and not the contracting ministry had made the rule change, the investor had no recourse because the Council could not be sued.

Recommendations

1. Make trade policy and representation the responsibility of the MOT. E.g., all trade and tariff policy, regulation, and determination would be in the MOT.
2. The KRG Ministries of Agriculture, Health, and Trade, and comparable GOI ministries should review, revise, and promulgate regulations to provide and enforce a national food safety and health code that would include standards for agricultural products, pharmaceuticals, construction materials, and all other domestic and imported goods.
3. The KRG should amend the ministry laws to require the ministries to collect basic economic data in their field of operation. As part of the implementation stage of this assessment, advisors can work with ministries to propose basic lists of important data and identify means for training staff on collecting such data. The law should also require that the data be published and disseminated on a regular basis to the citizens of the Kurdistan Region. This information also should be disseminated to overseas trade missions. Private firms should be encouraged to analyze the data and publish their opinions.
4. Finally, the KRG should invite an organization such as Transparency International to measure the perception of corruption in the Kurdistan Region separate from the rest of Iraq and information on the steps the KRG will take to reduce corruption and increase transparency should be included in promotional material aimed at investors.

B. Trade Policy & Strategy

Conclusions

1. The KRG does not have or has not sufficiently and publicly articulated a formal trade policy. It does not have or has not sufficiently and publicly articulated a detailed, trade-related plan for regional economic development.
2. Foreign sovereign trade policy is a matter of GOI authority under the Constitution. There is minimal effective collaboration between the Kurdistan Region and the GOI with regard to trade development, negotiation, and regulation.
3. Investment laws and procedures are generous but complex. Requirements and approval levels are excessive, and consume time and resources. The Kurdistan Region is characterized by its diluted, unfocused, and poorly promoted incentives for local investors. An easily understood booklet regarding the Investment Law is needed. Administrative clarity and consistency in the administration of the Investment Law is lacking.
4. Imported, sometimes tainted, products are widely sold, generally at lower prices than in neighboring economies and provinces. Such international competition and “dumping-level” prices make it difficult to achieve sustainable industrial start-up, including introducing practices that encourage investment in industry and value-added processing.
5. Currently and for the foreseeable future, Iraq and the Kurdistan Region are nearly totally dependent on oil and gas production and exports for economic development,

- exclusive of international investment and aid. Agriculture and tourism offer the largest nonpetroleum opportunities for trade development.
6. The effects of prolonged periods of conflict—external and internal—have served as a deterrent to much long-term FDI. Local investors generally lack sufficient capital, business acumen, and/or credit to start and sustain a business.
 7. Public sector employment serves as an inefficient and unproductive substitute for unemployment. It has resulted in overstaffing and duplicative, repetitive, ever-changing, costly, and time consuming governmental business licensing procedures and operating requirements.

Recommendations

1. Negotiate with the GOI a mutually acceptable level of trade autonomy. Where there is a lack of common ground, the KRG should use the legal system to clarify its constitutional mandate.
2. Develop and implement a formal Kurdistan Region trade policy of clearly stated economic development objectives and priorities. Trade tax and tariff policies should be complimentary and, in some cases, trade and tax policy may be needed to protect nascent sectors of the economy.
3. Continue its open market policies, but establish and strictly enforce import standards to ensure a level playing field for domestic goods.
4. Significantly improve productivity and reduce employment levels in public institutions. Such a plan should include severance incentives and a formalized outplacement and skills development program.

C. Customs and Tariffs

Conclusions

1. Information and communication technology (ICT) systems used by customs officials/agents are not integrated or used effectively or efficiently. Information is neither consolidated nor shared for cross-checking by other related/affected ministries. Information, data, and statistics regarding the flow of trade at the borders are neither transparent nor well-maintained or published.
2. Necessary border customs and inspection infrastructure are inadequate or nonexistent. Official entry gates/ports are limited. Unofficial entry gates/ports are allowed to operate.
3. The KRG imposes a tax or export duty on exports of goods inconsistently—without written, objective, nondiscriminatory, or uniformly applied criteria and/or procedures. A written policy and procedures manual is needed.
4. Exports are not provided with tax credits to eliminate domestically imposed taxes. The effect is to reduce the Kurdistan Region's export competitiveness.

Recommendations

Develop written, objective, uniformly applicable criteria and procedures for the automated (computerized) levying, collecting, and accounting of customs tariffs.

1. Introduce and install computerized information, reporting, and accounting system to be used by all KRG institutions that are responsible for customs, taxation, and trade and industry.
2. Draft and enact a policy to protect exports from any levy, tariff, or tax that can endanger the Kurdistan Region's competitive position in the international market.
Provide for a domestic content tax credit on exported goods and products.

Develop and implement a plan to develop, staff, train, and equip official entry gates. Develop and adopt a written policy and procedures manual for a consistent application of tariffs

Banking Sector

Executive Summary

Current Banking Sector

Our ability to analyze the operations of banks operating in the Kurdistan Region (KR) was limited by the lack of available statistical information. Even though the Economic Development Assessment (EDA) project was requested by the KRG, data requested by the Central Bank of Iraq in Erbil (CBI-Erbil) and Sulaymaniyah (CBI-Sulaymaniyah), were not provided. In spite of this, we have established a list of banks in the KR (see Tables 1 and 2).

There are 44 banks operating in the region with 56 branches totaling 100 offices. All six state-owned banks operate in the KR. Sixty-six percent of the banks operating in the KR are private. Erbil has the largest concentration of banks with 48, 64% of which are private. Sulaymaniyah has 34 offices, 55% of which are private, and 17 banks operate in Dahuk with 47% of those being private. Only two banks have their main offices located in the KR: Emerald Bank and Kurdistan International Bank.

Currently, Bank Byblos, a Lebanese bank, is the only foreign bank branch operating in the KR. Other banks with foreign ownership that operate in the KR, but are headquartered in Baghdad are Tigris and Euphrates Bank, Bank of Baghdad, Credit Bank of Iraq, and Dar Es Salaam Bank (see Table 2). The absence of international partners willing to participate in local banks limits the advancement of the banking sector at a time when modern banking methods and increased capital are needed.

Regulatory Oversight

Banks operating in the KR are subject to an unusual regulatory scheme. Depending on a bank's location, it is regulated by one of the two Ministers of Finance for the KRG, and supervised by either CBI-Erbil or CBI-Sulaymaniyah. In this regard, both CBI-Erbil and CBI-Sulaymaniyah have the authority to regulate banking activity in their governorates and coordinate only in necessary monetary exchanges with CBI-Baghdad. As a result, the KRG has two separate and distinct bank regulatory bodies. The Central Bank of Iraq's 2007 audited statement states that "Currently the CBI does not control the financial and administrative affairs of its Erbil and Sulaimaniyah branches as these branches are technically reporting to the CBI and for all other matters they are. In addition, the CBI did not receive the financial statements of its branches in Sulaimaniyah and Erbil and does not have access to their accounting records."

Profile of the Banking Sector

The information collected reveals that the banking sector in the KR has a limited role in business transactions. Trade, which is made up primarily of imports, dominates all other business sectors in the KR, with a total of 70% of all transactions, and only 2% for financial services. The KR is dominated by cash transactions accounting for 71% of all transactions

with 21% of payments handled by banks as transfers. This heavy reliance on cash limits opportunities for expansion through the use of sound credit and slow development.

Banking Sector Analysis Standards and Commentary

To gain a complete understanding of why the role of banks was limited, we conducted interviews with bankers, businesspeople, and customers. The number one impediment identified was “lack of confidence” as the most serious issue facing the Kurdish banking system. This lack of confidence was linked to deposit losses in the 1990s when the Iraqi government limited depositor withdrawals to 400 Dinars per month due to wartime funding requirements.

Government Policies

Make Sector Confidence a Priority As noted previously, both customers and bankers voiced a lack of confidence in the banking sector, related to a loss of deposits. While there is no short-term solution to reestablishing trust in the banking system, steps can be made to increase public confidence in the banking sector. In this regard, all banking sector reform efforts should make the establishment of sector confidence a priority.

State Bank Privatization Legacy institutions, such as state-owned banks, including Rafidain, Rasheed, and Agricultural and Industrial banks, need to be privatized as soon as is practical. While this is the decision of the federal government in Baghdad, the KRG needs to advocate for privatization because of the negative impact the operations of state-owned banks have on private sector banks competing in foreign currency transfers in the KR. The Agricultural Bank could be reorganized into a government guarantee agency to encourage lending to agriculture through private banks. Agricultural lending is considered high risk because loan repayment is predicated on future events, such as bringing in a good crop that is affected by many factors, including weather. Consequently, banks in developed countries do not lend extensively to agricultural enterprises without government guarantee organizations

Adopt Policies that Encourage Lending To decrease inflation, the CBI kept the overnight deposit interest rate at 19% to 20% for 2007 (currently at 16%). Although such monetary policy has reduced inflation and strengthened the Iraqi Dinar, it has been counterproductive to strengthening the banking sector by discouraging bank lending. Banks are reluctant to lend to new and untried enterprises when they can invest in virtually risk-free deposits yielding 19% interest. Currently interest rates on loans to borrowers are in the 16% to 24% range. We recommend that the KRG and the Iraqi Government revisit the anti-inflation policies in light of their impact on bank lending.

Market-driven Interest Rates Interest rates in the KR are not market driven, based on our discussions with bankers. No banker cited an exact law that limited interest paid on deposits or on loans, but most indicated that interest rates on deposits and loans were monitored by the CBI and the government and that high rates on loans would not be considered appropriate.

Central Bank Policies and Supervisory Role

Central Bank Independence Clear separation of the roles of the CBI and the Ministry of Finance is essential. Well defined roles will ensure better regional economic policy. The Ministry of Finance should be responsible for fiscal policy, while CBI should be responsible for monetary policy. There is a potential conflict of policy objectives if both fiscal and monetary policies are placed under the aegis of the Ministry of Finance. Independence of the central banking function should be assured by law in the KR.

Improved Supervisory Role The CBI-Baghdad has adopted a hands-off approach to banks in the Kurdistan Region. The CBI branch offices in Erbil and Sulaymaniyah are effectively the regulators of bank operations in their respective governorates. Interviews with bankers disclosed that little prudential oversight is exercised. Central bank responsibilities vary from country to country; however, sound prudential supervision usually includes the following tasks:

- Grant charter license to a bank after a diligent review of its application, including reviewing the ownership structure and the owners' backgrounds.
- Establish prudential norms for capital, asset quality, liquidity, and reporting on at least a quarterly basis from each institution operating under the regulator's authority.
- Conduct on-site examinations based on international standards to determine if banks are operating in a safe and sound manner and in the public interest.
- Undertake corrective actions when unsound practices are noted in a bank. This includes clear rules for actions to be taken when a bank is deemed insolvent.

The CBI offices in Erbil and Sulaymaniyah are deficient in two critical areas: off-site and on-site examinations. Based on our interviews, professional examinations are not done and off-site monitoring systems do not exist.

Supervisory Staff The CBI staff in Erbil and Sulaymaniyah are inexperienced, resulting in poor prudential supervision of banks in the KR. Bankers have reported that bank examinations were little more than social visits and that supervision is lacking.

Regulatory Legal Framework

Modern Legal Framework The national Banking Law and the Central Bank Law are adequate with only minor revisions necessary, but this is beyond KRG's authority.

Prudential Regulations Stronger regulation of insider dealing will be needed to ensure that banks are fulfilling their fiduciary relationship as stewards of depositor funds.

Individual Bank Operations

Technical Training for Staff The greatest need cited by all bankers was basic training for bank staff and awareness campaigns for depositors.

Impartial Loan Policies Several bankers and businesspeople reported that loans were directed from above and that creditworthiness was not the key criteria in making the loan. As long as this type of lending exists trust in the system will be an issue.

Payment systems An efficient means of making and receiving payments is crucial to increase effectiveness of banks and public trust. The public must have confidence that their transactions will be reflected accurately and in a timely manner. To the extent possible, same-day clearing of payments should be the goal.

Products that Develop Credit Culture. The Kurdistan Region is a cash-driven economy. The growth of a credit culture can be promoted by the services and products offered by banks. In addition to providing loans to SMEs, banks can provide salary payment services by offering limited affinity credit card products to managers and employees of SMEs. Similarly, loans to individuals secured by real and movable property will eventually lead to better understanding of the proper use of credit.

Private Banking Association A private banking association as a SRO should be promoted to give the banking sector direction and increase credibility. Private Banks should lead, but allow public banks to join. The KRG's involvement should be limited.

Check Clearing Arrangements. The use of checks or drafts is undesirable because of the lack of check clearing arrangements. Bankers' associations in other countries have created clearinghouses for local check clearings in their communities. In such places, bankers in a community meet at the end of the business day to exchange checks drawn on each others' banks. Based on historical experience in the United States, this manual solution could expedite collection of 90% of the checks being issued in the KR.

Supporting Institutions

Capital Markets. An efficient banking system needs interbank and government securities markets to provide liquid instruments for short-term investment. In the long run, money and capital markets must develop to provide funding for companies and investment vehicles for banks and individuals. Banks should be allowed to invest in high quality foreign securities in the absence of such securities.

Deposit Insurance. To increase confidence in banks and increase local deposits, a deposit insurance system should be introduced. A deposit insurance system must be administered by a quasi-governmental agency, independent of the Central Bank and the Ministry of Finance. Funding for the deposit insurance can come from the government initially; however, assessments paid by banks should be the primary source of funding. In a developing economy, the deposit insurance fund should be funded over a period of time to a level commensurate with the risk in the banking system. Typically, a deposit insurance fund of 5% of total bank assets is considered appropriate for developing economies. Banks are assessed over a period of five years to reach

Registries for Real and Movable Laws defining the types of collateral and the means to perfect liens need to be developed. KRG or donor technical assistance should develop a law with implementation beginning at the community level in the short term.

Credit Bureaus Creating a credit bureau is a long-term effort that may take as long as five years to be truly effective. A credit bureau collects and stores demographic information on an

individual to ensure proper determination of his or her creditworthiness and the overall risk of an applicant related to the repayment of newly established credit.

Sector Assessment: Banking

Introduction

A vibrant banking sector, capable of providing financial services and support to the trade, agricultural, extractive, tourism, construction, and communications sectors is critical to the economic development of the Kurdistan Region. The creation of a strong banking sector depends on a combination of interdependent factors. Among them are government policies, central bank performance, legal framework, property rights, and the existence of modern property registries. When these factors do not work together to create a positive environment, banks will be unable to fulfill their role of financial intermediation. In other words, they will not be able to turn deposits into loans and other types of investments that generate economic opportunities and foster job creation.

While there is a scarcity of information and financial data on the banks operating in the Kurdistan Region, we were able to develop a profile of the banking industry by researching donor-funded studies and through field interviews with bankers, businesspeople, and customers. Table 3 on page 7, *Results of the Field Interviews with Bankers and Clients*, presents the synoptic results of the interviews. Briefly, the current banking environment in Kurdistan restricts competition among banks and limits the ability of banks to provide efficient and effective services to customers, both business and private individuals. Moreover, banks are not operating in a transparent and openly competitive manner, behavior which perpetuates a lack of trust in the banking sector and limits banking services to regular customers.

This report summarizes our findings and provides realistic recommendations for creating the necessary environment to build a sound financial sector in the Kurdistan Region. Briefly, our findings and recommendations are as follows:

- **Increasing Trust.** Topping the list of banking sector concerns is the overall lack of trust in the sector by both customers and bankers. Although there is no quick fix to this problem, confidence in the banking sector can be reestablished through a carefully designed reform effort that addresses the various roles of the Government, Central Bank, and commercial banks.
- **Government Policies.** The KRG must adopt policies that promote a bank-friendly environment so that banks operating in the Kurdistan Region may thrive and compete. Specifically, the KRG should support privatization of state-owned banks and revisit policies that may increase interest rates and discourage lending.
- **Central Bank Policies and Oversight.** The Central Bank of Iraq offices in Erbil and Sulaymaniyah need to improve their capacity as bank supervisors. In this regard, prudential regulations must be enacted and enforced impartially by a well-trained and qualified staff.

- **Legal and Regulatory Framework.** While the National Banking Act and Central Bank Law are generally adequate, stronger prudential regulations dealing with capital requirements, reserves, insider loans, concentration of assets, and other areas must be adopted and enforced.
- **Activities of Individual Banks.** Each bank must play a part in increasing confidence in the banking sector as a whole. In this regard, banks must develop competent, well-trained staffs; adopt and follow impartial loan policies and practices; pursue reliable payment systems; and offer products that will help develop the credit culture. The organization of a private banking association could play a key role in strengthening the banking sector.
- **Supporting Institutions.** In order for the banking sector to thrive, a number of supporting institutions must be developed. These include capital markets, a deposit insurance scheme, modern insurance and investment banking sectors, and the establishment of registries for real and immovable property.

General Analysis and Commentary

History

The evolution of the banking sector in the Kurdistan Region is tied to the past 50 years of Iraq's banking history. The nationalization of banks and financial institutions by the Ba'ath regime in 1964 and 1965 gave birth to several state-controlled banks that served the specialized needs of the then Government of Iraq. Consolidation of financial institutions ensued followed by diversification into specialized support functions. The state-owned Agricultural Bank, Industrial Bank, Rafidain Bank, and Rasheed Bank were established to meet such needs as the distribution of pension payments and government employee salaries. In 2004, the Trade Bank of Iraq (Trade Bank) was organized to issue international letters of credit and commitments. The other state-owned banks were unable to fulfill this function because of international sanctions and defaulted state obligations of the former regime.

Current Banking Sector

Our ability to fully analyze the operations of the banks operating in the Kurdistan Region was severely limited by the lack of available statistical information. Even though the Economic Development Assessment (EDA) project was requested by the KRG, both Central Bank of Iraq located in Erbil (CBI-Erbil) and Sulaymaniyah (CBI-Sulaymaniyah), were unwilling to give a full list of banks in their region. We were advised in one interview that information on state-owned banks is a "secret." In spite of this, we have been able to establish an accurate list of banks in the three provinces of the Kurdistan Region (see Tables 1 and 2).

Table 1 Banks in the Three Provinces of the Kurdistan Region

Dohuk	Total	Private Bank	State-owned Bank
Banks	7	4	3
Branches	10	4	6
Total	17	8	9
Agricultural Bank			X
Emerald Bank		X-2	
Iraqi Middle East Investment Bank		X	
Kurdistan International Bank		X	
Rafidain Bank			X
Rasheed Bank			X
Warka		X	
Erbil	Total	Private Bank	State-owned Bank
Banks	21	15	6
Branches	28	16	12
Total	49	31	18
Agricultural Bank			X
Al-Bilald Islamic Investment Bank		X-I	
Ashur Bank		X	
Bank of Baghdad		X	
Byblos Bank (Lebanon)		X	
Commercial Bank of Iraq		X	
Credit Bank of Iraq		X	
Dar As-Salaam Investment Bank		X	
Emerald Bank		X-I	
Iraqi Middle East Investment Bank		X	
Industrial Bank			X
Kurdistan International Bank		X-I	
Mosul Bank		X	
North Bank		X	
Rafidain Bank			X
Rasheed Bank			X
Real Estate Bank			X
Tigris and Euphrates Bank		X-2	
Trade Bank of Iraq			X
United Investment Bank		X	
Warka		X	

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Sulaymaniyah	Total	Private Bank	State-owned
			Bank
Banks	16	11	5
Branches	18	8	10
Total	34	19	15
Agricultural Bank			X
Ashur Bank		X	
Al-Bilal Islamic Investment Bank		X-I	
Bank of Baghdad		X	
Emerald Bank		X-2	
Industrial Bank			X
Iraqi Middle East Investment Bank		X	
Kurdistan International Bank		X-I	
Mansur Bank		X	
Mosul Bank		X	
North Bank		X	
Rafidain Bank			X
Rasheed Bank			X
Tigris Euphrates Bank		X-I	
Trade Bank of Iraq			X
Warka Bank		X	

Kurdistan Region	Total	Private Bank	State-owned
			Bank
Central Bank Branches	2		
Banks	44	30	14
Branches	56	28	28
Total	100	58	42

Key: X-I = Islamic Bank

X-2 = Currently in Conservatorship by the CBI Erbil Branch Office

Table 2 Foreign-owned Banks in the Kurdistan Region

No.	Banks Partially or Fully Foreign Owned	% Ownership	Foreign Bank Ownership Entity
1.	Commercial Bank	49%	Al-Ahli United Bank of Bahrain (through an Iraqi holding company)

No.	Banks Partially or Fully Foreign Owned	% Ownership	Foreign Bank Ownership Entity
2.	Bank of Baghdad	49%	United Gulf Bank of Bahrain
3.	National Bank of Iraq	49%	Export and Finance Bank of Jordan; renamed Capitol Bank
4.	Credit Bank of Iraq	75% & 10%	National Bank of Kuwait 75% and International Finance Corporation (IFC) 10%
5.	Dar Es Salaam Bank	70%	HSBC
6	Byblos Bank (Branch)	100%	Byblos Bank Lebanon
7.	Economy Bank	49%	A'ayan Company of Kuwait
8.	Mansour Bank	60%	National Bank of Qatar

There are 44 banks operating in the region with 56 branches for a total of 100 offices. All six of the state-owned banks operate in the region. Sixty-six percent of the banks operating in the Kurdistan Region are private. Erbil has the largest concentration of banks with 48, 64% of which are private. Sulaymaniyah has 34 offices, 55% of which are private, and 17 banks operate in Dahuk with 47% of those being private. Only two banks have their main offices located in the Kurdistan Region: Emerald Bank and Kurdistan International Bank.

Rafidain Bank and Rasheed Bank dominate the Iraqi banking sector, accounting for more than 80% of the banking industry's assets. When the assets of the additional four specialized banks that operate in the region (Trade Bank of Iraq, Agricultural Bank, Industrial Bank, and the Real Estate Bank) are added, the figure rises to more than 90%. Only Rafidain and Rasheed made commercial loans to a wide range of enterprises.

As noted previously, the Trade Bank is relatively new with a mandate to facilitate letters of credit and bank transfers for the government and to support private banks in their efforts to engage in these activities in an effective and efficient manner. Originally, the plan was to pass systems and expertise on to private banks to perform these necessary functions. Private bankers have, however, expressed displeasure with the current activities of the Trade Bank, as it is actually in direct competition with the private banks. Moreover, the Trade Bank has been granted the exclusive right to handle government transfers of foreign currency that exceed the Iraqi Dinar equivalent of US\$2 million.

Currently, Bank Byblos, a Lebanese bank, is the only foreign bank branch operating in the Kurdistan Region. Other banks with foreign ownership that operate in the Kurdistan Region but are headquartered in Baghdad are Tigris and Euphrates Bank, Bank of Baghdad, Credit Bank of Iraq, and Dar Es Salaam Bank (see Table 2). The absence of international partners willing to participate in local banks limits the advancement of the banking sector at a time

when modern banking methods and increased capital are needed. Foreign banks bring established expertise, systems, and precious capital, which would greatly benefit the Kurdistan Region. Foreign banks should be encouraged to enter the market in greater numbers; however, bureaucratic inertia and other impediments in the foreign bank application process must be eliminated to attract foreign banks.

Integration of the formal financial sector in the KRG with the rest of Iraq and the international financial industry remains very limited. However, this situation is likely to change as the oil sector becomes more developed and the need for standard international transactions increases.

Regulatory Oversight

Banks operating in the Kurdistan Region are subject to an unusual regulatory scheme. Depending on a bank's location it is regulated by one of the two Ministers of Finance for the KRG, and supervised by either CBI-Erbil or CBI-Sulaymaniyah. In this regard, both CBI-Erbil and CBI-Sulaymaniyah have the authority to regulate banking activity in their governorates and coordinate only in necessary monetary exchanges with CBI-Baghdad. As a result, the KRG has two separate and distinct bank regulatory bodies.

The Central Bank of Iraq's 2007 audited statement by Ernst and Young says in a note to the financial statement that "Currently the CBI does not control the financial and administrative affairs of its Erbil and Sulaimaniyah branches, as these branches are technically reporting to the CBI and for all other matters they are reporting to Kurdistan Regional Government (KRG) and their operations are financed by KRG. In addition, the CBI did not receive the financial statements of its branches in Sulaimaniyah and Erbil and does not have access to their accounting records."

Further, regulatory oversight in the KRG extends to branch offices of Baghdad-based banks. No branch office of any bank may open in the KRG without the express consent of the respective Minister of Finance and the respective CBI office in that governorate.

Currently, the Ministry of Finance licenses the money exchange and money transmitter business (see discussion of Hawala, below). It is understood that responsibility for these transactions is being transferred back to CBI by the Ministry of Finance. Because of the lack of oversight by CBI relating to the formal financial sector, this transfer will not by itself reduce the level of vulnerability for misapplication of funds in this sector. Money exchanges are not subject to the same examination process as banks nor are they required to report suspicious transactions.

Hawala

The financial sector in the Kurdistan Region functions largely as a cash-based economy. Most transactions are conducted via a Hawala system of money exchangers and money transmitters. Hawala, which is an indigenous system for facilitating transfer or transformation of money, played an important part in the prewar Iraqi economy and continues to play an important role today. Most foreign exchange operations and money remittances take place through Hawalas and not through the banking sector. Most

international remittances are done via related offices in Amman, Jordan, or Dubai, United Arab Emirates. While simple funds transfers can take weeks to accomplish through the banking sector, the same transactions can be done rapidly and at lower cost through the Hawala system.

What makes Hawala appealing is trust in the Hawala provider. In essence, the Hawala provider enjoys a greater level of trust than do the banks in the Region because of past performance, family relationships, or close business association with the Hawalas. Although no official statistics exist regarding the level of Hawala activity, we believe Hawala transactions account for substantially more than half the currency in circulation held outside the banking sector. Anecdotal evidence suggests that the volume of Hawala transactions easily exceeds the equivalent of US\$3 billion annually just in the Kurdistan Region.

Profile of Banking Sector

The failure of the CBI-Erbil and CBI-Sulaymaniyah to provide basic data on banks and bank branches operating in the Kurdistan Region made statistical analysis difficult. Consequently, the total asset size, total deposits, income performance, and transaction volumes of the banking sector in the Kurdistan Region can not be accurately gauged. Without this data as a benchmark it was not possible to accurately measure growth in the banking sector in the Kurdistan Region.

Despite this lack of information, we were able to develop qualitative data by using information provided in an Iraqi-wide study by the Center for International Private Enterprise (CIPE) completed in February 2008 and confirming it with our own interviews with bankers, businessmen, consultants, bank customers, and individuals in the Kurdistan Region (Table 3). The CIPE survey was particularly informative because 36% of the interviews conducted were from Erbil and Sulaymaniyah governorates.

Table 3 Results of the Field Interviews with Bankers and Clients

BANKING AND FINANCIAL INSTITUTIONS INTERVIEW SUMMARY	
Iraqi Kurdistan Region Economic Development Assessment 2008	
Banking Sector Issues	Cumulative Score (out of 100)
Lack of trust in the banking system by both customers and bankers	88
No interbank clearings	88
High overnight deposit interest rate by Central Bank of Iraq (CBI) limits loans	83
Unqualified personnel in CBI-Erbil and CBI-Sulaymaniyah offices	83
No local clearings	79
No inter branch clearings	79
Lack of prudential supervision by CBI in the Kurdistan Regional Government (KRG)	79
Lack of deposits; need depositor awareness training	69
State-owned bank monopoly for government deposits	68

Economic Development Assessment
Kurdistan Region

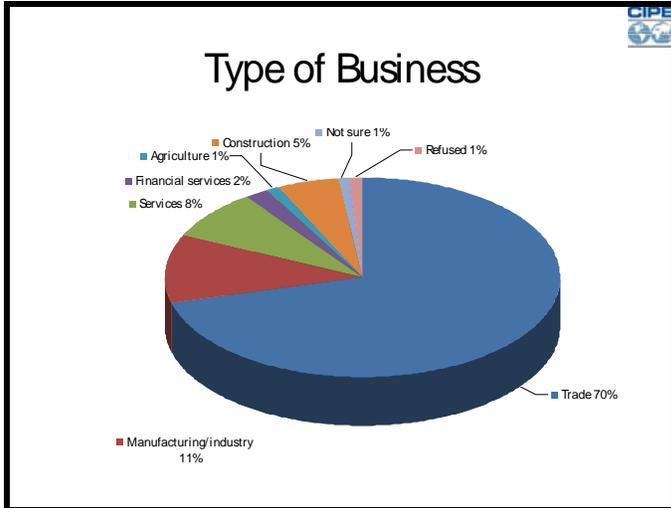
Lack of modern banking expertise and technology	67
Poor wire transfer systems	63
Ministry of Finance control over the CBI-Erbil and CBI-Sulaymaniyah offices	61
Need a private banking association such as a self-regulating organization (SRO)	58
Need to revise and clarify banking laws	58
Trade Bank of Iraq has monopoly on large government letters of credit	57
No central registry for real estate loans	54
No central registry for automobile and other chattel collateral loans	50
Credit culture not developed in population	49
Credit bureau needed	46
Letters of credit must be fully secured by cash or other commodities	42
Family controlled banks and businesses; insider dealing	40
State-owned bank activities very opaque	40
Poor corporate governance by the Board of Directors	33
Most trade activity is import, few exports	33
Excessive required reserves by CBI (25%)	33
No retail banking (individuals)	32
Banks are regulated for antimoney laundering but not money changers	28
Poor transparency of banking data, even on Web sites	25
Investment Law unevenly enforced; ministries have own procedures	25
Need interest rate subsidized agricultural lending	21
Marketability of bank stock	17
High prices for real estate unsustainable	17
State-owned bank directed lending	14
Need small and medium enterprise (SME) loan interest rate subsidies	13
Too many banks for the KRG	4

The information collected reveals that the banking sector in Kurdistan has an extremely limited role in business transactions, lending to SMEs, and, consequently, in economic development. It is one of the smallest sectors identified, and handles a very small percentage of financial transactions. Further, there are complaints about high interest rates and poor regulatory practices that perpetuate a lack of confidence in the industry.

Overshadowed by trade. As shown in Figure 1 below, the financial services sector in Kurdistan is one of the smallest business sectors in the KRG. Trade, which is made up primarily of imports, dominates all other business sectors, with a total of 70% of all transactions, and only 2% for financial services. No economy can long sustain itself with such a mismatch because capital sources will dry up. The fact the financial sectors plays such

a small role in the overall economy adds additional urgency to the necessity of accelerating economic development and increasing productivity.

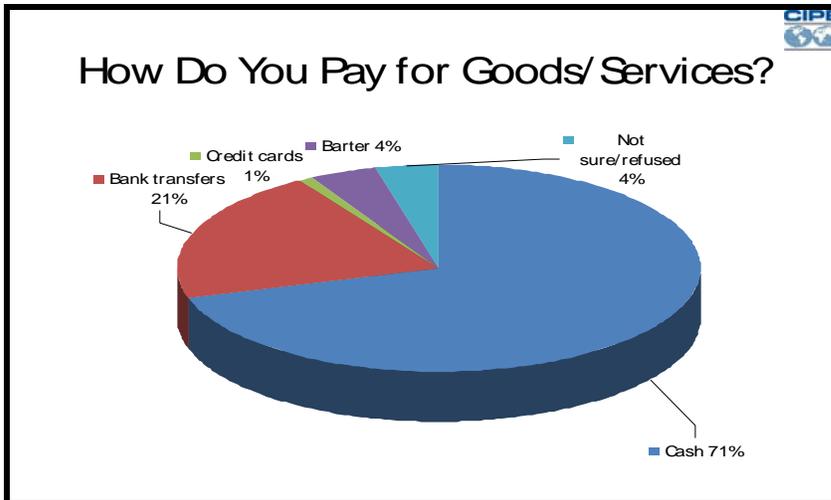
Figure 1. Types of Business in the Kurdistan Region



Source: *Business Attitudes towards Political and Economic Reconstruction in Iraq*. CIPE Presentation, February 29, 2008.

Cash economy. Figure 2 shows that an inordinate number of transactions are paid for in cash. In fact, cash transactions account for 71% of all transactions, with 21% of payments handled by banks as transfers. These transfers may include letter of credit required transfers to facilitate import commerce. This heavy reliance on cash limits opportunities for expansion through the use of sound credit and slow development.

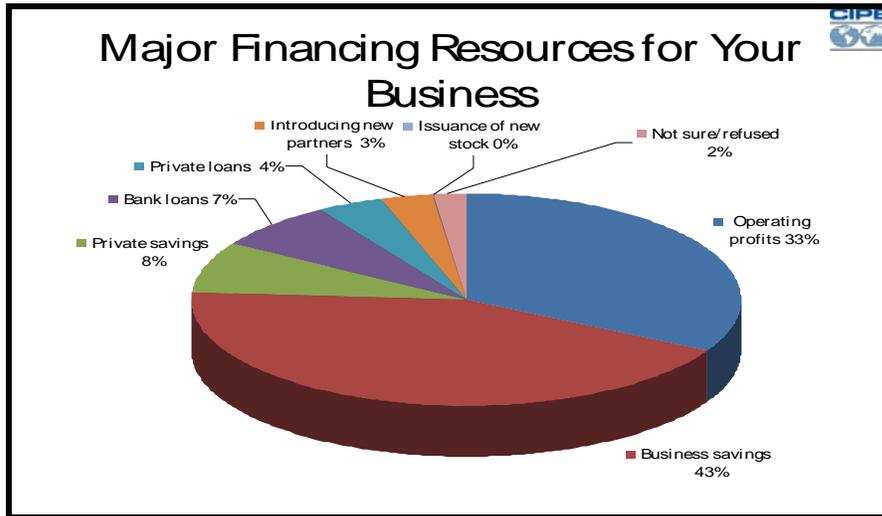
Figure 2. How Goods and Services are Paid for in the Kurdistan Region



Source: *Business Attitudes towards Political and Economic Reconstruction in Iraq*. CIPE Presentation, February 29, 2008.

High interest rates. Figure 3 shows that businesses basically fund themselves. In this regard, banks account for only 7% of the financing sources for businesses. Historically, borrowers can be discouraged from borrowing from banks for a wide range of reasons, including high interest rates and a lack of confidence in the banking sector. But, as noted previously, limited credit is detrimental to the expansion and development of economic opportunities.

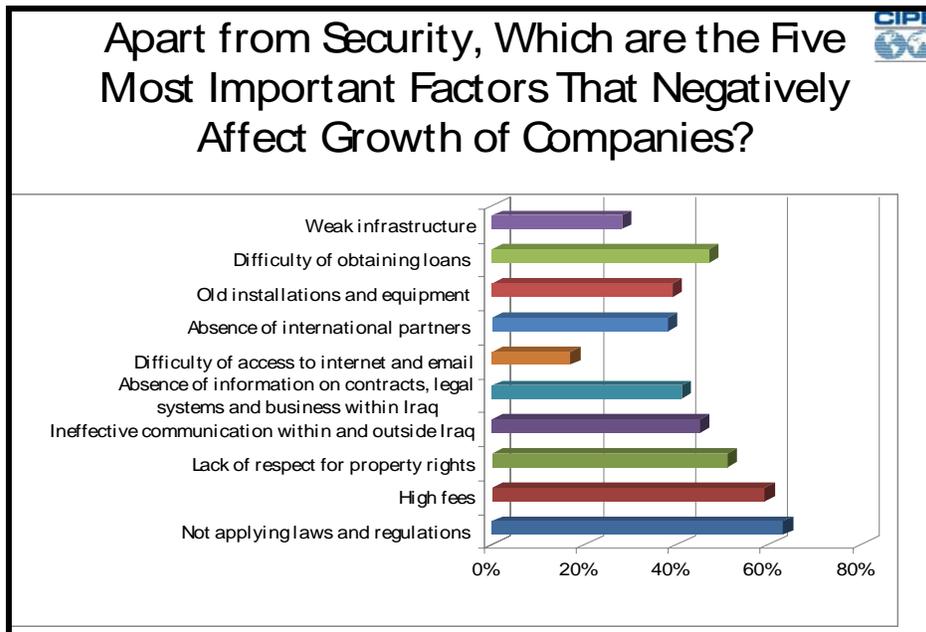
Figure 3. Major Financing Resources for Businesses in the Kurdistan Region



Source: *Business Attitudes towards Political and Economic Reconstruction in Iraq*. CIPE Presentation, February 29, 2008.

Factors affecting growth. When asked about factors that negatively affect growth of companies in Kurdistan (Figure 4), 45% of the respondents indicated difficulty in obtaining loans as a major obstacle. Lack of credit and a fear of uneven enforcement of laws and regulations and difficulties with ministries creating their own rules on a case-by-case basis were also cited as major concerns.

Figure 4. Factors that Negatively Affect Company Growth in the Kurdistan Region



Source: *Business Attitudes towards Political and Economic Reconstruction in Iraq*. CIPE Presentation, February 29, 2008.

Banking Sector Analysis Standards and Commentary

To gain a more complete understanding of why the role of banks was so limited, we conducted follow-up interviews with bankers, businesspeople, and customers. To quantify the nature and severity of the issues, we prepared a list of 35 issues and asked the interviewees to rank them in order of seriousness on a scale of one to three with three indicating the most emphasis. This list included a wide variety of concerns that typically plague financial systems in developing economies, and included the lack of interbank and local clearing services, quality of staff, supporting institutions, and government policies. Of the 24 persons interviewed, 22 identified “lack of confidence” as the most serious issue facing the Kurdish banking system. This lack of confidence was linked to deposit losses in the 1990s when the Iraqi government limited depositor withdrawals to 400 Dinars per month due to wartime funding requirements. Subsequent to Operation Desert Storm, many depositors lost their savings completely. In the Kurdistan Region, the recent internal problems resulting in the placing into conservatorship of Emerald Bank have further eroded confidence in the banking sector in the Region.

Although there is no quick fix to the problem of reestablishing confidence in a banking sector, a number of concrete steps may be taken to improve the overall safety and efficiency of the current banking environment in Kurdistan. As discussed below, these recommendations address a wide range of issues including the need to revisit government policies that negatively affect lending; regulatory oversight and enforcement; bank staffing, operations, and products; as well as the development of supporting institutions.

In developing these recommendations we applied review standards from various sources, corporate governance principles, and best practices for prudential regulation. Historically, banking sectors have run the gamut from unregulated, to regulated, to fully state owned and controlled. There is no perfect banking system. There are, however, a number of core components and fundamental characteristics that are a part of all effective banking sectors. We have reviewed the Kurdistan banking sector using these core components and have discovered a number of serious deficiencies. These deficiencies are discussed below, along with our recommendations for addressing them.

Government Policies

Make Sector Confidence a Priority. As noted previously, both customers and bankers voiced a lack of confidence in the banking sector, related to a loss of deposits in the early 1990s. While there is no short-term solution to reestablishing trust in the banking system, a number of steps can be made to increase public confidence in the banking sector. In this regard, all banking sector reform efforts should make the establishment of sector confidence a priority.

State Bank Privatization. Legacy institutions, such as state-owned banks, including Rafidain, Rasheed, and Agricultural and Industrial banks, need to be privatized as soon as it is practical. While this is ultimately the decision of the federal government in Baghdad, the KRG needs to advocate for privatization because of the negative impact the operations of state-owned banks have on private sector banks competing in foreign currency transfers in the Kurdistan Region. Rafidain and Rasheed perform significantly similar functions and could be merged. The Agricultural Bank could be reorganized into a government guarantee agency to encourage lending to agriculture through private banks. The Trade Bank is already a modern banking enterprise but is in direct competition with private banks. Privatizing the state-owned banks creates a much more competitive banking environment. Currently, the state-owned banks need not be concerned about profitability and they enjoy a competitive advantage over the private banks because government cash flows go directly through the state-owned banks.

Privatization of state-owned banks will require the development of a Treasury function within the KRG to perform those tasks currently performed by Rafidain and Rasheed banks. These are primarily salary payments to government employees. The government can issue checks to employees and, eventually, use automated clearing mechanisms to credit government employee accounts in the private bank of the employee's choice.

However, although private ownership is the best alternative to develop a competitive and efficient banking system, this does not preclude the formation of specialized banks or specialized government agencies to encourage private bank lending to sectors serving the public good, such as agriculture. Agricultural lending is considered high risk because repayment of the loan is predicated on a future event, such as bringing in a good crop, that is affected by many factors, including the weather. Consequently, banks in developed countries do not lend extensively to agricultural enterprises without government guarantee organizations such as those from the Farmers Home Administration, an agency of the United

States Department of Agriculture. Some governments have also formed banks to serve the agricultural sector directly; however, we recommend that a guarantee system be pursued because it has less impact on government budgetary cash flows and uses the expertise and current system of banks in place. This is just a more efficient use of resources.

Increase Opportunities for Private Banks. State-owned banks have a monopoly on government deposits to increase their lending capacity. Private banks are anxious to obtain government deposits. The government currently is allowing private banks to participate in providing services for wire transfers under US\$2 million; however, anecdotal evidence from interviews indicate that only a few transfers of much lower monetary amounts are being processed through private banks.

Adopt Policies that Encourage Lending. In order to decrease inflation, the CBI kept the overnight deposit interest rate at 19% to 20% for 2007 (currently at 16%). Although such monetary policy has reduced inflation and strengthened the Iraqi Dinar, it has been counterproductive to strengthening the banking sector by discouraging bank lending. Banks are reluctant to lend to new and untried enterprises when they can invest in virtually risk-free deposits yielding 19% interest. Currently interest rates on loans to borrowers are in the 16% to 24% range. Several bankers interviewed, even though they were not engaged in Islamic banking, felt that charging higher interest rates than 16 to 24% was usurious and immoral. We recommend that the KRG and the Iraqi Government revisit the anti-inflation policies in light of their impact on bank lending.

Market-driven Interest Rates. Interest rates in the Kurdistan Region are not market driven, based on our discussions with bankers. No banker cited an exact law that limited interest paid on deposits or on loans, but most in our survey indicated that interest rates on deposits and loans were monitored by the CBI and the government and that high rates on loans would not be considered appropriate. The tendency to discourage high interest rates appears to be based on local, cultural values and Islamic principles of fairness. With the CBI overnight deposit rate of 16%, recently reduced from 19%, many bankers reported that they still deposit funds with the CBI that yield as much as 10% interest margin rather than invest in loans at 16% to 22%, which most bankers consider too risky in the current environment.

Central Bank Policies and Supervisory Role

Central Bank Independence. Clear separation of the roles of the CBI and the Ministry of Finance is essential. Well defined roles will ensure better regional economic policy. The Ministry of Finance should be responsible for fiscal policy, while CBI should be responsible for monetary policy. There is a potential conflict of policy objectives if both fiscal and monetary policies are placed under the aegis of the Ministry of Finance. Independence of the central banking function should be assured by law in the Region.

Improved Supervisory Role. We found regulation of banks in the Kurdistan Region sorely lacking. CBI-Baghdad has adopted a hands-off approach to banks in the Kurdistan Region and the CBI branch offices in Erbil and Sulaymaniyah are effectively the regulators of bank operations in their respective governorates. Interviews with bankers disclosed that little

prudential oversight is exercised. Central bank responsibilities vary from country to country; however, sound prudential supervision usually includes the following tasks:

- Grant charter license to a bank after a diligent review of its application, including reviewing the ownership structure and the owners' backgrounds.
- Establish prudential norms for capital, asset quality, liquidity, and reporting on at least a quarterly basis from each institution operating under the regulator's authority.
- Perform off-site review and analysis of bank information as part of regular reporting to determine if there are early warning signals of unsafe and unsound operations in the regulated banks.
- Conduct on-site examinations based on international standards to determine if banks are operating in a safe and sound manner and in the public interest. During on-site examinations, emphasis should be placed on adherence to laws and regulations, the quality of the loan and investment portfolios, and the adequacy of loan underwriting, internal and external audits, and internal controls.
- Undertake remedial or corrective actions when unsafe and unsound practices are noted in a bank. This includes clear rules for actions to be taken when a bank is deemed insolvent.

The CBI offices in Erbil and Sulaymaniyah are completely deficient in two critical areas: off-site and on-site examinations. Based on our interviews, professional examinations are not done and off-site monitoring systems do not exist. From these deficiencies, we deduce that prudential supervision is lacking overall. The Banking Law in Iraq and the Central Bank Law are generally adequate, but need to be supported by detailed implementing regulations to provide guidance to the CBI in meeting its prudential supervision responsibilities. Prudential regulations are a work in progress. Proper prudential supervision was not observed in practice. This was confirmed by various bankers we interviewed.

The recent failure of Emerald Bank in 2008 underscores the need to closely regulate and monitor insider activities that may be detrimental to the operation of a bank and may result in a breach of fiduciary responsibility to the bank's depositors.

Supervisory Staff The CBI staff in Erbil and Sulaymaniyah are inexperienced, resulting in poor prudential supervision of banks in the Region. Bankers have reported that bank examinations were little more than social visits. We cannot speak to the nature of reporting received or issued by the CBI in Erbil and Sulaymaniyah, but it is apparent from banker interviews that prudential supervision is lacking. For example, three bankers noted that the examiners came into their banks, but merely sat and drank tea for a while and then left. KRG or donor-funded technical assistance for training in on-site and off-site examination techniques is the best solution to the current situation because the lack of experience in prudential supervision in the KRG precludes local training. Of greater importance is the application of the laws, which are unevenly applied by KRG officials of various ministries according to the bankers interviewed.

Reserve Rate. One bank, however, was not accepting significant deposits because of the CBI's high required reserve rate of 25% of all deposits with no interest paid on these idle funds. This creates a disincentive for banks to accept deposits. For a sampling of required

reserve rates in developed and developing economies, see Annex A.⁶⁹ Note that the highest comparable required reserve rate (RRR) is 6% for domestic currency deposits and interest is paid on the required reserves. Even the 6% RRR is significantly higher than other countries in the study. Government policies can have detrimental effects on the development of the banking system and the economic growth benefits that a well-functioning banking system brings to a country.

Lender of Last Resort. The Central Bank is the lender of final resort and should have powers to take action in the event of unforeseen banking crises.

Regulatory Legal Framework

Modern Legal Framework. The national Banking Law and the Central Bank Law are generally adequate with only minor revisions necessary; however, this is beyond the authority of the KRG and suggestions for changes will be made available to the CBI in Baghdad for their consideration.

Prudential Regulations. Stronger prudential regulation of insider dealing and self-serving activities in banks will be needed to ensure that banks are fulfilling their fiduciary relationship as stewards of depositor funds. In addition, the corporate governance principles of fairness, transparency, responsibility, and accountability will have to be followed to re-instill confidence in the banking industry. It may be necessary to mandate corporate governance principles through prudential regulation; however, the bankers' association should play a substantial role in educating the banking community in adopting and applying proper corporate governance principles. Family controlled banks lend primarily to insiders. This is a corporate governance deficiency. Based on interviews with bankers and business people in the region, closely held ownership of banks results in loans being steered toward family and friends of the bankers. This "buddy" loan approach increases loan concentrations, resulting in a lack of diversification of risk, which can result in higher than normal risk to a bank and, in turn, depositors.

Individual Bank Operations

Technical Training for Staff. The greatest need cited by all bankers was basic training for bank staff and awareness campaigns for depositors.

Impartial Loan Policies. Several bankers and businesspeople reported that loans to enterprises and individuals were directed from above and that creditworthiness was not the key criteria in making the loan. As long as this type of lending partiality is generally thought to exist in the Kurdistan Region, trust in the system will be an issue. To a significant degree, gaining public trust starts with banks lending to business customers in an impartial manner. Lending to an SME provides the opportunity to expose SME owners, managers, employees, relatives, and close associates to the benefits a bank can offer to all of them beyond just lending to the enterprise. Employees could have their salaries directly deposited in the bank.

⁶⁹ Yueh-Yun C. O'Brien, *Reserve Requirement Systems in OECD Countries*, Finance and Economics Discussion Series, Divisions of Research & Statistics and Monetary Affairs (Washington, DC: Federal Reserve Board, 2007), p. 11–12.

Affinity products, such as debit or credit cards, could be provided to all of the SME's employees. Impartiality is key. Self-serving lending to only close relatives or associates, whose creditworthiness may be suspect in the first place, only exacerbates the public's mistrust of banks.

Payment systems. An efficient means of making and receiving payments is crucial to increase effectiveness of banks and the public trust. The public must have confidence that their transactions will be reflected accurately and in a timely manner. To the extent possible, same-day clearing of payments should be the goal.

Some private banks have found ways to work around the current lack of efficient payment systems in the Kurdistan Region and throughout Iraq. The usual solution is not to accept checks drawn on other banks unless they are deposited by substantial and well-known bank customers. Other banks reported having issues with clearing checks even within their own bank's system because of poor communications links. Those banks will have to solve the internal communication issues themselves because they are internal deficiencies that must be overcome for their banks to be competitive. General solutions are offered in Annex B Conclusions and Recommended Actions Matrix.

Commercial Credit Practices. Letters of credit must be fully secured by cash or other commodities. This issue seems to be more bank specific and is a matter of trust between Iraq-based banks and banks outside the country. Based on our interviews, several private banks have no problems with issuing commercial or standby letters of credit and have arrangements with international and regional banks that do not require the prior delivery of hard collateral. The market will adjust as necessary to service customers and those banks that are not competitive will not prosper.

Products that Develop Credit Culture. The Kurdistan Region is a cash-driven economy. The growth of a credit culture can be promoted by the services and products offered by banks. In addition to providing loans to SMEs, banks can provide salary payment services by offering limited affinity credit card products to the managers and employees of SMEs. Similarly, loans to individuals secured by real and movable property to both commercial entities and individuals will eventually lead to better understanding of the proper use of credit in an economy.

Private Banking Association. The organization of a private banking association, as a Self Regulatory Organization (SRO), should be promoted as a way to give the banking sector direction and, in turn, increased credibility. Private banks should lead this effort, but allow the public banks to join. The Regional government's involvement should be very limited.

Check Clearing Arrangements. The use of checks or drafts in the region is undesirable because of the lack of check clearing arrangements. Bankers' associations in other countries have addressed this problem by creating clearinghouses for local check clearings in their communities. In such places, bankers in a community meet at the end of the business day to exchange checks drawn on each others' banks. Based on historical experience in the United States, this manual solution could expedite collection of 90% of the checks being issued in the Kurdistan Region.

Wire Transfer Systems. Some banks interviewed have already overcome this issue and have sufficient technology and capacity to initiate and receive wire transfers. This perceived issue is then a bank-specific problem and individual banks will have to seek their own solutions to remain competitive.

Supporting Institutions

Capital Markets. An effective and efficient banking system needs interbank and government securities markets in the short run to provide liquid instruments for short-term investment. In the longer run, money and capital markets must develop to provide alternative funding for companies and alternative investment vehicles for banks and individuals. For the Kurdistan Region in the short term, banks should be allowed to invest in high quality foreign securities in the absence of such securities in the local market.

Deposit Insurance. To increase confidence in the security of banks and, in turn, increase the amount of local deposits, a deposit insurance scheme should be introduced. A deposit insurance system must be administered by a quasi-governmental agency, independent of the Central Bank and the Ministry of Finance. Funding for the deposit insurance scheme can come as seed money from the government initially; however, assessments paid by banks should be the primary source of funding. In a developing economy, the deposit insurance fund should be funded over a period of time to a level commensurate with the risk in the banking system. Typically, a deposit insurance fund of 5% of total bank assets is considered appropriate for developing economies. Banks are assessed over a period of five years to reach the 5% level, at which time assessments are reduced to maintain the fund at slightly higher than the 5%. If the bank failure experience is greater than the deposit fund can sustain during its initial phases, then the deposit insurance fund should have the ability to borrow from the central bank as a lender of last resort to pay covered deposits of failed banks. This builds public confidence in the banking system.

Financial Sector Partners. Not included in the above core components are certain banking activities including insurance and investment banking and brokerage activities. In more developed banking industries, banks, through holding companies, have been allowed to offer insurance and investment products. In developing economies, it is our opinion that the focus should be on the basics of effective and efficient banking with consideration of other banking powers left for the future. Capital markets and the insurance industry should develop independently of the banking industry to reduce excessive risks being taken by banks.

Registries for Real and Movable Property. Central registries for perfecting liens against real and chattel property are typically a government function at the municipal level. Manual systems can be developed and implemented in the short term and integrated computer systems can come later at the governorate, regional, and federal level. Laws defining the types of collateral and the means to perfect liens at the various governmental levels need to be developed. KRG or donor technical assistance should be geared first to develop a practical law with implementation beginning at the community level in the short term.

Credit Bureaus. A credit bureau is an impartial entity that stores past and present credit transactions entered into by a particular person, and indicates the manner in which the subject

of the credit report repaid the obligation to the respective creditors. The credit bureau collects and stores demographic information on the individual to ensure proper determination of his or her creditworthiness and the overall risk of an applicant related to the repayment of newly established credit. A credit bureau serves both parties in a credit transaction.

A credit bureau stimulates consumer and small business markets within a free competitive economic system. A credit bureau provides the support mechanism for retail lenders and banks to extend credit for larger amounts at lower interest rates and for longer terms to a much broader cross-section of the population. The result is increased access to credit across the income spectrum, greater purchasing power for individuals, and improved transparency of small businesses. Creating a credit bureau is a long-term effort that may take as long as five years to be truly effective.

Annex A. Sampling of Required Reserve Rate for Developed and Developing Economies⁷⁰

Table
Summary of Main Features of Reserve Requirement Systems
In the EMU and 12 OECD Countries*

Country	Type of RR	RRR (%)	CP	MP	Lag ¹	Period Averaging		Eligible Assets		Carry-over and RCB	Remuneration rate		Penalty Measure	Table No. ²
						CP	MP	VC	RB		RR	ER		
Czech Republic	LRR	0 & 2	1 day	4 - 5 weeks	4 - 5 weeks	no	yes	no	yes	no	2-week repo rate	no	200% of Lombard rate	1
EMU	LRR	0 & 2	1 day	3 - 5 weeks ³	1½-2¼ months	No	yes	no	yes	no	Average of Mr _i ⁴ in a MP	no	5%+ Mr _i or 200% of Mr _i ⁴ or hold interest-free dep. up to 300% of shortfall	2
Hungary	LRR	0 & 5	1 day	1 month	1 month	no	yes	no	yes	no	Central bank base rate	no	hold interest-free deposits at deficient amount	3
Iceland	LRR	0 & 2	2 month-end dates	1 month	21 days ⁵	yes	yes	no	yes	no	rate on RR set by CBI above current account rate ⁶	Curr.-acct. Rate ⁶	Penalty decided by CBI ⁶	4
Japan	LRR	0.05 - 1.3 ⁷	1 month	1 month	1½ months	yes	yes	no	yes	no	no	no	3.75% + discount rate ⁸	5
Korea	Semi-LRR	1 - 5 ¹⁰	½ month	½ month	7 days	yes	yes	Up to 35%	At least 65%	no	no	no	1% ⁹	6
Mexico	Zar ¹¹			28 days			yes				no	no	200% 28-day CETES rate ¹²	
Poland	LRR	0 & 3.5	1 day	1 month	1 month	no	yes	no	yes	no	90% of rediscount rate ¹³	no	rate set by NBP, up to double Lomb. rate ¹⁴	7
Slovakia	LRR	2	1 day	1 month	1 month	no	yes	no	yes	no	1.5%	no	5% over Mr ³	8
Switzerland	LRR	2.5	3 month-end dates	1 month	20 days ⁵	yes	yes	Up to 100%	yes	no	no	no	3% over 1-month Libor in Swiss deposits	9
Turkey	LRR	6 & 11 ¹⁵	1 day	14 days	14 days	no	yes	no	yes	no	75% of overnight lending rate ¹⁶	no	hold interest-free dep. or 150% over lending rate ¹⁷	10
U. K.		Set by banks ¹⁸	½ year for target ceiling calc. ¹⁹	4 - 5 weeks ³	reserve target set at least 2 days ahead MP	yes	yes	no	yes	no	the official rate (OR) ²⁰	OR up to top of target band	OR on excess or shortfall of RR over band; double OR on overdraft ²¹	11
U. S.	LRR	0, 3, & 10	14 days	14 days	30 days	yes	yes	Up to 100%	yes	yes	no	no	1% over primary credit rate	12

*Glossary of abbreviations

CP: Reserve Computation Period.

LRR: Lagged Reserve Requirements.

RB: Reserve Balance.

RR: Reserve Requirements or Required Reserves.

VC: Vault Cash.

ER: Excess Reserves.

MP: Reserve Maintenance Period.

RCB: Required Clearing Balance.

RRR: Required Reserve Ratios.

⁷⁰ Yueh-Yun C. O'Brien, *Reserve Requirement Systems in OECD Countries*, Finance and Economics Discussion Series, Divisions of Research & Statistics and Monetary Affairs (Washington, DC: Federal Reserve Board, 2007), p. 11-12.

Footnotes:

1. Lag from the start of a computation period to the start of the corresponding maintenance period, unless noted otherwise.
2. This column indicates the numbers for tables in the appendix which provide details for reserve requirement systems of individual countries, and blanks in this column indicate no tables for the countries.
3. A MP begins on the settlement day of the first refinancing operation following the Governing Council meeting at which the monthly assessment of the monetary policy stance is scheduled, and ends on the day preceding the similar settlement day in the following month.
4. M_{ri} is the marginal interest rate (the lowest interest rate allotted at the auctions) for the most recent main refinancing operation settled on or before calendar day i , respectively, conducted by ECB and National Bank of Slovakia.
5. In Iceland and Switzerland, this is the lag from the end of a CP to the start of its corresponding MP.
6. Both the remuneration rate on RR and the penalty for shortfalls of averages required reserves are determined by the Board of Governors of the Central Bank of Iceland. Excess reserves are also remunerated at the current-account rate which is lower than the remuneration rate on RR.
7. In Japan, RRRs vary by financial institution type, and by type and size of deposits and financial instruments. RRR on foreign currency liabilities held by residents is higher than those held by nonresidents.
8. Official discount rate is the rate applied to the discounting of bills by Bank of Japan.
9. In Korea, this is the percentage point of the penalty amount on the shortfalls of RR, not the rate of penalty interest on the shortfalls.
10. In Korea, RRRs vary by deposit type and currency denomination (domestic versus foreign currency) of deposits (lower RRR for foreign currency deposits).
11. The Bank of Mexico (BOM) uses a zero-average reserve requirement system (ZARR) to send monetary policy signals to financial markets without determining specific interest rate or exchange rate levels. Under ZARR, each commercial bank is required to maintain a zero average/accumulation of daily balances in its current account, subject to daily positive and negative limits, over each 28-calendar-day maintenance period (MP) in its current account with BOM.
12. The daily end-of-the-day overdrafts of current accounts exceeding the daily negative limit during a MP, or the end-of-the-day negative accumulated balances at the end of a MP for the MP are charged interest at a rate equal to twice the 28-day CETES (Mexican's Treasury bill) rate. However, any positive balances during a MP or at the end of a MP are not remunerated. The positive or negative excess over the daily limits is excluded from the calculation of zero average/accumulated balance at the end of a MP, as it can not be used to offset the daily negative or positive balances during the MP.
13. Rediscount rate is the rate on money market bills issued by National Bank of Poland (NBP) through its open market operations.
14. Lombard rate is the landing rate on overnight loans from NBP to banks.
15. In Turkey, RRR is 6% for domestic-currency reserve liabilities and 11% for foreign-currency reserve liabilities. Required reserves on domestic-currency liabilities must be held in domestic currency, while those for foreign-currency liabilities must be held in euro or US dollars.
16. In Turkey, remuneration rate on Turkish-currency required reserves differs from those on foreign-currency required reserves. The former (13.25 as of September 20, 2006) is 75% of overnight lending rate of Turkish central bank, while the latter (2.540% for U.S. dollar and 1.335% for euro, as of 9/10/2006) are determined weekly, and equivalent to the rate on 2-day notice foreign exchange deposits that banks hold as free deposits with Turkish central bank. (See item 9 in table 12 for details).
17. In Turkey, holdings of interest-free deposits equal to 200% of the shortfall for liabilities denominated in Turkish-currency, but 300% of the deficiency for liabilities denominated in foreign-currencies.
18. In the U.K., participation in the reserve scheme is voluntary except for CHAPS sterling and CREST sterling settlement banks. Members of reserve scheme free to choose their individual reserve targets subject to some constraints, at least 2 business days before the start of each MP (see next footnote). Reserve targets can be changed from one MP to the next to any amounts limited by target ceilings.
19. Reserve targets are set in multiple of £10 million and bonded by zero and the ceilings. Ceilings are calculated twice a year, in May and November with new ceilings effective from the MPs starting in June and December. Ceilings are equal to the greater of £1 billion or 2% of the averages of the sterling eligible liabilities over the six months to April and October.
20. Actual average reserves up to the top of the target bands (equal to +/- 1% of the point targets declared) are remunerated at the MPC's official rate. Excess reserves above the top of the target bands are not remunerated.
21. Excess reserves above the tops of target bands or shortfalls of reserves below the bottoms of the bands are charged at the MPC's official rate and deducted from the interest paid. CHAPS or CREST settlement banks' overdrafts on individual days during the MP are charged twice the MPC's official rate and the charge is deducted from the account the next working day.

Annex B. Conclusions and Recommended Actions Matrix
Table B-1. Conclusions and Recommendations for the Central Bank of
Iraq Offices in Erbil and Sulaymaniyah

Central Bank Of Iraq (CBI)— Erbil and Sulaymaniyah Offices	Implementation	Priority
<p>1. Consolidation and independence</p> <p>Both the Erbil and Sulaymaniyah offices of the Central Bank of Iraq (CBI) act independently of the CBI in Baghdad and are separate and distinct from each other as well. Whether or not this structure is allowable under the current Constitution of Iraq or the Banking Law is not the issue. The regional Central Bank offices operate independently from the CBI in Baghdad and the CBI does not exert prudential supervision over the banks operating in the Kurdistan Region. Banks and bank branches operating in the Kurdistan Region send basic reporting to the Erbil or Sulaymaniyah offices of the CBI. The Central Bank offices in Erbil and Sulaymaniyah currently report directly to their respective Ministries of Finance.</p> <p>RECOMMENDATIONS</p> <p>We recommend that the Central Bank offices in the Erbil and Sulaymaniyah governorates be consolidated into one Kurdistan Region Central Bank office to strengthen banking supervision.</p> <p>It is strongly recommend that the Director General of the Central Bank Kurdistan Region Office be appointed by the President of the Kurdistan Regional Government (KRG) with the advice and consent of the Kurdistan National Assembly (KNA) and the subsequent approval of the CBI. The term of appointment should be for a sufficient period, usually six years, to ensure the independence of the Director General from political influence.</p> <p>A Regional Board of Governors, similar to the Federal Reserve Bank structure in the United States, should be appointed on staggered terms, e.g., two each of the initial board members would be appointed to two-year, four-year, and six-year terms, respectively. Thereafter, future appointments would be made for six years if the board member completed his or her term in office. The Director General serves as the Chair of the Board of Governors and would vote only when a tiebreaking vote is required.</p> <p>To assure the independence of the Kurdistan Region Central Bank office, it should neither report to nor be controlled by the Ministry of Finance. The separation of fiscal and monetary policy is a tenet of good governance.</p>	<p>The KNA, the President of the KRG, the Minister of Finance, and the Central Bank offices in the KRG should coordinate and implement these recommendations in consultation with the CBI.</p>	<p>A</p>

<p style="text-align: center;">Central Bank Of Iraq (CBI)— Erbil and Sulaymaniyah Offices</p>	<p style="text-align: center;">Implementation</p>	<p style="text-align: center;">Priority</p>
<p>2. Lack of qualified personnel</p> <p>The majority of bankers and businesspeople interviewed consider the personnel in the Central Bank offices in Erbil and Sulaymaniyah unqualified. Prudential supervision of the banks and branch offices of banks operating in the Kurdistan Region is nonexistent. Field bank examiners lack the skills and guidance to conduct proper bank examinations.</p> <p>We were unable to evaluate the off-site monitoring systems of the Central Bank offices in both Erbil and Sulaymaniyah because access to data submitted by banks and branch offices of banks was denied to the banking economic development advisor. Verbal and formal written requests were made for basic data, including balance sheets, income statements, transaction volumes, and Foreign Exchange activity.</p> <p>Based on our observation of poor supervision in the field reported by bankers, prudential supervision manuals and instructions do not exist or are severely deficient.</p> <p>RECOMMENDATIONS</p> <p>In order for the Central Bank offices in Erbil and Sulaymaniyah to properly discharge their responsibilities as prudential supervisors of the banking and financial sector in the Kurdistan Region, significant training and monitoring systems are necessary.</p> <p>If the KRG wishes to continue maintaining significant autonomy in the Central Bank offices in the Region, then funding for training and systems must be provided.</p> <p>Developing a unified central banking function in the Kurdistan Region will take years of effort to develop off-site monitoring systems and on-site examination skills. The expert’s efforts should be supplemented by technical assistance in off-site monitoring software and systems, on-site examination techniques, development of rules and regulations, and creating detailed examination and operating manuals.</p>	<p>KRG, the Central Bank offices, and donor agencies should coordinate efforts to ensure that appropriate prudential supervision of the banking and financial sector is in place.</p>	<p style="text-align: center;">A</p>

<p style="text-align: center;">Central Bank Of Iraq (CBI)— Erbil and Sulaymaniyah Offices</p>	<p style="text-align: center;">Implementation</p>	<p style="text-align: center;">Priority</p>
<p>3. Transparency of financial information</p> <p>Financial information transparency for the banking and financial sector is inadequate. The Banking Law requires that banks adhere to International Accounting Standards (IAS)⁷¹; however, we found little compliance with IAS. The two Central Bank offices were uncooperative and did not provide basic data, which the banks supply to the Central Bank offices on a monthly basis.</p> <p>Transparency of financial information is critical to attracting Foreign Direct Investment (FDI) into the banking sector. Investors are unwilling to invest where the risks are opaque because of governmental or structural unavailability of good financial information.</p> <p>RECOMMENDATIONS</p> <p>The Central Bank in the Kurdistan Region should construct a Web site to display submitted bank and branch office data in common formats. This can be done by distributing Excel templates to the banks for their balance sheets, income statements, and transaction volumes and having the banks submit these electronically on a monthly basis.</p> <p>As an example of data formats and Web site display approaches, the Central Bank can refer to Federal Deposit Insurance Corporation Web site at: www.fdic.gov or at the Bank for International Settlements (BIS) at: www.bis.org.</p> <p>The Kurdistan Region Central Bank Web site need not be that elaborate at this stage and an initial effort to using Excel templates should be sufficient.</p>	<p>The Central Bank offices in the KRG should create an information Web site for the banking sector by September 30, 2008.</p>	<p style="text-align: center;">A</p>
<p>4. Publishing sanctions against banks</p> <p>During this Economic Assessment Development study we visited with the Emerald Bank office in Erbil and verified that Emerald Bank, as rumored, was under conservatorship, as defined in the Banking Law. We met with the CBI Erbil office administrators, who were in charge of Emerald Bank at the time.</p> <p>To build confidence in banks and the banking system, significant sanctions against banks should be made public. The population and fellow bankers must be able to know that the regulatory authority is functioning in a fair and effective</p>	<p>The CBI and its Kurdistan Region offices should review and implement this recommendation if it does not contravene any existing privacy laws.</p>	<p style="text-align: center;">A</p>

⁷¹ Article 42 *Principles for accounting and preparation of financial statements*. Annex A, Iraq Banking Law. Page 30.

<p style="text-align: center;">Central Bank Of Iraq (CBI)— Erbil and Sulaymaniyah Offices</p>	<p style="text-align: center;">Implementation</p>	<p style="text-align: center;">Priority</p>
<p>manner.</p> <p>The CBI is limited regarding sanctions. Under law, a bank may be placed under conservatorship, implying it can be rehabilitated, or receivership, meaning the bank has failed and must be merged or closed.</p> <p>Central banking functions throughout the world typically have significant formal and informal administrative powers to escalate sanctions to fit a particular bank’s undesirable practices. Sanctions can include:</p> <p>Board of Directors Understanding This is an informal, nonpublic sanction where the Board of Directors of a bank agrees with the supervisory authority that undesirable practices will be changed within a specified time. Typically, the Board of Directors meeting minutes will record the promise to remedy the undesirable practice by a certain date.</p> <p>Letter Agreement A letter agreement is still more of an informal sanction instrument, but the letter agreement requires that all members of the Board of Directors of a bank sign a statement (letter agreement) that they will take action by a certain date to remedy an undesirable practice, which could include violations of banking laws and regulations. This escalates what may have been just a Board Agreement that was not satisfactorily completed.</p> <p>Memorandum of Understanding (MOU) An MOU in the banking industry is considered a formal sanction. The MOU details specific actions that the bank’s Board of Directors and management must take to remedy objectionable practices, which could include violations of law and regulations, failure to institute proper risk based management systems, poor lending practices, and self-serving insider transactions. The MOU details will be posted on the appropriate supervisory agency’s Web site and thereby made public. In addition, the bank’s financial auditors, while preparing their opinion for the bank’s annual report, are required to include the specifics of the MOU in a footnote to the financial statements and opine on the potential impact of the MOU on the financial statements.</p> <p>Prohibition and Removal Orders A Prohibition and Removal Order is an enforcement action against an individual or individuals whose association with the bank is deemed to be detrimental to the bank. This typically is used in fraud cases where a senior member of management is prohibited from working for his/her current bank or for any other bank in the banking system without the prior, written approval of the appropriate supervisory agency.</p>		

<p align="center">Central Bank Of Iraq (CBI)— Erbil and Sulaymaniyah Offices</p>	<p align="center">Implementation</p>	<p align="center">Priority</p>
<p>In extreme cases, removal orders have been used to remove the entire Board of Directors and the senior management of a bank, where the actions of these individuals were deemed detrimental to the proper functioning of the bank. This is common when laws are broken and insider activities are rampant.</p> <p>The individuals removed may face criminal or civil legal actions and are barred from working in the banking industry. Their removal is also published on the regulatory Web sites and information letters are sent to the chief executive officer of every bank in a nation informing them of who was removed and why.</p> <p>Cease-and-Desist Orders</p> <p>Cease-and-desist Orders are considered the ultimate enforcement action against a bank. Typically, a bank receiving a cease-and-desist order has refused to remedy serious, undesirable practices identified by regulatory examiners. These usually include violations of banking laws and regulations, poor lending practices, insufficient capital, inappropriate insider transactions, inadequate financial controls, inadequate policies and procedures, and poor earnings. Cease-and-desist orders are public knowledge and subject to the same disclosure rules as Prohibition and Removal Orders.</p> <p>The sanctions listed above would provide the CBI with the necessary tools to act to forestall inappropriate practices in banks operating in Iraq and in the Kurdistan Region.</p> <p>RECOMMENDATION</p> <p>Major sanctions against banks should be made public on the CBI and/or the Kurdistan Regional Office Web site. This will help to increase confidence in prudential regulation of the banking system and, in turn, increase customers' confidence in banks.</p> <p>This may or may not require a change in the Iraq Banking Law. The Iraq Banking Law, however, seems to allow latitude for the CBI and its offices to publish sanctions against banks.</p>		

Table B-2. Banking Sector Conclusions and Recommendations

CONCLUSIONS
<p>The most common comment during interviews was “There is a lack of trust in the banking system.” Not only do potential depositors mistrust the banking system, but bankers mistrust each other’s banks.</p> <p>The following critical areas of need must be addressed to create a full-service banking system in the Kurdistan Region.</p> <ul style="list-style-type: none">Consider subsidized Interest rate lending to spur economic growth.Increase the access to credit for small and medium-size enterprises (SME) loans.Develop check clearing systems.Create a bankers’ association to foster a better dialogue in the banking community. The Prime Minister and Ministry of Planning have recently indicated support for a bankers’ union, but its form and function was not fully defined. This idea was presented during a conference at Salahaddin University Cultural Center on April 2, 2008.⁷² The bankers’ association can be the catalyst to help resolve many of the Kurdistan Region’s financial institution issues.Encourage interbank lending and participation loans by two or more banks.Conduct intermediation of deposits into loans on a scale necessary for economic development.Build credibility and contribute to increasing trust in the banking system by instituting and testing deposit insurance by paying out deposits after a bank failure.Create a central registry for perfecting and protecting liens on collateral so that real estate, automobiles, farm animals, equipment, and other chattels can be tangibly secured by lenders. <p>Establishing trust in a banking system, especially after depositors have lost their deposit money in the past, is a decades-long effort that requires institution building in the form of prudential supervision, as has been discussed, and, more importantly, establishing a fertile environment for banks to provide banking services to customers.</p> <p>The first steps require significant efforts by private banks, enterprises, and government. Government programs and actions have to champion economic development, which goes hand-in-hand with growth in the banking and financial sector. Banks and enterprises have to be willing to take risks and commit funding to privately owned, economic development projects.</p>

⁷² A conference to present recommendations for developing the banking system in the Kurdistan Region at was held at Salahaddin University Cultural Center on April 2, 2008. A KRG prepared translation is included as Annex C.

The following suggestions are part of an aggressive program to develop institutions, programs, and approaches that will support banking sector development in a growing economy. As economic vibrancy increases and jobs are created, there will be an increased interest by individuals in depositing their savings in banks and these deposits will become the fuel for the engine of growth required to sustain the KRG.

Table B-3. Banking Sector Enhancements

	Implementation	Priority
<p>1. On-lending Program</p> <p>An on-lending program is a donor-supported, direct lending program designed to provide longer-term funding at reduced interest rates primarily to small and medium enterprises. As an example, USAID On-lending Programs have been successfully used in post conflict environments in Bosnia and Herzegovina.</p> <p>The benefits of an on-lending program are many. Among the benefits are:</p> <ul style="list-style-type: none"> • Provides incentives to enact good banking legislation, maintain an independent banking supervision agency, and adopt sound regulations based on the Organization for Economic Co-operation and Development (OECD) and the Core Principles for Effective Bank Supervision articulated by the Bank for International Settlements. • Contributes to private enterprise rehabilitation and expansion. • Creates sustainable employment. • Provides reduced interest rate, longer-term loans of up to three years. • Increases the technical credit analysis skills of bank lenders. • Creates a positive environment for the institutional development of the banks. <p>The on-lending program charges borrowers a rate of interest not to exceed a specified benchmark rate, such as the London Interbank Office Rate (LIBOR), plus a spread of 400 basis points. Banks may also charge international market fees for other related services, such as transfers and Letters of Credit.</p> <p>As an example the loan fund could initially be set at \$200 million and reviewed after a two-year experience time frame for a potential increase to \$500 million, if deemed effective and successful. Properly managed, the program should yield significant results, because it helps to eliminate certain impediments created by the current high interest rate policies of the Central Bank, excessive required reserves by the CBI (25%), and generous overnight deposit interest rate of the CBI (17%).</p> <p>This type of program should not be considered a grant because the eventual repayment of the dollars invested should be part of the guiding principle of the program.</p>	<p>Donor agencies should take the necessary steps to begin this program as soon as possible. If the KRG raises objections to their noninvolvement, the program should not be opened. The success of the program is heavily dependent on independent credit analysis and control and audit of the loans made. This control must be vested in the donor agency or its contractor for the term of the program.</p>	<p>A</p>

	Implementation	Priority
<p>2. SME Loans</p> <p>The number of loans and the size of loans to the SME sector need to be increased. Although there has been excellent development in the microfinance sector, the size of a loan needs to be expanded beyond \$5,000. The development of small and medium-sized institutions needs to be increased to help to expand private sector companies and to get people off the government payrolls.</p>		A
<p>3. Check Clearing Systems</p> <p>All bankers interviewed in the Kurdistan Region are frustrated by the inefficient and ineffective check clearing systems. As a short-term solution, banks and branch offices of banks operating in the three governorates of Dahuk, Sulaymaniyah, and Erbil should form a local clearinghouse through the auspices of the bankers' association recommended below. The logistics of a local clearinghouse are fairly simple. Bankers in a community and surrounding area meet after the close of business at a designated office of one of the banks and checks drawn on the several banks are exchanged for credit. Settlement of any amount due to a bank is achieved by issuing an official check from the payer bank to the payee bank. To avoid the necessity of maintaining accounts with each other's banks, the official check can then be cashed by the payee bank at the payer bank on the following day. We do not recommend cash settlement at the local clearinghouse for security reasons.</p> <p>If desired, banks can agree to maintain deposit accounts at each other's banks. Payer banks could then just credit the account of the payee bank for check settlement. Since this may require policy determinations from the highest levels of a bank's management, we suggest that the first alternative be pursued to expedite the process. Since most business is conducted within a community, it is expected that as much as 90% of the checks issued could be cleared locally. This would greatly increase the speed of the check clearing process.</p> <p>For checks drawn from outside the community, agreements between banks that detail the responsibilities of both parties would be needed. Once agreements are reached, the local clearinghouse could be used.</p> <p>This is a temporary, manual process; however, experience in the United States has shown that this was effective. Until the advent of Automated Clearing Houses in the 1980s, local clearinghouses were the norm. Even now, some banks in the U.S. use direct clearing with local banks to avoid the per check charge required by automated clearing establishments.</p>	<p>While we believe that a private, bankers' association can best coordinate this effort, local banks need not wait until one is formed to begin this process. Local bankers may agree on a case-by-case basis to implement such an approach. For state-owned banks, we strongly encourage the KRG to mandate that they participate in such a system.</p> <p>Short-term donor assistance can assist in process training and awareness efforts.</p> <p>This recommendation should be implemented within 30 days of the issuance of this report.</p>	A
<p>4. Bankers' Association</p>	Donor agencies should	

	Implementation	Priority
<p>We strongly recommend that a bankers' association be formed as soon as possible. Both private and state-owned banks should be members. The bankers' association must be a self-regulating organization (SRO) of banks. The potential functions of an effective bankers' association are:</p> <ol style="list-style-type: none"> Acting as a political action committee, lobbying the KRG National Assembly for appropriate enhancements to banking requirements. Serving as a forum for bankers to air differences of opinion and seek solutions to common problems. Providing awareness advertising and training forums for potential depositors of banks, so the general populace can better understand the evolving nature and strength of the banking system in the Kurdistan Region. Sponsoring regional bank training centers in Dahuk, Erbil, and Sulaymaniyah to train bankers in basic, intermediate, and advanced banking concepts. Acting as the prime mover in establishing a credit rating agency. A credit rating agency, operated as a private enterprise subsidiary of the bankers' association and not as a government-controlled service, will help to build confidence in the banking system by depositors and borrowers alike. <p>For comprehensive information on what a bankers' association can do beyond the recommendations above, refer to the American Bankers' Association Web site at www.aba.com.</p>	<p>consider providing seed money to an effective group of bankers to help them form a bankers' association and begin work on the regional bank training centers.</p> <p>The KRG should recognize the private nature of the bankers' association and provide assistance by allowing officials from state-owned bank to join the association as general members. In addition, the KRG should facilitate the formation of the bankers' association by expediting the legal paperwork required to form such an organization in the KRG.</p> <p>The bankers' association is so fundamental to building a strong banking system that we strongly recommend it be chartered and in operation within 30 days of the issuance of this report.</p>	
<p>5. Interbank Lending and Participation Loans made jointly by two or more banks are unheard of in the Kurdistan Region. To some degree the dialogue that will be fostered through a bankers' association will assist in making bankers familiar with each other in the Region and potentially increase the willingness of banks to participate in making larger loans as part of a consortium. This would provide opportunity for better risk management of each</p>	<p>The bankers' association can play a key role in disseminating information on the benefits of</p>	B

	Implementation	Priority
<p>bank's loan portfolios.</p> <p>Interbank lending and participation loans must not be mandated through legislation. This is a concept that will evolve and be adopted as the banking sector in the Kurdistan Region matures.</p>	<p>participation lending.</p>	
<p>6. Intermediation of Deposits into Loans is not effective in the Kurdistan Region. The excessive Required Reserve Rate (RRR) against all deposits and the high overnight deposit rate at the CBI are two culprits that restrict the flow of deposits into banks and entice banks to take the easy way to make a profit by investing deposited funds at the CBI in what is considered a risk-free asset yielding 19% and, generally, resulting in an enviable 10% or more interest rate margin for banks. Banks in the Kurdistan Region are risk averse when it comes to SME lending. Many banks lend primarily to affiliated enterprises of major shareholders.</p> <p>The solution to attracting deposits is not deposit insurance, as some have advanced. Deposit insurance is an intangible until it is tested and the general populace will continue to be wary of any insurance fund that is government controlled and administered with a lack of transparency.</p> <p>One proposal by a nongovernmental organization suggested that banks be mandated to lend 50% of deposits to SMEs. Such mandates are inadvisable and result in poor risk selection and bank losses.</p> <p>Our recommendation regarding the current disintermediation of deposited funds is to lobby the CBI to change both the overnight deposit rate to a much lower level of 9% or less and for the RRR to be lowered to no more than 10% of demand deposits and 5% of savings and time deposits.</p> <p>For deposit insurance, an agency should be formed to begin the process of introducing deposit insurance after the bankers' association has been created. The KRG and the bankers' association should pursue a mutually agreeable solution to deposit insurance and the process should be reported upon in the media. When a final draft proposal for deposit insurance is formulated, it should be open for public comment for a period of 90 days, after which time amendments can be made and the deposit insurance regime adopted.</p> <p>The rationale for providing an exposure draft for public comment is to further assure the populace that the banking system is indeed evolving and becoming a safer haven for peoples' money than hiding places in their domiciles.</p>	<p>The KRG and the bankers' association should request donor technical assistance to help in formulating a deposit insurance law and/or regulation.</p> <p>The change in CBI rates should be lobbied by the bankers' association and the KRG with the appropriate authorities in Baghdad.</p>	<p>A</p>
<p>7. Central Registries for perfecting and protecting liens on collateral do not exist, so real estate, automobiles, farm animals, equipment, and other chattels cannot be relied upon as tangibly secured by lenders.</p> <p>Registries are typically the responsibility of local and regional government entities. The KRG and the bankers'</p>	<p>Donor assistance should be requested by the KRG, because registry systems are very reliant on appropriate laws, rules,</p>	

	Implementation	Priority
association should coordinate efforts and design a reliable registry system	and regulations to be effective.	

**Annex C. Brief of the Conference to Present the Prime Minister's
Recommendations for Developing the Banking System in
the KRG (Unofficial Translation)**

Salah ad Din University Cultural Center, April 2, 2008

Paraphrased Synopsis

Resolution and Recommendation Draft

Universal Resolution:

1. Create a bank with capital of 50 billion Dinars owned by the KRG, private banks, and foreign banks.
2. Deposit insurance of \$10,000 per account.
3. Paying government employees by check.
4. Paying government bills by check.
5. Allowing Ministries to open Letters of Credit through private banks.
6. Founding a committee to entice insurance companies to offer services in the KRG.
7. Forming a KRG stock exchange.
8. Founding a Bank training institution.
9. Forming a Bankers' Association with the urging of the Minister of the Interior.
10. Encouraging universities to have banking study programs.

Economic Committee and Investment Panel:

1. Consider placing the Director General of the Central Bank and a representative of the private banks on the Economical Committee.
2. Study to allow private banks to provide unspecified, special services.

Central Bank:

1. Form a Board of Directors.
2. Form a committee to study Foreign Exchange in the KRG.
3. Study ways to modernize banking systems.
4. Form a committee to study the Iraqi Banking Law, and:
 - a. Define and clarify the legal operating rights of the Central Bank Office in the Governorates of the KRG.
 - b. Define the Regional Central Bank offices rights for approval of banks and branch offices of banks in the region.
 - c. Design supervisory approaches for the branch offices of banks operating in the KRG.
 - d. Study the economic impact of current interest rates.

- e. Study and introduce modern banking systems to facilitate interbank transaction flows.
- f. Require foreign banks to dedicate a specified portion of their asset base to developing the Kurdistan Region.
- g. Provide individual depositor awareness of the safety and desirability of banking services.
- h. Recommending legal punishment for uncollectible overdrafts.
- i. Inquiry Committee for executing recommendations by the “supreme council of economy.”

Goals:

1. Increase depositor confidence.
2. Encourage partnerships with foreign banks.
3. Encourage joint ventures.
4. Increase trust of the banking system.
5. Issue bonds and debentures for funding projects.
6. Reduce the Central Bank of Iraq’s interest rate to encourage lending.
7. Encourage private banks to allocate funding for certain projects.
8. Encourage investors in projects by KRG investment of no more than 15%.
9. Encourage branching in the countryside.
10. Simplify governmental regulations toward banking.
11. Keep customer information confidential.

To achieve the goals:

1. Rafidain and Rashid Banks will provide private banking services including being the paymaster for governmental employees.
 2. State-owned banks will be empowered to deal with private banks.
 3. Providing “freedom of choice” in banking services.
 4. Government guarantees for loans through private banks.
 5. Establish a guarantee fund by several banks to encourage development loans.
 6. Develop and automated clearing house.
 7. Reduce taxes on banks.
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