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e-ISSN: 2979-9414



Araştırma Makalesi • Research Article

Challenges and Opportunities in Lebanon's Post-War Recovery: A Comparative Analysis with Iraq

Lübnan'ın Savaş Sonrası İyileşmesinde Zorluklar ve Fırsatlar: Irak ile Karşılaştırmalı Bir Analiz

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ANAHTAR KELİMELEER

Savaş Sonrası İyileşme
Sürdürülebilir Ekonomik Kalkınma
Altyapının Yeniden İnşası
Çevresel Sürdürülebilirlik
Yönetişim ve Şeffaflık
Yoksulluğun Azaltılması

KEY WORDS

Post-war Recovery
Sustainable Economic Development
Infrastructure Reconstruction
Environmental Sustainability
Governance and Transparency
Poverty Alleviation

ÖZ

Bu makalenin temel amacı, savaştan etkilenen iki gelişmekte olan Lübnan ve Irak arasında karşılaştırmalı bir analiz yapmaktır. Makale, her ülkenin ekonomik durumunu sunar ve her birinin ekonomik sürdürülebilirliğini sağlamak için karşılaştığı benzersiz zorlukları inceler. 2003 yılındaki Irak deneyiminden yararlanan makale, iyileşme programlarının uygulanmasında karşılaşılan temel başarıları ve engelleri vurguluyor ve ülke Irak'ın yolunu izlemeye istekliyse Lübnan için olası sonuçları öngörmeyi amaçlamaktadır. Sonuçlarımız, Lübnan'ın durumunun yönetim sorunları, siyasi müdahale ve yolsuzluk karşısında daha karmaşık olduğunu vurguluyor. Bu nedenle, ekonomik sürdürülebilirliği sağlamak için kendi iç politikalarını uygularken uluslararası kurumlarla iş birliğini teşvik ediyoruz.

ABSTRACT

The main objective of this article is to conduct a comparative analysis between Lebanon and Iraq, two emerging countries that have been affected by war. The paper presents the economic situation of each country and examines the unique challenges each one of them faces to achieve its economic sustainability. Drawing from the experience of Iraq in 2003, the article highlights the key successes and obstacles faced in implementing the recovery programs and aims to project the possible outcomes for Lebanon, if the country is willing to follow Iraq's path. Our results emphasize that Lebanon's situation remains more complicated in the presence of governance problems, political intervention, and corruption. Therefore, we encourage its collaboration with international institutions while implementing its own internal policies to achieve economic sustainability.

1. Introduction

In the aftermath of a war period, a country faces difficulties in restoring its economic sustainability due to the deterioration of its infrastructure, environment, and deforestation. Lebanon and Iraq, two countries that have been affected by war in 2024 and 2019, respectively, share similar national characteristics, making them a good example for comparison. For a country that has pegged its national currency to a foreign one, the challenge that remains is the time to recover due to high inflation, the increase in poverty rate as well as to the currency fluctuations. This kind of regime makes the country depend

on external factors such as foreign investments, tourism, and real estate in Lebanon and oil exports in Iraq. (Barbier, 2013).

After pegging the Lebanese lira to the US dollar in 1990, Lebanon has faced many years of fiscal mismanagement, corruption, and high levels of debt. In 2019, Lebanon was affected by a twin banking and currency crisis, followed by a 2020 sovereign default. In September 2024, Lebanon was significantly affected by the war with Israel, which caused remarkable damage, particularly in affecting its infrastructure, increasing the unemployment rate, and displacing populations, as well as accelerating economic and

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Atf/Cite as: Accary, J. (2025). Challenges and Opportunities in Lebanon's Post-War Recovery: A Comparative Analysis with Iraq. *Journal of Recycling Economy & Sustainability Policy*, 4(2), 81-88.

Received 22 June 2025; Received in revised form 26 October 2025; Accepted 5 December 2025

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environmental decline. Moreover, its currency lost over 90% of its value, and its banking sector faced over 72 billion dollars in losses. The war compounded these vulnerabilities, inflicting further damage on infrastructure. (World Bank, 2021)

In the aftermath of financial crises and post-war periods, the nation is encouraged to collaborate with international institutions to implement recovery programs in order to stimulate the economy, as the main purpose of a sustainable economy is to support ongoing economic development, reduce pollution and deforestation, and restore social equity (Barbier, 2013).

In this paper, we will study Iraq's post-conflict recovery in 2003 and try to assess its applicability to Lebanon's current crisis. Despite all the efforts made in Iraq to rebuild its infrastructure, promote economic growth, and achieve economic sustainability, Lebanon's unique situation makes it a good example to predict its path should it want to implement the same policies adopted in Iraq. Due to the recent war, corruption, infrastructure deterioration, deforestation in the South, the huge number of displaced citizens, and the devaluation of its national currency, Lebanon is currently facing a serious situation in trying to achieve its economic sustainability. Consequently, the Lebanese government is encouraged to implement a recovery plan based on Iraq's experience in 2003. (World Bank, 2021).

The core of the study is bridging two emerging countries affected by war, trying to project the possible outcome into the Lebanese situation while studying Iraq's situation. Therefore, this article will first provide a comparative analysis of the macroeconomic trajectories of both nations. Second, it will review the core literature on sustainable economic and environmental strategies in post-conflict settings. Third, it will present a detailed case study of Iraq's post-2003 recovery programs to evaluate their successes and failures. Finally, the paper will conclude by analyzing the specific institutional and governance challenges unique to Lebanon that obstruct a similar path to achieving long-term sustainability.

2. Macroeconomic Presentation of Lebanon and Iraq pre and Post War Situation.

Lebanon and Iraq share a similar macroeconomic situation covering the major sector of the country and were both affected by severe war, making it hard to achieve economic sustainability. In the aftermath of the Lebanese war in 1990, the country pegged its national currency to the US dollar in order to attract international investments and foreign deposits. As a result, the economic system was heavily reliant on the external inflows, tourism, and real estate, rather than on the national production. (Blom Invest Bank, 2019). Pegging the national currency to the US dollar was followed by a lot of debt in foreign currency, forcing the country to accumulate a public deficit estimated at 172% of GDP (CEIC Data, 2025).

In 2019, and following the COVID-19 pandemic, Lebanon was affected by a twin crisis: a banking crisis followed by a currency crisis. This situation caused a total collapse of the system, and the government declared the default of payment of its debt in 2020. (Georgetown Jia, 2023). Moreover, depositors lost confidence in the banking system and were not allowed to withdraw their deposits. As a result, the Lebanese lira devaluated drastically and has lost over 98% of its value, the banking sector losses were estimated to be around 72 billion dollars, and the country faced hyperinflation (Trading Economics, 2025).

This situation was exacerbated by the 2024 conflict, diminishing all the trust in the banking system and eliminating all the chances to implement any macro policies or collaborate with the International Monetary Fund. As a result, it's hard for Lebanon to achieve economic sustainability within the current factors and the corruption in the public sectors. (World Bank, 2025).

Concerning Iraq's macroeconomic situation, the nation also pegged its national currency to the US dollar in order to attract foreign investments. During the period 1996 – 2003, Iraq was a command economy where it was strongly dependent on oil exports. It's largely dependent on the UN Oil-for-Food Program, which has limited oil exports in exchange for humanitarian imports. As a result, GDP per capita decreased by around \$700 in 2002, and the unemployment and poverty rates increased drastically. Furthermore, the country has faced a high level of inflation followed by a lot of corruption in the public sector. (Economic Research Forum, 2020).

On the other hand, and in the aftermath of the fall of Saddam Hussein's regime, Iraq was transformed into a hyper-rentier state, almost entirely dependent on oil, which accounts for over 90% of government revenue. The Coalition Provisional Authority (CPA) encouraged the liberalization of the market, privatization, and the opening of trade and banking sectors. Despite these efforts, the absence of security and governance discouraged investments and slowed reconstruction. As a result, economic sustainability couldn't be achieved in the presence of its oil dependent, massive population and corruption. (Trading Economics, 2025).

3. Literature Insights on Sustainable Economic and Environmental Strategies Following Conflict

War can severely impact the country's different aspects, including its infrastructure and social sector. In the aftermath of conflicts, the nation usually borrow from other countries to implement a recovery program in order to achieve economic sustainability. Therefore, the government often faces fiscal deficits and substantial debt.

According to Collier et al. (2003), the main objective of recovery programs is to stimulate economic growth without taking into account the necessity of reducing poverty and inequalities. Ignoring these aspects will limit its success and may worsen the situation.

Similarly, in his study conducted in 2012, Bouvier highlights the necessity of good coordination between recovery programs and social aspects. The author argues that special attention should be given to the displaced citizens to ensure equality and justice. Without taking these aspects into consideration, recovery programs could fail to achieve economic sustainability.

To ensure that recovery programs are correctly implemented and are achieving their goals, it's important that the country collaborates with international institutions such as the World Bank, the International Monetary Fund (IMF), the United Nations Development Programme (UNDP). These plans aim to restore environmental sustainability, enhance social welfare, and aid displaced citizens in securing future stability and long-term growth. In addition, they should be able to reduce pollution and deforestation issues. Although the collaboration remains a must for the country, it should adopt its own national policies that align with the main objective of the program. (Barbier, 2013; Unruh & Williams, 2013).

On the other hand, post-war periods are usually followed by an increase in the level of deforestation and pollution as well as a decrease in landscaped and agricultural areas. This situation results from the extensive use of chemicals in bombs and missiles. Consequently, nations that mainly depend on agriculture and natural resources face greater challenges in achieving a rapid and smooth recovery. Therefore, the nation should focus on green technologies, renewable energy sources, and agriculture in order to achieve a sustainable economy. (Suarez et al., (2018) ; Nguyen et al., (2023).

Cairns (2003) examines the determinants of sustainable international trade in the post-Soviet region following the Russia-Ukraine conflict. The findings show that war negatively impact the infrastructure and decreases the economic growth as well as pollutes the environment. Moreover, it can decrease the GDP per capita for several years even after the conflict ends. The study concludes that rebuilding Ukraine's transport infrastructure is crucial for restoring regional trade sustainability and ensuring stable international food supply chains.

Moreover, Collier et al. (2008) studied the challenges during post-conflict periods. The author confirms the need to combine an economic recovery and social equalities to prevent renewed conflict. Additionally, the study emphasizes the need to implement adequate national policies and to collaborate with international institutions in order to stimulate economic growth. Finally, the study shows that adopting the right policies can reduce the risk of renewed conflict from 40% to 31%. However, the main key to success and to achieving economic sustainability is to collaborate with external support and gradual economic recovery, recommending that post-conflict aid be allocated inversely to a country's income level to address greater risks in poorer nations.

In addition, Serneels et al. (2015) investigate Rwanda's civil war impact on long-term economic growth in the early 1990s. The findings emphasize that consumers' level of spending remains low even six years after the conflict and the unemployment rate was relatively high. Moreover, the study reveals that violence tends to persist in the country for years after the conflict has officially ended.

Furthermore, Manpaa et al. (2024) explore how post-conflict societies can achieve sustainable development, focusing on Northeast Nigeria after the Boko Haram insurgency. Although the country made efforts to recover from massive destruction, loss of lives, and large-scale displacement, progress toward a sustainable economy was hindered by limited financial resources, corruption, weak institutions, and poor coordination among national actors.

Moreover, Jundi (2024) studied the impact of war on economic growth and sustainability in South Sudan. Based on data collected from the World Bank, IMF, UN, and government sources, the study shows that as long as the war is prolonged, so many of the country's aspects will be hurt. The study reveals that the war left the country's infrastructure in ruins and caused economic losses exceeding six billion dollars. South Sudan was hit particularly hard, as the nation was heavily reliant on agriculture and oil exports. It emphasizes the urgent need to rebuild infrastructure, assist displaced people, and strengthen the agricultural sector to secure lasting economic recovery.

Similarly, Hassoun (2025) highlights that the war in Gaza was one of the most severe in the world, with the excessive use of bombs and missiles, coupled with shortages of food and basic necessities. These conditions contributed to rising poverty and increased inequality across the region. Therefore, an urgent need is recommended for sustainable reconstruction, effective resource management, and strong international cooperation to restore resilience and promote long-term sustainability in Gaza.

Mohammed et al. (2025) analyze the impact of Iraq's war on the economic and social sectors by comparing it to Saudi Arabia and Algeria. Results show that Iraq experienced short-term GDP growth during the recovery period but suffered long-term declines in GDP per capita estimated at around -30.6% relative to Saudi Arabia and a high level of inflation. Additionally, the findings emphasize that Iraq's oil exports increased by 45% compared with Algeria post invasion. On the other hand, human development indicators show low profits in education and healthcare sectors, and CO₂ emissions per capita fell by 79.3% relative to Saudi Arabia, reflecting industrial decline rather than environmental improvement. Finally, the authors confirm that a country that faces weak governance and economic instability can limit its recovery.

4. Post-War Recovery Programs in Iraq: Insights and Lessons

Following the war in Iraq (2003), the country implemented a recovery plan as part of restoring economic sustainability. The recovery strategies are illustrated in the subsequent tables (Table 1 and Table 2 are in the Annex).

Following the adoption of the programs, their impact on Iraq was considered positive in numerous areas. Table 2 outlines the different aspects affected and the obstacles that hindered the full achievement of the programs.

Following the reconstruction plan implemented in Iraq that focuses on restoring infrastructure, eliminating corruption, ensuring transparency in public sectors, encouraging education, agriculture and industrial sectors, as well as supporting displaced populations, the country was able to restore sustainability and economic growth. In collaboration with international aid, Iraq took advantage from the recovery plan and was able to achieve a sustainable post-war growth. (Barbier, 2013).

5. Lessons from Iraq's Post-Conflict Recovery: Anticipated Institutional and Governance Challenges for Lebanon

Although Iraq's experience offers valuable lessons to Lebanon in achieving economic sustainability, applying the same policies to the Lebanese context is unlikely to achieve similar results due to the country's unique political system and governance structure and characteristics.

Similar to Iraq, the first step is to collaborate with international institutions. This situation offers both substantial opportunities and challenges. It can attract foreign investments but would face the resistance of the main actors. The program should focus on adopting strong governance and transparency, factors of success in Iraq. Therefore, the Lebanese government can combat corruption and restore transparency within public institutions. Moreover, a special attention should be given to natural resources and the country's necessities following the rapid deterioration of water supply, electricity, healthcare, and education.

On the other hand, we can learn from Iraq that the CPA reforms failed because they lacked local ownership. Consequently, as the trust in the public sector is null in Lebanon, it's hard for international institutions to achieve economic sustainability. Similarly, the USAID Program had limited sustainability in Iraq due to weak coordination and lack of maintenance. While Lebanon usually adopts policies and laws that protect the politician and the governmental sector, it remains challenging to collaborate with international institutions that limit their control over the primary sectors.

Concerning the fiscal and monetary sector and as the country declares payment default in 2020, the current public debt remains high, limiting the ability for additional borrowing and to finance social and developmental programs. In

addition, the Lebanese lira has lost more than 90% of its original value, leading to hyperinflation and a decline in purchasing power. As a result, economic sustainability couldn't be achieved without restoring the consumers' purchase power, the main booster of economic growth.

Furthermore, the continuous emigration of skilled professionals as doctors, teachers, and engineers has reduced Lebanon's human capital, making it harder to rebuild productive capacity and slowing its recovery. On the other hand, the presence of 18 different religions in the country, can create resistance to implementing and accept these new policies. This factor may also contribute to renewed internal conflicts.

A particular attention should be given to the South, which covers a lot of displaced citizens. The government should ensure there's enough food supply, health care, and education. On the other hand, the country should also focus on restoring the destroyed and deforested areas by planting more trees to ensure smooth environmental recovery.

Finally, the direct intervention of Lebanon in other countries' wars may discourage the international institutions from collaborating and adopting their programs, which will delay their long-term sustainability.

6. Conclusion

This paper presents a comparison between Lebanon's and Iraq's post-conflict recovery. Its originality lies in taking lessons from Iraq's recovery in order to predict Lebanon's possible outcome if the country adopted the same policies. Both countries share similar economic situation in pegging their national currency to the US dollar, accumulating high public debt, and recognizing high levels of inflation, unemployment, and poverty rates. However, each one possesses its own characteristics, making their recovery different.

We can learn from Iraq's experience that governance transparency and the collaboration with international institutions are key factors to achieve economic sustainability. To reach that goal, the country should adopt policies related to primary sectors, agriculture, and economic and social sectors, eliminate corruption, and encourage governance transparency. While focusing on rebuilding its infrastructure, promoting environmental governance, controlling pollution, and subsidizing health and educational sectors, Iraq was able to restore investors' confidence and to achieve economic sustainability. However, weak governance and corruption limited the success of the program. While Iraq's experience offers valuable insights, Lebanon's distinct political fragmentation, lack of natural resource wealth, and regional entanglements present limitations to the direct applicability of Iraq's recovery model.

The country should also encourage investments in damaged areas and restore the trust in the country's main sectors. Furthermore, the implementation of legal frameworks and

regulations within the public sector is imperative to restore transparency and to combat corruption. On the other hand, Lebanon's direct involvement in the regional war can't restore investors' confidence, a major key of success of recovery programs.

In conclusion, and in order to achieve sustainable growth, Lebanon should implement policies that combine fundamental political and institutional transformation that control corruption, restore governance transparency, and restore investors' confidence. The lessons from Iraq are stark: technical recovery plans and international aid, while necessary, are insufficient to overcome a state that isn't willing to solve its imbalances and promote economic sustainability.

Several limitations must be acknowledged to this article. Iraq's oil dependence and centralized governance differ from Lebanon's political system and limited fiscal capacity, which may restrict the applicability of certain policy recommendations. While Lebanon's war is recent and the country hasn't applied any policy or program yet, as well as it is not willing to collaborate with international institutions, it's hard to make a clear projection for its future economic sustainability. Future research should examine the evolution of key macroeconomic indicators, particularly unemployment, poverty rates, and environmental degradation, in order to assess the effectiveness of potential recovery frameworks through empirical analysis and fieldwork.

References

- Barbier, E. B. (2013). *A new blueprint for a green economy*. Routledge. <https://doi.org/10.4324/9780203097298>
- BLOMINVEST Bank. (2019). *A historical analysis of Lebanon's public debt*. <https://blog.blominvestbank.com/wp-content/uploads/2019/05/A-Historical-Analysis-of-Lebanon%E2%80%99s-Public%20Debt.pdf>
- Bouvier, P. (2012). Humanitarian care and small things in dehumanised places. *International Review of the Red Cross*, 94(888), 1537–1550. <https://doi.org/10.1017/S1816383113000325>
- Cairns, J. (2003). War and sustainability. *International Journal of Sustainable Development & World Ecology*, 10(3), 185–193. <https://doi.org/10.1080/13504500309469797>
- CEIC Data. (2025). *Lebanon government debt: % of GDP, 1998–2023*. Retrieved October 22, 2025, from <https://www.ceicdata.com/en/indicator/lebanon/government-debt--of-nominal-gdp>
- Center for Strategic and International Studies. (2017). *Stabilization in Syria: Lessons from Afghanistan and Iraq*. CSIS. <https://www.csis.org/analysis/stabilization-syria-lessons-afghanistan-and-iraq>
- Collier, P., Elliott, V. L., Hegre, H., Hoeffler, A., Reynal-Querol, M., & Sambanis, N. (2003). *Breaking the conflict trap: Civil war and development policy*. World Bank; Oxford University Press. <https://hdl.handle.net/10986/13938>
- Collier, P., Hoeffler, A., & Söderbom, M. (2008). Post-conflict risks. *Journal of Peace Research*, 45(4), 461–478. <https://doi.org/10.1177/0022343308091356>
- Economic Research Forum. (2020). *Conflict, institutions and the Iraqi economy, 2003–2018*. https://erf.org.eg/app/uploads/2020/08/1598521034_905_1381004_1387.pdf
- European Institute of the Mediterranean. (2017). *Post-conflict reconstruction in MENA: Previous experiences and stakeholders' inclusive involvement in the future reconstruction of Libya, Syria, and Iraq*. IEMED. <https://doi.org/10.1016/j.ppees.2015.06.001>
- Georgetown Journal of International Affairs. (2023). *The end game to Lebanon's woes: IMF reform and political willingness*. <https://gjia.georgetown.edu/2023/11/10/the-end-game-to-lebanons-woes-imf-reform-and-political-willingness/>
- Hassoun, A. (2025). Sustainability amid conflict: Gaza's environmental, social, and economic struggles. *Journal of Environmental Management*, 376, 124433. <https://doi.org/10.1016/j.jenvman.2025.124433>
- Italian Institute for International Political Studies. (2020). *Syria and Iraq: Will post-war reconstruction serve water needs?* ISPI. <https://www.ispionline.it/en/publication/syria-and-iraq-will-post-war-reconstruction-serve-water-needs-25176>
- Jundi, S. (2024). The impact of armed conflict on economic growth and sustainability in South Sudan. *Journal of Developing Country Studies*. <https://doi.org/10.47604/jdcs.2826>
- Manpaa, A., Liberty, F., & Abdullahi, M. (2024). Attaining sustainable development in post-conflict societies: A conceptual and theoretical perspective from North-East Nigeria. *Global Journal of Political Science and Administration*. <https://doi.org/10.37745/gjpsa.2013/vol12n15672>
- Matsunaga, H. (2019). *The reconstruction of Iraq after 2003: Learning from its successes and failures (MENA Development Report)*. World Bank Publications.
- Mohammed, H. A., & Bakar, A. S. A. (2025). Economic consequences of the US invasion of Iraq: A comparative study using the difference-in-difference model. *Multidisciplinary Science Journal*, 8(2), 2026189. <https://doi.org/10.31893/multiscience.2026189>
- Nguyen, T. T., Grote, U., Neubacher, F., Rahut, D. B., Do, M. H., & Paudel, G. P. (2023). Security risks from climate change and environmental degradation:

- Implications for sustainable land use transformation in the Global South. *Current Opinion in Environmental Sustainability*, 63, 101322. <https://doi.org/10.1016/j.cosust.2023.101322>
- Serneels, P., & Verpoorten, M. (2015). The impact of armed conflict on economic performance. *Journal of Conflict Resolution*, 59, 555–592. <https://doi.org/10.1177/0022002713515409>
- Suarez, A., Arias-Arévalo, P., & Martinez-Mera, E. (2018). Environmental sustainability in post-conflict countries: Insights for rural Colombia. *Environment, Development and Sustainability*, 20(3), 997–1015. <https://doi.org/10.1007/s10668-017-9925-9>
- Trading Economics. (2025). *Iraq foreign exchange reserves*. Retrieved October 22, 2025, from <https://tradingeconomics.com/iraq/foreign-exchange-reserves>
- Trading Economics. (2025). *Lebanon inflation rate*. Retrieved October 22, 2025, from <https://tradingeconomics.com/lebanon/inflation-cpi>
- United States Institute of Peace. (2005). *Post-conflict stabilization and reconstruction: What have we learned from Iraq and Afghanistan?* <https://www.usip.org/publications/2005/04/post-conflict-stabilization-and-reconstruction-what-have-we-learned-iraq-and>
- Unruh, J., & Williams, R. (Eds.). (2013). *Land and post-conflict peacebuilding*. Routledge. <https://doi.org/10.4324/9781849775793>
- World Bank. (2021). *Lebanon economic monitor: The great denial (Fall 2021)*.
- World Bank. (2024). *Iraq overview: Development news, research, data*. <https://www.worldbank.org/en/country/iraq/overview>
- World Bank. (2025). *Lebanon's recovery and reconstruction needs estimated at US\$11 billion*. <https://www.worldbank.org/en/news/press-release/2025/03/07/lebanon-s-recovery-and-reconstruction-needs-estimated-at-us-11-billion>

Annexes.**Table 1.** Recovery program for Iraq

Program Title	Category	Lead Institution(s)	Core Components	Purpose / Impact
USAID Infrastructure Reconstruction Program	Basic Services	USAID, Iraqi Ministries	Water & sanitation, electricity, schools, health, agriculture	Restore essential services and boost local economic resilience
Five-Year Environmental Governance Roadmap	Institutional & Policy Reform	Ministry of Environment, UNDP	Legal reforms, pollution standards, decentralized management, local engagement	Establish environmental institutions and participatory governance
UNEP Pollution Hotspot Remediation	Environmental Remediation	UNEP, Iraqi Government	Identification and cleanup of 60+ industrial/war-related hotspots	Reduce health risks, improve environmental quality
National Solid Waste Management Plan (2007)	Urban Environmental Reform	Ministry of Environment	Policy planning, technical capacity, public education	Improve urban health and waste services
Marshlands Restoration & KBA Projects	Ecosystem Rehabilitation	Nature Iraq, UN Partners	Re-flooding, biodiversity mapping, eco-tourism, community monitoring	Restore the Mesopotamian wetlands and protect biodiversity
Mosul Public Health Recovery Program	Health System Recovery	U.S.-Iraqi Univ. Consortium	Training, rebuilding facilities, inclusive public health access	Rehabilitate war-affected health infrastructure
Legal & Economic Reforms (CPA Period)	Institutional Reform	Coalition Provisional Authority	Privatization, property law, environmental governance setup	Encourage investments in infrastructure
Green Mosul Initiative (2021–2023)	Civic Green Urbanism	Mosul Eye, UN-Habitat	Tree planting, community education, partnerships with universities and municipalities	Promote urban greening and post-conflict reconciliation
Regional Water & Environmental Cooperation	Transboundary Governance	Iraq, Iran, Turkey, UNEP	Water diplomacy, dust storm mitigation, joint environmental frameworks	Address regional environmental risks collaboratively

Source: Center for Strategic and International Studies (2017); United States Institute of Peace (2005); European Institute of the Mediterranean (2017); Matsunaga (2019) and Italian Institute for International Political Studies (2020).

Table 2. Impact of the recovery program in Iraq

Program Title	Impact and Obstacles on Iraq	Impact
USAID Infrastructure Reconstruction Program	Rapid rehabilitation of essential infrastructure; improved short-term access to services; limited sustainability due to weak coordination with Iraqi institutions and lack of maintenance capacity.	Positive with limitations
Five-Year Environmental Governance Roadmap	Strengthened legal and institutional frameworks for pollution control and environmental planning; improved stakeholder inclusion and decentralization; however, enforcement remained uneven due to administrative fragmentation.	Positive
UNEP Pollution Hotspot Remediation	Identification and partial cleanup of over 60 contaminated sites; reduced public health risks in targeted areas; technical success but limited follow-up capacity for long-term monitoring and maintenance.	Positive
National Solid Waste Management Plan (2007)	Provided a national framework for waste policy; increased public awareness and technical training at municipal levels; practical implementation varied widely across regions depending on local capacity.	Positive but uneven
Marshlands Restoration & KBA Projects	By 2008, over 60% of the original Mesopotamian Marshlands had been restored, helping to revive biodiversity and support local livelihoods. However, this progress remains vulnerable due to irregular water flows and the absence of regional water agreements.	Positive
Mosul Public Health Recovery Program	Improved access to health services in post-conflict Mosul; upgraded facilities and trained medical personnel; promoted inclusive health access, though ongoing insecurity posed challenges.	Positive
Legal & Economic Reforms (CPA Period)	Introduced market-oriented reforms and new property/environmental laws; created basic environmental governance structures; lacked local ownership, leading to limited enforcement and long-term legitimacy.	Mixed to negative
Green Mosul Initiative (2021–2023)	Reforested degraded urban spaces and promoted civic environmentalism; engaged youth, universities, and municipalities; contributed to reconciliation and post-war urban recovery.	Positive
Regional Water & Environmental Cooperation	Initiated diplomatic dialogues with Iran and Turkey on shared water resources; fostered regional awareness of dust storms and environmental risks; concrete policy outcomes still limited.	Positive but limited

Source: Center for Strategic and International Studies (2017); United States Institute of Peace (2005); European Institute of the Mediterranean (2017); Matsunaga (2019) and Italian Institute for International Political Studies (2020).