

ECONOMIC ASSESSMENT OF NATURAL RESOURCES OF THE REPUBLIC OF IRAQ

This work examines both the theoretical and practical aspects of economically valuing natural resources, beginning with an exploration of the core concept of resource rent – defined as the revenue exceeding all extraction costs and normal capital returns – and its various forms, including differential, absolute, entrepreneurial, and regulatory rent. These theoretical principles are then applied to the context of Iraq, where the analysis extends beyond its famous oil reserves to evaluate the economic value of its water resources, agricultural lands, and minerals like phosphates and sulfur.

Ultimately, the study highlights Iraq's critical economic dependence on oil and underscores the urgent need for diversification by integrating unused assets, such as associated gas, into economic circulation while addressing severe challenges like water scarcity and land degradation.

The economic assessment of natural resources is a complex process used to determine their value as assets for a nation, a company, or society. It moves beyond simply quantifying physical stocks to understanding their monetary worth, which is crucial for informed policy-making, sustainable management, and national accounting. At its core, this assessment revolves around the concept of resource rent. Here is an overview of the key concepts and methods used in the economic assessment of natural resources.

Resource rent is the excess value generated by the extraction or use of natural resources, calculated as the profit remaining after deducting all exploration and production costs and the normal return on invested capital.

This rent is classified into several types depending on its source: differential (Ricardian) rent, caused by differences in resource quality and availability; scarcity rent, arising from the finiteness of non-renewable resources and taking into account the costs of future generations; entrepreneurial rent (quasi-rent), created through innovation, technological advances, or effective management; and regulatory and locational rent, formed under the influence of political decisions, governance regimes, and the provision of access to specific territories [1].

Iraq's natural resources and environment each have a part to play, and they affect each other. The country has a ton of oil, which obviously helps the economy big time. But keeping the environment healthy is also

super important for the long haul. Places like the Mesopotamian wetlands and forests are key because they clean water, give animals homes, and help control the weather.

We should also pay attention to the deserts, because they affect the air and might have some cool, unusual resources too. Iraq has a ton of resources, so it's a major player in the energy game. But, the economy is way too dependent on oil. When we look at what Iraq is worth, we need to consider water, farmland, gas, and minerals, not just oil [2].

We should figure out how much these things are worth, how we're using them, and what they could be used for. This will show us how to handle them in a way that helps the country grow without ruining everything. The oil business is huge in Iraq, making up around 90% of the government's money and 40% of the country's total income. Iraq has a crazy amount of oil, like the fifth largest amount in the world. It's mostly in the south and north parts of the country. They're pumping out a lot of oil every day, and they want to pump out even more. All this oil is worth a fortune, but it also means Iraq's economy is at the mercy of oil prices. In the past, Iraq burned off a ton of gas because they didn't have the equipment to capture, process, and move it. This was a huge waste Iraq has a good amount of gas. Getting the gas business going could help Iraq generate electricity and maybe sell some gas to other countries. This should be a top priority. While oil is king in Iraq, the country's future depends on handling other resources the right way. Access to water is the biggest issue. Iraq gets most of its water from the Tigris and Euphrates rivers, which means it's in trouble if something happens upstream or with the weather. Other countries building dams and not managing water well in Iraq have led to a water shortage.

This hurts farming, people's health, and the stability of the country. Iraq has a lot of farmland, like the Mesopotamian Plain. But years of bad water management, salty soil, and old farming methods have made the land less productive. Now, Iraq has to import a lot of food. Getting the farming industry back on track with better irrigation, farming techniques, and fixing the soil is important for food and creating jobs. Besides farming, Iraq has a lot of minerals like phosphates, sulfur, gypsum, and quartz [3].

Developing these could lead to factories that make things like fertilizer and construction materials. This would help Iraq depend less on imports, make money from exports, and create jobs, leading to a more stable economy.

To sum it up, Iraq needs to deal with the water shortage, update its farming methods, and make use of its minerals. If it does these things, it will rely less on oil and be ready for whatever the future holds.

Table – Economic assessment of Iraq's natural resources

Resource	Estimated potential	Current contribution and use	Constraints and risks
Crude oil	145 billion barrels (proven)	40% of GDP, 90% of government revenue. Production: 4.5 million bpd	Price volatility, OPEC+ quotas, instability, outdated infrastructure
Natural gas	130 trillion cubic feet (proven)	Mostly flared. Severe electricity deficit	Lack of infrastructure, disputes with investors, environmental damage from flaring
Water	Tigris and Euphrates rivers (declining flow)	Critical for agriculture (70%), drinking water, and industry	Upstream dams, climate change, inefficient irrigation, pollution
Agricultural land	9 million hectares of arable land	5% of GDP. High dependence on food imports	Water scarcity, soil salinization, outdated methods, underinvestment
Minerals	Large deposits	Weakly developed, minimal contribution	Weak regulation, need for infrastructure and investment, security threats

The Iraqi economy faces profound systemic challenges, chief among them being the "resource curse." This manifests as a crippling dependence on oil revenues, creating a vulnerable monoculture economy subject to global price shocks. The concentration of wealth in the hydrocarbon sector has stifled the development of non-oil industries and exacerbated governance issues, including corruption and inefficient bureaucracy, which undermine sustainable economic management. Compounding this is the existential threat of severe water scarcity, which jeopardizes agricultural output, risks displacing populations, and can fuel social unrest [2].

Further obstacles stem from decades of conflict and underinvestment, which have resulted in critical infrastructure deficits across the oil, gas, water, and electricity sectors. This degraded capacity directly limits economic productivity and growth. These physical challenges are intertwined with a difficult governance and investment climate, where political instability, bureaucratic inefficiency, and corruption persist. This triad discourages the foreign direct investment (FDI) essential for modernization and diversification, perpetuating a cycle of underdevelopment.

A strategic and urgent diversification of the economy is paramount. This should prioritize developing the gas sector by ending flaring and utilizing associated gas for domestic power, thereby stabilizing the electricity grid and saving on imports. Simultaneously, investment in value-added industries like petrochemicals and fertilizers would capture more value from

hydrocarbons, while revitalizing agriculture through modern irrigation and salt-tolerant crops can enhance food security and create jobs. Addressing the water crisis must be a national priority, requiring vigorous diplomacy for transboundary agreements alongside major investments in national water management, conservation, and wastewater reuse infrastructure [3].

Fundamental to all efforts is the improvement of governance and the investment framework. This involves reforming regulatory environments for both the mining and hydrocarbon sectors to attract ethical investment while safeguarding national interests. Strengthening institutions for transparent revenue management, such as a sovereign wealth fund, is crucial to channel oil wealth into productive, long-term investments. Finally, direct investment in human capital and technology is essential; resource revenues must fund education and vocational training to build a skilled workforce, while adopting advanced technologies in resource extraction and water management will drive efficiency and sustainability [4].

Iraq's vast natural resources present a formidable economic opportunity. However, the current model of over-reliance on crude oil exports is unsustainable and risky. The true economic assessment reveals that Iraq's greatest assets – its oil and gas – are undermined by its greatest liability: the mismanagement of water and the failure to diversify. Future prosperity hinges on a fundamental strategic shift. By treating gas and water as critical strategic resources, by investing in agriculture and minerals, and by improving governance, Iraq can transform its resource wealth from a source of vulnerability into a foundation for a resilient, diversified, and sustainable economy. The path forward requires not just technical investment, but decisive political will and long-term vision.

LITERATURE

1. Bahtedh, H. A. Ecological capital of Iraq: general provisions and accounting principles // Proceedings of BSTU. Series 5, Economics and Management, 2022. No. 1 (256). PP 152–159.

2. The World Bank. Iraq country climate and development report (CCDR). 2023. URL: <https://hdl.handle.net/10986/3825>(date of access 04.02.2026).

3. Food and agriculture organization (FAO). Iraq: FAO country programming framework, 2020-2024. URL: <https://www.fao.org/iraq> (date of access 02.02.2026).

4. Republic of Iraq ministry of planning // National development plan, 2024-2028. URL: <https://mop.gov.iq> (date of access 02.02.2026).