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- IRAQ'S POWER CONUNDRUM
- KURDISTAN REGION ELECTRICITY REFORM AND THE "RUNAKI" PROJECT
- ASSESSING THE IMPACT OF AGRICULTURAL POLICY ON FOOD SECURITY IN IRAQ

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TABLE OF CONTENTS

PM Sudani opens a new gas-powered electricity station in Salah al-Din Governorate. (Source: Prime Minister Media Office)

Iraq's power conundrum: A multifactorial approach to ensuring reliable electricity supply and achieving energy security

Ahmed Tabaqchali

INTRODUCTION

Every year as summer approaches, or whenever the U. S. waivers for the imports of Iranian electricity and gas come for renewal, or if the prospect of a change in U.S. policy is raised, the subject of addressing Iraq's electricity shortages is revisited with almost the same set of proposed solutions. Most are focused on replacing Iranian gas imports by domestic gas sources through greater capturing of flared gas, or by gas imports from other sources such as pipeline imports from Turkmenistan, or Liquid Natural Gas (LNG) imports from Qatar; as well the direct sourcing of electricity such as imports from Jordan, Turkey and the GCC; and finally, the use of renewables such as solar energy.

Each of these solutions can play a meaningful part in addressing the country's electricity shortages. However, the approach employed so far has major shortcomings, in that it mostly aims to close the current power supply-demand gap and is anchored by a simplistic approach to energy independence that is predominantly viewed from the prism of the U.S. -Iran conflict. Moreover, it fails to address the essential deficiencies of Iraq's power grid, compounded by a failure to appreciate that the supply-demand gap, stemming from these deficiencies, is increasing. This is made worse by not considering the long-term demand drivers arising from population growth, the reconstruction of the country after decades of conflict, and from increased domestic consumption patterns.

This paper aims to unpack Iraq's power conundrum first by reviewing the deficiencies of its power grid and the long-term demand drivers that need to be taken into consideration; and then argues that the above solutions should be built upon to become interconnected parts of an integrated overall long-term strategy, in other words a multifactorial approach and not the current scattershot set of solutions. An upcoming companion paper will take a deeper dive into a subset of the current analysis.

Prime Minister Mohammed Shia Sudani during a recent visit to Iraq's Ministry of Electricity. (Source: Prime Minister Media Office)

Notes:

- The terms electricity and power are used interchangeably. The data for electricity are for Iraq excluding the Kurdistan Region of Iraq (KRI), as these are based on data provided by federal Iraqi authorities, in particular the Ministry of Electricity (MoE), that do not include the KRI in their reports.
- It should be emphasized that the data for gas and electricity are annual figures, and thus represent average consumption, production and export for any given year – encompassing the extreme peak summer period where each is substantially higher than the average.
- Electricity capacity, production and demand is measured in gigawatts (GW), while electricity generation, and consumption over time is measured in terawatt-hours (TWh).[2] The relationship between the two, is that 1 GW generation (or consumption) for 24 hours a day for 365 days generates (or consumes) 8.76 TWh a year.
- Figures are rounded for ease of reading, and thus might not add up fully.

The Power grid's structural and financing deficiencies

Understanding the deficiencies of Iraq's power grid requires examining its components consisting of the power plants that generate electricity, the transmission systems that transport this electricity to population centers; and the distribution networks which then distribute this electricity to end users. The prior decades of conflict, rolling dysfunction of successive governments, coupled with poor maintenance negatively affected all three aspects of the grid. These are further exacerbated by mismanagement, lack of coordination between ministries, and the county's corrosive corruption.

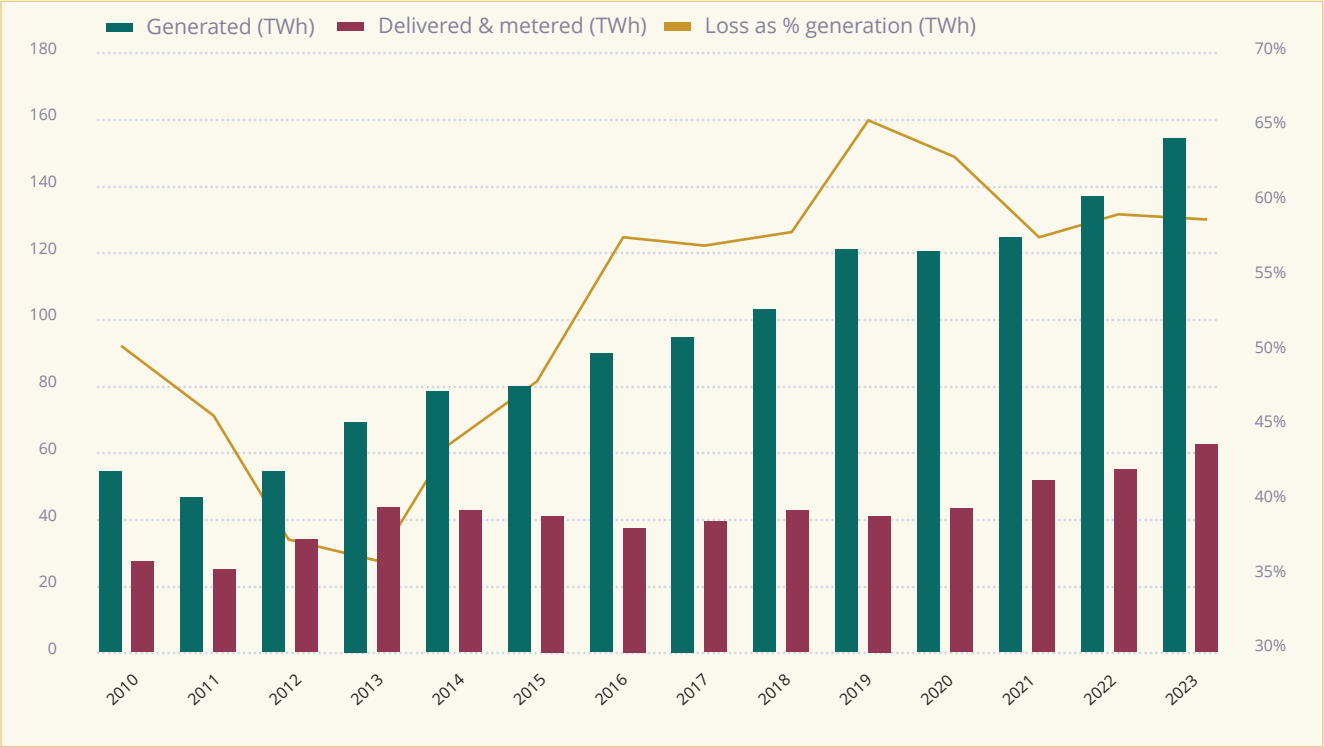
These start with the generation stage with a huge gap between nameplate capacity, i.e. the maximum sustainable power output under ideal conditions, and effective capacity, i.e., actual output. A gap always exists between these two, but in Iraq it is significantly larger than elsewhere in the region. In 2023, the nameplate capacity was 40.6 gigawatts (GW),[3] more than enough to meet demand estimated at 22.7 GW, but effective capacity throughout the year was a mere 17.9 GW, i.e. only 44.2% of nameplate capacity was effectively used for generating electricity. The main reasons include: (1) the lack of appropriate fuel supply, in particular gas, which leads to substitutions by crude or heavy fuel oil with the result that generating plants run at much less than capacity; (2) poor maintenance; and (3) poor provision of cooling facilities to prevent generating plants' overheating. Thus, a nameplate-effective capacity gap of 22.6 GW, leads to supply-demand gap of 4.7 GW.

This gap is widened significantly by electricity losses due to the deficiencies of the transmission systems and the distribution networks, in that the electricity generated does not mean that it was actually delivered to end users due to substantial losses during the delivery process, with the distribution networks accounting for the bulk of these losses. Two primary reasons account for such losses, while natural and common, yet both are significantly higher than for regional peers. The first is technical losses due to age and poor maintenance.

The second is non-technical losses, or electricity consumed but not metered and thus not billed. This is due to theft, faulty meters, and meter tampering among others–estimates for these vary between a third[4] to two-thirds[5] of total losses. In 2023, the effective generated electricity of 17.9 GW produced 157.2 TWh, but only 63.9 TWh was delivered to end users and billed, for a loss of 59.3% (Figure 1). Therefore, the supply-demand gap of 4.7 GW has widened to 15.4 GW; or to 10.7 GW under the assumption that non-technical losses account for a third of total losses.

> *The prior decades of conflict, rolling dysfunction of successive governments, coupled with poor maintenance negatively affected all three aspects of the grid. These are further exacerbated by mismanagement, lack of coordination between ministries, and the county's corrosive corruption.*

Figure 1: Electricity: generated, delivered, and losses 2010-2023



Sources: Ministry of Electricity annual reports 2010-2023, available at: https://moelc.gov.iq/?page=2879

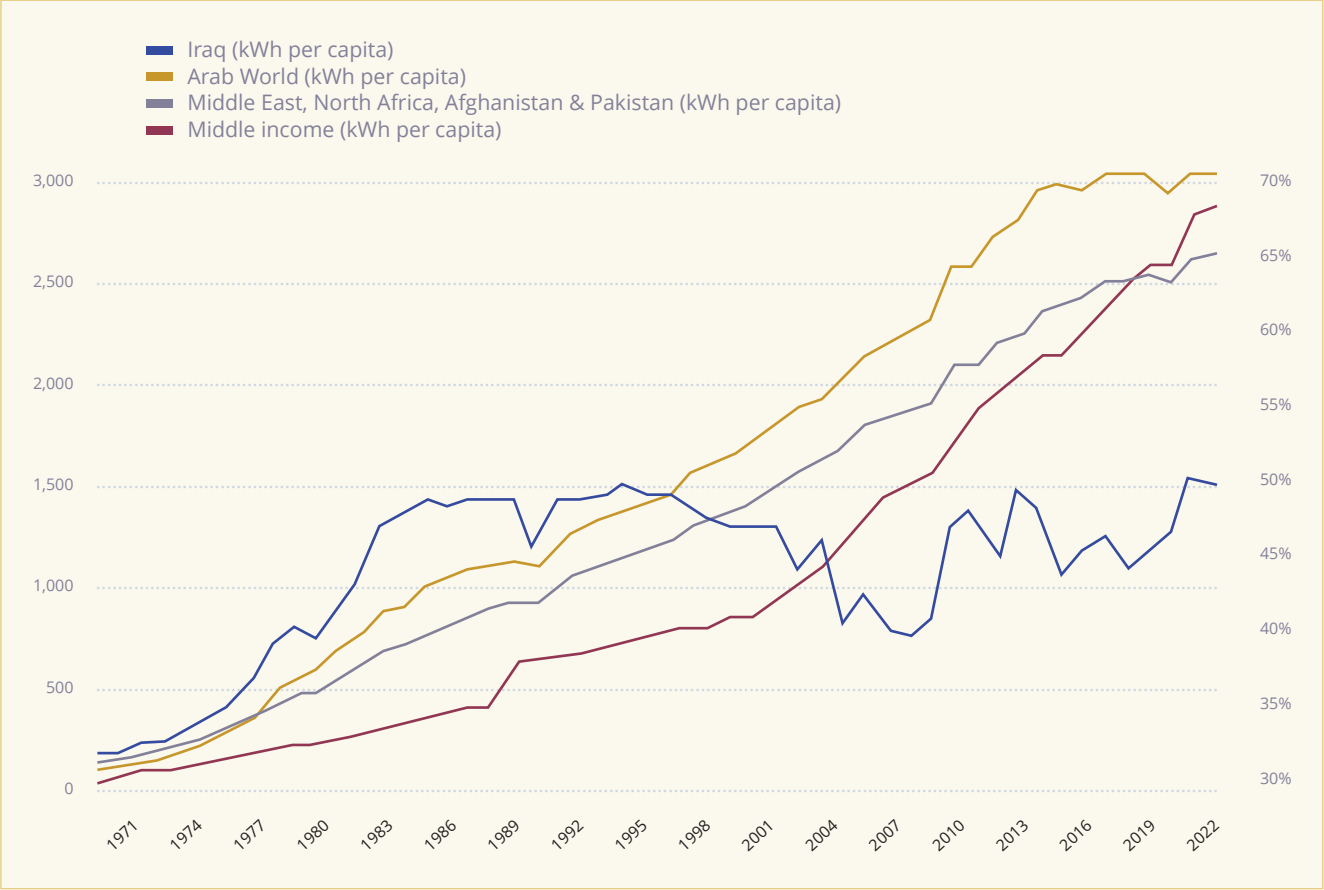
For consumers, the electricity supply-demand gap is mostly met by a combination of demand suppression, and by electricity sourced from neighborhood generators –[6] which have grown over the years, operate with subsidized fuel and are noisy, polluting, and expensive.

The grid's structural deficiencies are compounded by its high costs and low revenue generation, with the gap between the two increasing, which places increasingly high demands on the federal budget and in the process risks the grid and the budget's fiscal sustainability. Direct operating costs[7], such as MoE's operating budget, electricity purchases from independent power producers (IPP), electricity and gas imports, domestic fuel usage, and so on, are often more than 10-times larger than revenues generated from electricity sales. These costs are increased further by non-direct costs arising from the provision of domestic gas, crude, and fuel oil at highly subsidized fixed prices. The substantial losses during the transmission and distribution stages (Figure 1), mean that only a small portion of the electricity generated is billed, 40.6% in 2023; and the sector's poor collection history means that about half of what is billed is collected.

Therefore, collected revenues based on electricity consumption tariffs, that are uncommercial to start with, do not cover the grid's costs. As such the generation and delivery of electricity needs continued financing to cover the revenue-cost shortfall, as well as for needed investment in the grid, both of which are covered by the federal budget, in the process increasing federal expenditures.

Finally, the gird's structural and financing deficiencies are amplified by long-term demand drivers. The first of which is population growth of 2.3%, followed by increased demand for electricity stemming from the reconstruction activity following decades of conflict, in particular the current large-scale housing developments encompassing new communities, mixed-use developments, and high-rise buildings. While, the third driver is increased electricity consumption as the country's stability takes hold and domestic consumption patterns begin to catch up with those of peers in the region. The delivery of electricity to end users, as measured by kilowatt hours (KWh) per capita,[8] shows that domestic consumption in 2022 recovered to 1995 levels, and is about a half the average of peers in 2022 (Figure 2) underscoring the potential catch-up over-time and thus increased long-term electricity demand.

Figure 2: Delivery of electricity per-capita



Source: World Bank, data as of 2022, available at: https://data.worldbank.org/indicator/EG.USE.ELEC.KH.PC?locations=IQ-1A-ZQ-XP

Closing the Gap

The growing electricity supply-demand gap means that the goal posts are continuously moving for bridging this gap and, as such, ensuring reliable electricity supply and achieving energy security, is a long-term process based on a multifactorial approach to the power conundrum. Such an approach should encompass power generation, transmission and distribution, as well as their fiscal sustainability by addressing the structural and financing deficiencies of the power grid. These should take place along three broad areas: the first and the one that receives most attention is power generation, followed by power delivery, and the grid's fiscal sustainability.

Power generation covers direct electricity imports, installing additional generating capacity, upgrading existing generating capacity, and securing fuel sources for electricity generation- especially gas, followed by solar energy. Direct electricity imports include those from neighboring countries, and within Iraq from the KRI. In the early 2000s, these were predominately from Iran, followed by small amounts from Turkey and the KRI. Imports from Iran started in 2004, peaked at 0.94 GW in 2012, and by the end of 2023 declined to 0.36 GW as a consequence of Iran's shortcomings[9] in meeting its domestic demand[10]. Imports from the KRI started in 2013 at 0.29 GW and by 2023 were 0.42 GW; however they have been uneven. Imports from Turkey ended in 2016 at 0.27 GW. Diversification into other regional suppliers, started in late 2018, with the signing of a memorandum of understanding with Jordan to establish an electrical interconnection network for the import of 0.15-0.20 GW beginning in September 2020.[11] In early March 2024 imports began starting with 0.04 GW that eventually would grow to 0.15-0.20 GW. Additionally, an agreement was signed in late-2019 with the Gulf Cooperation Council Interconnection Authority (GCCIA) for an initial 0.50 GW to be imported from Kuwait rising to 1.90 GW over subsequent years through building a common power grid, with implementation expected in 2025[12]. Other agreements signed, but not implemented yet, are with Turkey[13] for the supply of 0.60 GW, and with Saudi Arabia for initial imports of 0.40 GW that will eventually reach 2.00 GW.[14] This collection of separate projects should be developed into an integrated project that links Iraq's power grid[15] into the GCC's regional power grid by addressing the considerable technical challenges involved in integrating national grids. Electricity imports from the KRI should be combined with gas imports from the KRI, as part of a long-term resolution to the twin interlinked conflicts over the KRI's share of the federal budget, and over the development of the country's oil and gas resources through a federal oil and gas law. Ultimately electricity imports from the region have a ceiling on potential supply, as all these countries share the same peak-demand during summer months, thus limiting export availability.

The government's plans for generating capacity include 15 GW in new capacity, and 13 GW from current capacity through efficiency enhancements.[16] However, considerable work needs to be undertaken to move these plans beyond the aspirational stage, to secure sustainable funding, and crucially to secure the needed fuel, in particular gas, for power generation. Domestic sourcing of additional gas supplies falls into three categories. The first is capturing all flared gas such as the expansion plans of the Basra Gas Company, and the deal with Total Energies which includes capturing flared gas.[17]

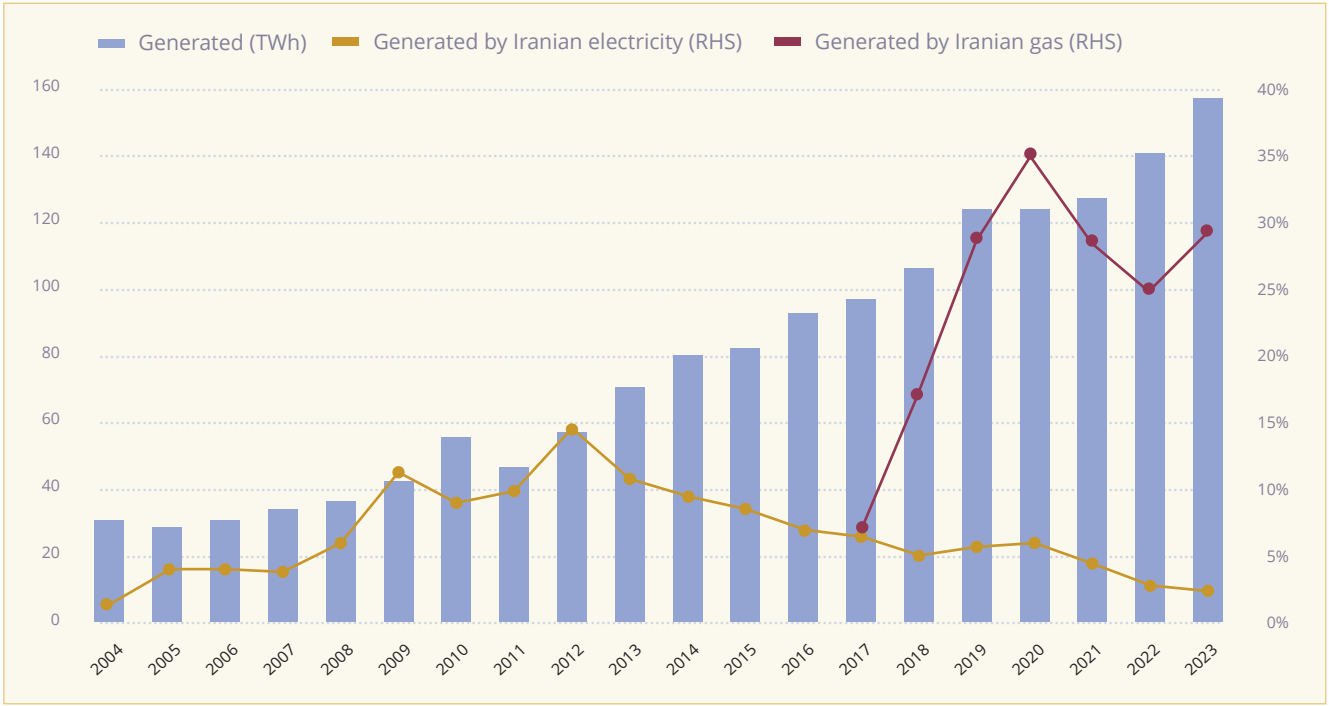
The second is accelerating the development of gas focused fields, by resolving the chromic delays in developing these untapped sources.[18] The third is realizing the KRI's gas potential through a resolution of the issues hindering its development through a federal oil and gas law (above), for the KRI to be in a position to exports about 5.4 billion cubic meters (BCM) of gas a year starting in 2030.[19]

> *Electricity imports from the KRI should be combined with gas imports from the KRI, as part of a long-term resolution to the twin interlinked conflicts over the KRI's share of the federal budget, and over the development of the country's oil and gas resources through a federal oil and gas law.*

International sourcing of additional gas supplies takes the form of pipeline gas imports, and LNG imports. Gas pipeline imports started from Iran in 2017,[20] which steadily increased until 2020 peaking at 10.3 BCM, before decreasing to 7.9 BCM by the end of 2024 due to Iran's shortcomings in meeting its domestic demand. This was followed in 2024 with a deal for pipeline gas imports from Turkmenistan for about 5.5 BCM annually, which is dependent on overcoming geographical and other challenges –as this gas would be exported to Iran,[21] after which Iran releases the equivalent amount of gas from its production to Iraq. Other than Iran, Turkmenistan was the only viable pipeline exporter that had the production and spare capacity to export gas to Iraq, but the geographic and other challenges encountered underscore the difficulty of any other potential pipeline exporter such as Russia or Azerbaijan.

Thus, an alternative is LNG imports from Qatar, the U.S., or Australia assuming that they have the spare capacity to meet Iraq's needs, or from Russia which has spare capacity, but importing and using LNG require significant infrastructure developments.[22]

Figure 3: Iranian contributions vs generated electricity



Sources: MoE annual reports 2010-2023: https://moelc.gov.iq/?page=2879 and MoE presentations, Tavanir Holding Company 2016 report: https://policy.asiapacificenergy.org/sites/default/files/Statistical%20Report_red.pdf

It should be pointed out that securing these alternative gas sources does not negate the need for Iranian gas even though it is declining. Iran's gas exports of 8.8 BCM in 2023 accounted for 29.0% of generated electricity, while gas imports from the KRI and Turkmenistan, under ideal conditions, could be 10.9 BCM by 2030, or about 23.8% more than imports from Iran in 2023. But by 2030, the supply-demand gap would have increased meaningfully, thus underscoring the need for all sources of gas, including from Iran.

Increased domestic and international gas supplies should be complemented by upgrading MoE's current gas power generating plants from mostly simple-cycle combustion turbines (SCCT) to combined-cycle combustion turbines (CCCT) thereby generating significantly more electricity from the same quantities of gas. While such an upgrade is included in the government's 13 GW planned current capacity increases, however, this needs to move beyond the planning stages to implementation. Also needing a move to implementation is solar energy fueled power generation, which is planned to contribute 3.5 GW of the planned 15 GW in new generating capacity.[23] Meanwhile, TotalEnergies, has started building the first phase of a 1.0 GW solar energy plant, with an initial 0.25 GW that would be fully operational by 2028.[24]

Complementing the power generation area is the second area, which receives less attention but is just as essential, which is ensuring the maximum utilization of the power generation provided in the first area. In other words, utilizing the power delivered by new generating capacity, by enhanced existing generating capacity, by new sources of gas and solar energy, and by electricity imports; in order to minimize the losses of up 60% from current transmission systems and distribution grids (Figure 1). However, this requires the government's planned $11.5 billion medium-term investment in transmission and distribution to move to the immediate term, and implementation, to increase its scope, and to secure sustainable funding.[25]

However, implementing the first and second areas would not ensure the sector's fiscal sustainability, nor would they remove the drain on the budget without embarking on comprehensive reforms of both electricity tariffs, and of the system of fuel and power subsidies. However, this third area, vital as it is, follows on from the country's post-2003 political economy, and thus is the most difficult to implement.[26]

Conclusion

The analysis of the power gird's structural and financing deficiencies argues that Iraq's power conundrum is real, and could develop into a full-blown crisis over the coming years if the underlying causes are not addressed with urgency. However, the usual framing of the conundrum, both in diagnosis and in proposed solutions, has been overly simplistic and has not addressed, nor can it address its root causes. The paper argues for a multifactorial approach that encompass the power grid's spectrum of generation, transmission and distribution, as well as the grid's fiscal sustainability. However, this is a long-term process with many moving parts, requiring a dedicated, persistent, and long-term commitment by Iraq's political elite, irrespective of who emerges to form the new government post the upcoming parliamentary elections. Nevertheless, the same scattershot set of

solutions for electricity shortages will likely be championed by the political elite to further their chances in these elections. The paper aims to counterbalance any such solutions proposed during the elections, and to frame the public debate within the context of the multifactorial aspects of the conundrum and its solutions – even though the needed commitment from the elite has, so far, been lacking, and expecting it to happen is within the realms of fantasy.

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Runaki Staff working on the region's grid in one of the Erbil's neighbourhood. (Source: www.x.com/Runaki_gov_krd)

Kurdistan Region Electricity Reform and the "Runaki" Project

Mohammed Hussein

The Kurdistan region of Iraq (KRI) has struggled with electricity shortages for decades. To address this challenge, the Kurdistan Regional Government (KRG) established the Runaki Project, which means "light" in Kurdish. Launched in 2024, it aims to manage the region's power sector systematically and ensure 24-hour electricity for households and businesses by the end of 2026. If successful, it could ultimately end the widespread reliance on highly polluting diesel generators and replace them with supply from natural gas-power plants.[1] However, there are serious societal concerns around the costs for consumers associated with the new system, which presents a major challenge to the project's long-term success.

This report analyzes the Runaki Project and positions it as a potential structural response to the KRG's endemic electricity shortages. It examines the underlying incentives and institutional constraints that might shape the project's design and implementation.

> *If successful, Runaki could ultimately end the widespread reliance on highly polluting diesel generators and replace them with supply from natural gas-power plants.*

It further identifies the winners and losers of Runaki and elaborates on the fiscal, political, and distributional challenges that will influence its outcomes and sustainability.

The KRI's Power Deficits

The Runaki Project is designed to address the long-standing mismanagement of the electricity sector in the KRI. Before the program launched, the KRG purchased electricity from private producers at high generation costs and sold it to consumers at heavily subsidized rates, often without successfully collecting on consumer bills. Because the KRG was unable to achieve cost recovery in the power sector, it could not cover the fees and feedstock costs of the private power plants that supplied the national grid. As a result, it accumulated more than 4 billion USD in arrears to these private power producers through 2021. This accounted for more than one-third of the KRG's total annual estimated expenditures. In addition to unsustainable costs for the government, electricity coverage was poor.[2] Figure 1 shows the pervasive mismatch between electricity demand and supply both during peak demand times—in hot summer and cold winter—and in moderate seasons.

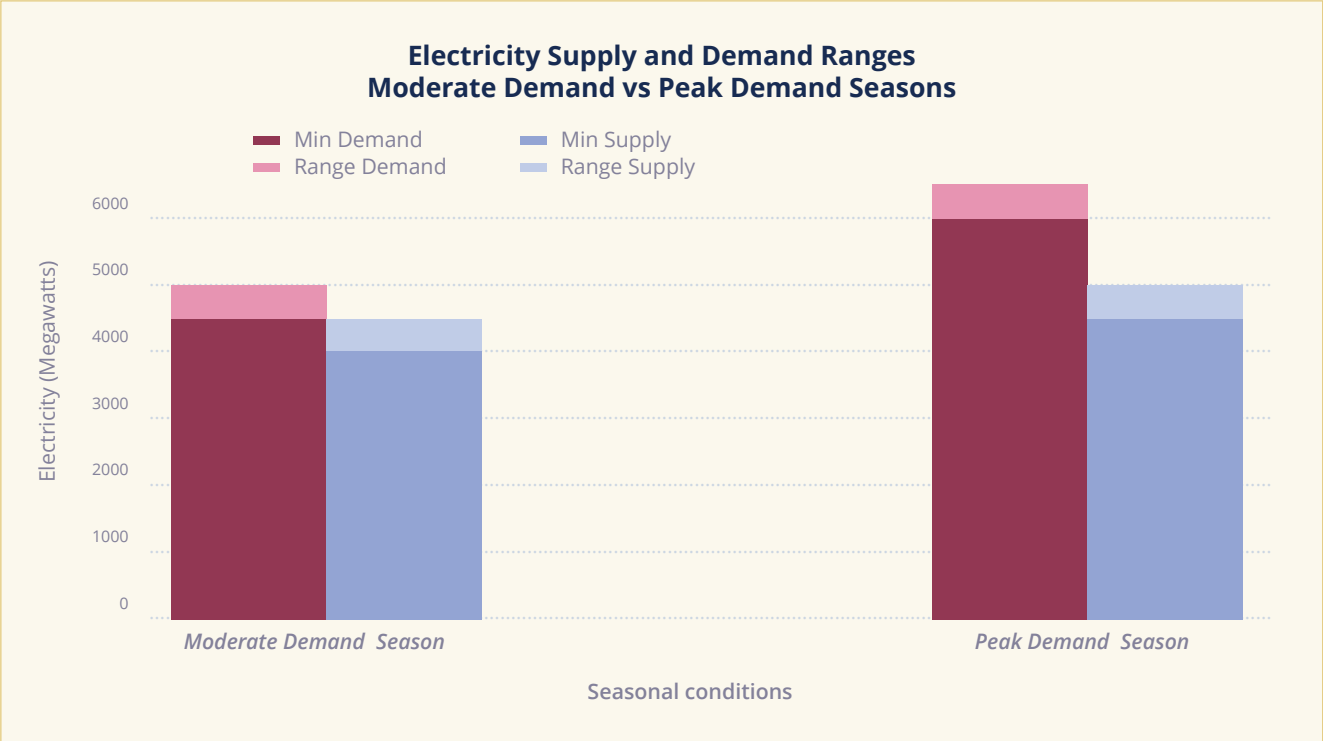
The endemic supply shortages are both a result of and a cause for the KRI's under-developed power sector and bill-collecting capacity. According to KRG Minister of Electricity Kamal Mohammed, the total power production on the national grid in May 2025 totaled between 4,000 megawatts (MW) and 4,500 MW. However, the power plants in the KRI have the technical capacity and infrastructure to produce up to 8,189 MW.[3]

Under production is largely due to insufficient feedstock, in this case natural gas. As a result, private power-producers cannot meet overall demand.[4] Because the KRG cannot afford to buy all of what is generated, the companies exported some of their produced electricity—more than 1,000 MW—to Iraqi governorates outside the KRI including Kirkuk, Nineveh, and Diyala.[5]

The power sector in the KRI is mismanaged in two important ways. First, many consumers either underpay or do not pay at all for national grid electricity. Second, they pay for very expensive diesel generators that supply only a short period of daytime electricity to fill in the gaps left by insufficient national grid supply. The International Monetary Fund (IMF) estimated distribution and bill collecting losses in 2024 at 55 percent across Iraq as a whole.[6] If properly implemented, Runaki would theoretically address these issues by improving bill collection and achieving some degree of cost recovery through carefully calibrated subsidies targeting low-income consumers.

Additionally, the environmental impact of power sector mismanagement is equally as harmful as the financial costs. Diesel generators located in residential neighborhoods and business districts emit large quantities of carbon dioxide (CO_2), nitrogen oxides (NOx), sulfur dioxide (SO_2), carbon monoxide (CO), and particulate matter (PM2.5).[7] While Runaki does not phase out electricity generated by fossil fuels, it will significantly reduce emissions by shifting generation from diesel to natural gas and move emissions of other harmful byproducts to less-populated areas. It also offers public health benefits by eliminating the noise pollution made by the generators.

Figure 1 demonstrates electricity supply and demand ranges during moderate and peak demand seasons in the KRI



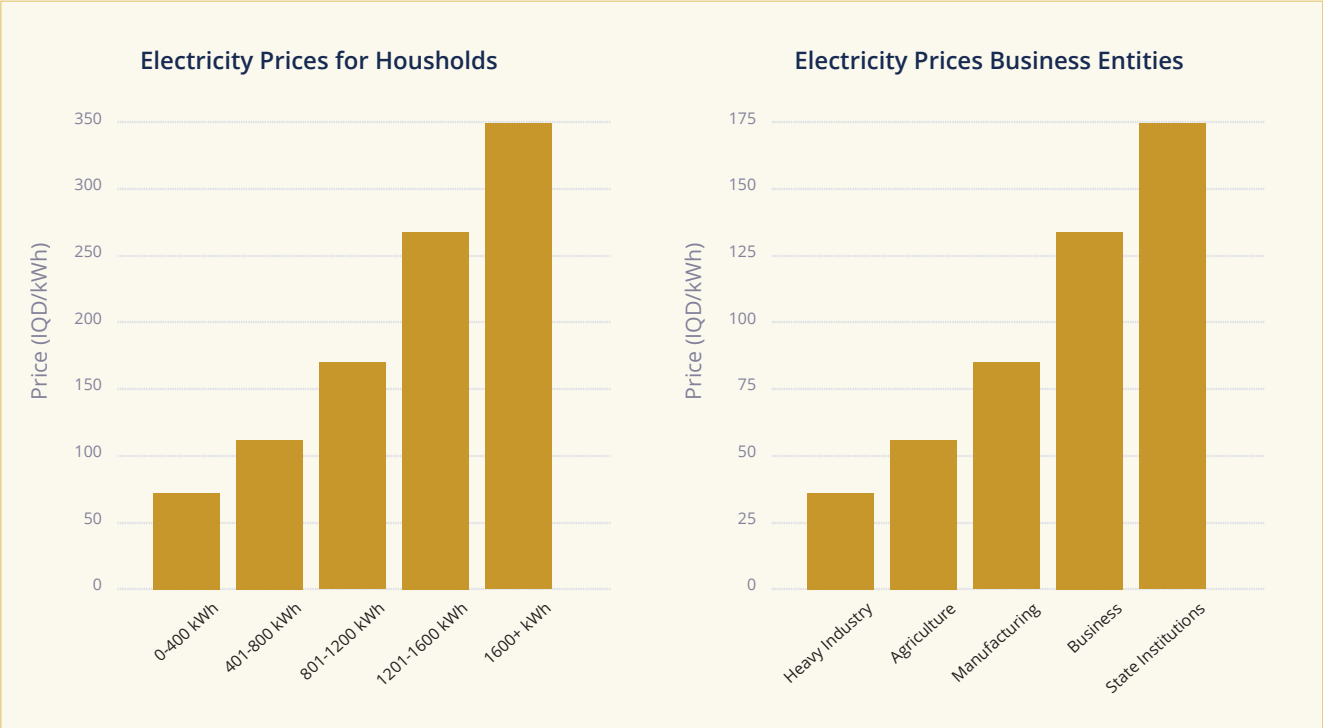
Source: The supply demand figures are collected by the author from various sources.[8]

How Runaki Works

Runaki focuses on managing electricity consumption through the use of smart meters, which digitalize electricity bill collection. This system enables real-time monitoring of electricity usage and allows consumers to track their consumption and adjust their usage patterns accordingly. It replaces the previous flat-rate system with a tiered billing structure that incentivizes efficient energy consumption. In sum, Runaki achieves 24-hour electricity by lowering overall demand by imposing higher costs for higher consumption.

Most households have historically purchased a large portion of their electricity from private generator operators. According to KRG officials, the project aims to provide reliable electricity for low- and middle-income households who typically consume less than 800 Watt-hours (Wh) per month, which replaces the combination of subsidized grid electricity and diesel generators. As of July 2025, 2 million residents reportedly benefit from 24-hour electricity, mostly in the centers of the major cities.[9] The KRG's goal is to extend this to all of the KRI's 6.4 million residents by the end of 2026. So far, 1,260 of the KRI's estimated 7,354 diesel generators have been shut down as part of the program, according to officials.[10]

Figure 2 illustrates the progressive electricity pricing for households/business entities



Source: The data in the Figure 2 is taken from the KRG's website.[11]

As Figure 2 shows, the prices for households are progressively structured to charge more for higher consumption, ranging from 72 IQD (USD)/kWh for low usage and up to 350 IQD (USD)/kWh for high usage. For business entities, rates vary based on sector: enterprises in agriculture pay 60 IQD/kWh, heavy industry pays 125 IQD/kWh, manufacturing pays 160 IQD/kWh, and general business pays 185 IQD/kWh. According to some KRG estimates, 64% of households currently fall within the first two tiers of the progressive pricing by consuming no more than 800 kWh/month; [12] however, these estimates have yet to be independently verified.

Concerns about Financial Burdens

Consumers are used to paying either just 18 IQD/kWh under the previous system for national grid electricity or getting it for free by dodging their bill entirely. The burden these new costs place on ordinary families is significant. Almost all the opposition parties, which collectively hold more than 27% of the seats in the Kurdistan Parliament, have publicly rejected the proposed tariff model. Instead, they want to maintain the current semi-flat rates or provide extensive subsidies for low-income households. Adnan Said Hussein, an MP from the New Generation Movement in the Kurdistan Parliament, said in a statement: "For households who would have to buy electricity at 350 IQD per kWh, they would end up paying 19 times more than what they currently pay under the existing system. This is unbearable.

Civil servants, who already lose the equivalent of about two months' salaries each year due to the corruption of the ruling elite, simply cannot afford this?".[13]

> *Unless the KRG clearly explains and implements relief for low-income households, the new system will effectively entail a massive shifting of the cost of electricity from the government to the people.*

Thus, the financial sustainability of subsidies represent a delicate balancing act, given outspoken opposition and the KRG's budget constraints. Even if Runaki represents a necessary step forward in the KRI's electricity sector, it faces significant implementation challenges and the most visible one is political polarization related to the project.

The KRG insists that the government will find ways to alleviate the financial burden for consumers, particularly for low-income families, but details on the scale and nature of this relief have been very scarce. Authorities have an obligation to clarify these measures and to implement them urgently. Otherwise, the new system will effectively entail a massive shifting of the cost of electricity from the government to the people, with the most vulnerable citizens suffering disproportionately.

Potential Benefits

If the government succeeds in alleviating the burdens placed on vulnerable citizens, Runaki could have far-reaching implications for a wide range of stakeholders with substantial benefits for households and businesses. Small and medium enterprises (SMEs) and service providers could enjoy more reliable electricity supply, operate more efficiently, minimize costly downtime, and improve their competitiveness. Lower energy costs compared with the diesel generators supports better financial sustainability and growth.

Secondly, for the broader population, Runaki is expected to generate significant environmental benefits by replacing diesel generators with natural gas power plants. "The main source of pollution in Kurdistan is certainly these diesel generators, followed by cars. Once these generators are shut down, we will eliminate a big source of the polluting particles and cancer-causing substances produced by diesel, in addition to getting rid of their constant noise," said Yerivan Shaswar, an academic and environmental activist who works on air pollution in the KRI.[14]

> *If KRG authorities can clarify and effectively implement subsidies for vulnerable citizens, Runaki's substantial public benefits should help build popular support and sustain momentum.*

Results of a survey from the Kurdistan Region Statistics Office (KRSO) shows the generators consume about 444 million liters of diesel per month during peak times.[15] A diesel generator emits approximately 1.27 kg CO_2 per kWh of electricity produced,[16] while natural gas power plants emit approximately 0.49 kg CO_2 per kWh.[17]

Moreover, some fuel products consumed by the generators in the KRI are mixed with lead, making it even more harmful to public health than standard fuel.[18] In total, Runaki is expected to reduce the KRI's CO_2 per kWh by at least 61 percent.

Third, for the KRG, the project could strengthen the government's fiscal and governance position. It reduces fiscal pressures by phasing out costly fuel subsidies resulting from unpaid bills and electricity theft.

Runaki is expected to address this issue by enhancing bill collection and implementing more systematic power consumption. The KRG used to pay more than 2.6 trillion IQD (about 2 billion USD) per year to the private electricity producers that supply the KRI's grid, while it collected about 0.6 trillion IQD (about 462 million USD).[19]

Employment and Market Impacts

The consequences for employment may be negative in the short-term. Runaki will put 7,746 people employed in the diesel generator sector out of work.[20] Monthly income for generators during peak demand reached IQD 274 million, according to the KRSO.[21] Estimates from the Union of Generator Owners found that approximately 28,500 people relied on 5,700 generators for their livelihoods, including owners, operators, bill collectors, and technicians.[22] These people have created a politically sensitive sector dominated by powerful local actors who have resisted past attempts to reform the power sector. They managed to create popular pressure in 2018 to disrupt reform attempts in Baghdad and southern Iraq.[23] Similar pressure to scuttle the Runaki project also occurred in the KRI during 2024.[24]

Runaki also affects fuel producers and traders. As demand for private generators declines, the market for diesel fuel will shrink dramatically. The diesel generators consume about 444 million liters of diesel on a monthly basis during peak periods.[25] Lower fuel sales threaten a historically lucrative sector and the livelihoods of those involved in refining, fuel distribution, and oil products trade. Ako Essa, one of the fuel traders and owner of a small topping plant that produces a specific type of diesel mainly used by generators, said: "We used to supply 124 diesel generators in Erbil until last winter. Now, only 26 of them remain operational, and very soon we will lose the rest. This has substantially affected our diesel sales."[26] Consequently, the elites tied to the generator economy will see their influence diminish and control over electricity access and revenues will shift to the government.

Risk Management & Policy Responses

While Runaki promises cleaner and more reliable energy for the KRI, its success depends on effectively managing a range of political, technical, and social risks. The KRI's exhausted grid infrastructure will pose consequent challenges. As demand rises with the shift away from diesel generators, the existing infrastructure may struggle to deliver consistent power. Transmission inefficiencies, inadequate maintenance, and widespread illegal connections currently undermine system reliability, reduce revenue collection, and exacerbate disparities in electricity access. Some performance tests showed that the Runaki Project is expected to reduce both technical and non-technical losses. Technical losses are projected to fall within a standard range—below 15%, and electricity theft is also expected to decline between 10% and 15% from previously estimated levels of around 40%.[27]

To mitigate the risk of public resistance to the new pricing model, the introduction of targeted subsidies for low-consumption tiers can protect low-income households from sudden price shocks. Complementing this with phased tariff adjustments, rather than abrupt increases, can ease the transition and reduce the likelihood of backlash, enhancing the project's long-term sustainability. The 28,500 individuals—generator-owners, operators, bill collectors, and technicians—who will lose their livelihoods as a result of Runaki's introduction remain an active aggrieved social group that could oppose the project unless properly compensated. The KRG has kept the shut-down generators in place and pledged to pay 1.5 million IQD per generator until Runaki is fully operational. However, these payments have been inconsistent, prompting many to sell their generators to operators in other parts of Iraq rather than waiting to see if Runaki succeeds.[28]

> *Expecting a large segment of the KRI's population to change their behaviors overnight remains an understudied aspect of the Runaki Project.*

Moreover, to ensure better communication, the KRG needs to continue its awareness campaign to explain the benefits of the project (e.g., 24-hour power, reduced noise and air pollution, and improved public health). This should be associated with tips for efficient electricity use, better management, and on-time bill payment. Shamal Karim, a construction worker, said that low-income consumers like him are unable to pay for national grid electricity, even at a highly subsidized rate. Expecting a large segment of the KRI's population to change their behaviors overnight remains an understudied aspect of the Runaki Project.[29]

If KRG authorities can clarify and effectively implement subsidies for vulnerable citizens, Runaki's substantial public benefits should help build popular support and sustain momentum in the face of implementation challenges. Its environmental and social gains—such as reduced pollution, improved public health, and more reliable electricity—can serve as powerful selling points to counter political, fiscal, and technical obstacles that risk slowing progress.

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Assessing the impact of agricultural policy on food security in Iraq: the case of Dhi Qar

Dr. Hussein Mishbak

INTRODUCTION

Dhi Qar province is a major center for agricultural production in Iraq.[1] Farming plays a crucial role in local livelihoods, sustaining communities and providing 75% of all rural employment. The Iraqi government has initiated a number of policies to improve agricultural outputs. It has provided price support for wheat, subsidies and loans for essential equipment, and incentives for modern irrigation to increase output and promote sustainable water use.[2] Yet, data collected on crop production in Dhi Qar—especially for strategic grain crops like barley and wheat—suggest that these policies have not achieved their stated goal of improving food security.[3] Though wheat production has remained fairly stable, cultivation of barley, which is a key crop for livestock fodder, has plummeted and become increasingly unviable. This policy brief explores the causes of these uneven outcomes and charts a way forward.

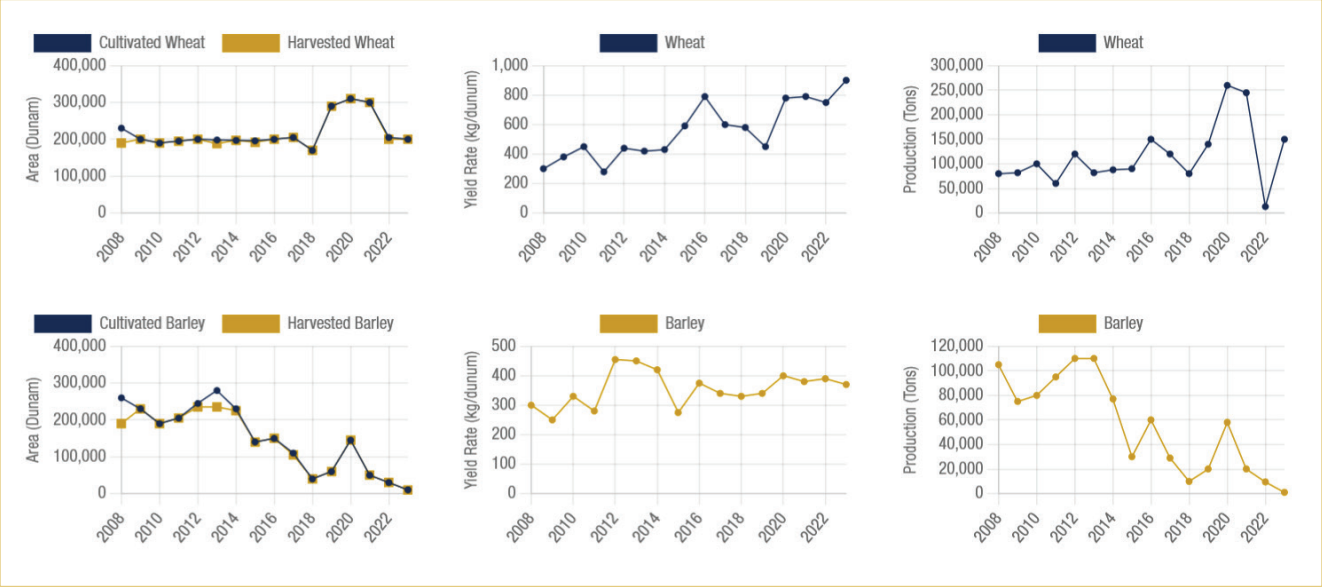
Current agricultural policies are largely out of line with the realities faced by farmers on the ground in three respects: First, policies do not account either for the costs of agriculture or price instability. Second, they do not integrate the impacts of water scarcity and climate change. Third, there is insufficient attention paid to the interrelatedness between distinct grain crops. In other words, policies that benefit wheat may harm barley, and vice versa. Correcting these shortfalls will require inclusion of farmers and rural communities into the policymaking process to ensure greater alignment between policy and implementation.

> *The current cost of cultivating one dunam of wheat in Dhi Qar varies by region and farmers' investment ranges from 250,000 to 435,000 Iraqi dinars. This cost is deemed equitable when compared to the state-specified price of 850,000 IQD per ton for first class wheat, with farmers earning no less than 350,000 dinars per ton, which is relatively advantageous for them.*

This report takes a mixed methods approach, drawing both from agricultural statistics from various government sources (e.g. Ministry of Agriculture (MoA) and the Central Statistical Organization (CSO), among others) and interviews and focus groups with both farmers and government officials in Dhi Qar.

Uneven Yields

Government data on the two main grain crops in Dhi Qar—wheat and barley—indicate a clear divergence. According to data on cultivated area, yield per cultivated area, and total production between 2008 and 2023, wheat outputs have gradually increased according to each metric, whereas barley production experienced a troubling decline. This divergence is most starkly exhibited in the overall production in tons: In 2008, Dhi Qar generated more than 104,533 tons of barley, which dropped to 6,084 tons in 2023. In contrast, wheat increased from 75,525 tons to 162,316 tons during the same period.[4]



Trends in Wheat and Barley Production: A Comparison from 2008 to 2023

Government Policies

This decline in barley production occurred despite two major government initiatives designed to boost the growth of grain crops: the Iraqi Agricultural Initiative (2008–2015) and the Iraqi Government Initiatives to Support Modern Irrigation and Mechanization in Agriculture (2011-present). The policies falling under these programs include:

- Price support for wheat: The government is a significant consumer of wheat, which it buys from farmers at pre-announced rates. This strategy provides a safety net for farmers, guaranteeing a minimum return on their investment and reducing the risk of price volatility on the private market.
- Subsidies and loans for essential agricultural costs: To decrease the cost of production for farmers, the government provides loans and subsidies for seeds, fertilizers, pesticides, and equipment. This effort is designed to make wheat and barley cultivation more economically viable for farmers.
- Supporting modern irrigation methods: Recognizing the role of technology in enhancing agricultural output and addressing water scarcity, the Iraqi government has established a number of initiatives to modernize irrigation infrastructure, with a focus on sustainable irrigation methods (e.g., center pivot irrigation systems) that consume less water. A total of 800 billion Iraqi dinars (approx. 612 million USD) was allocated to this program across Iraq in 2023-2024 alone.[5] To incentivize the use of these technologies, the government buys wheat from farmers who utilize modern methods at a slightly higher price than those who do not.

Taken together, the intention of these policies is to ensure price stability, lower the costs of agricultural production, and confront the growing challenge of water scarcity in the context of climate change.

Policy Deficits and Farmer Perspectives

Despite the intention behind them, these policies are not adequately aligned with the realities on the ground, especially in provinces like Dhi Qar where stresses on the agricultural economy and the growing problem of water scarcity are most acute. Interviews and focus groups with farmers in Dhi Qar painted a grim picture about the thin margins facing small and middle-sized farms. This means that government subsidies and loan schemes need to be carefully planned and implemented. Otherwise, the very policies intended to alleviate burdens on farmers might accomplish the opposite.

In a focus group in northern Dhi Qar, one farmer noted that loans for agricultural equipment "were inadequately implemented and failed to consider our perspectives, and we struggled with financial obligations [for repayment]." Moreover, subsidies have not kept pace with costs and, in fact, have been significantly reduced. While farming costs for core needs (e.g., seeds and pesticides) have continued to rise, the MoA's subsidy rate for registered seeds has decreased from 70% to 30%.[6] Cuts of this kind inject excessive instability into the cost-benefit equation for small and middle-sized farms, who must plan upfront costs each season on razor thin margins.

Some of the same financing inconsistencies are also present in government attempts to promote the adoption of modern irrigation technologies, which require long-term financial support for maintenance, upkeep, and technical oversight. Without them, farmers on thin margins may be compelled to sell off these systems during periods of low production to help pay off debts. Dr. Salih Alsalim of the Thi Qar Agriculture Directorate emphasized "the importance of counseling farmers on new irrigation techniques," as well as "the need for continued help for maintenance and follow-up, particularly as many farmers [in Dhi Qar] have sold their irrigation systems to other farmers in the western and northern areas of Iraq."[7]

> *Loans for agricultural equipment were inadequately implemented and failed to consider our perspectives, and we struggled with financial obligations [for repayment].*

The biggest problem in the government's approach to agricultural support is the lack of attention paid to the interrelatedness of different grain crops. The MoA has touted the success of its wheat price support program. Ministry official Dr. Hasan M. Ghubn explained the net positive impact of this program on different regions in Iraq, including Dhi Qar: "The current cost of cultivating one dunam of wheat in Dhi Qar varies by region and farmers' investment ranges from 250,000 to 435,000 Iraqi dinars. This cost is deemed equitable when compared to the state-specified price of 850,000 IQD per ton for first class wheat, with farmers earning no less than 350,000 dinars per ton, which is relatively advantageous for them".[8]

This favorable pricing of wheat has likely contributed to the decline in barley production. Without government support, barley farmers facing price volatility have increasingly shifted to wheat cultivation. In focus groups, farmers expressed frustration about the lack of a fixed price for barley and the government's neglect of its cultivation, despite its critical role in livestock fodder. This has increased reliance on expensive fodder imports and poses a broader threat to Iraq's food security—not just in grain crops, but also in livestock. These findings suggest the need for a pricing approach that accounts for the interconnectedness of grain crops. Supporting one at the expense of the other does not allow for a coherent and unified approach to food security.

While overall wheat production has increased, the data indicates problems below the surface, with other factors like climatic variability and market dynamics posing significant challenges. The total area for cultivated and harvested wheat has varied over time, but is trending lower. The reduction in cultivated land creates worries about the long-term viability of wheat production in . It is likely that policy execution has been uneven or has not adequately addressed the demands of wheat producers, forcing some to cease farming altogether. Despite these hurdles, the strong connection between cultivated and harvested areas shows little crop loss. This means that farmers in Dhi Qar are using efficient techniques and benefiting from reasonably good growing circumstances.[9]

Centre-pivot Irrigation in a Wheat Farm in Al-Najaf Desert (Source: Ministry of Agriculture of Iraq)

A Way Forward

The Iraqi government's initiatives to enhance agricultural output in Dhi Qar have had mixed results. This underscores the need for a planned and integrated approach to agricultural development. While the increase in wheat production is positive, the concurrent decline in barley production highlights the need for a more balanced policy. Moving forward, this report makes the following suggestions:

Guarantee access to financial help for all farmers and focus on the requirements of small and medium-sized farms. Subsidy rates should be updated to keep pace with expanding agricultural expenditures. Additionally, financing schemes should be established with the unique limits experienced by small farmers in mind. Regarding pricing approach, the government should operate as a significant consumer of barley and purchase this grain from farmers at pre-announced prices. This approach offers a safety net for farmers, promotes barley cultivation, and delivers a minimum return on farmer's investment by decreasing the risk linked with price fluctuation.

Ensure long-term success in modern irrigation through ongoing financial, technical, and advisory support for farmers. While the government's efforts to promote modern irrigation technology are commendable, sustained financial and technical support for farmers is essential. This includes assistance with maintenance and repair and professional advice about how to use these technologies.

Maintain food security through a balanced agricultural policy that considers the interconnectedness of all grain crops. Agricultural policy must acknowledge the interconnectedness of diverse grain crops. Promoting one crop at the expense of others could lead to unforeseen consequences and imbalances within the agricultural sector. A more holistic strategy is needed to ensure food security across all grain crops.

Ensure the effectiveness of government policies by allowing for greater input to decision-making from farmers. Engagement from farmers and local agricultural communities in the policy-making process is crucial. This ensures that policies are grounded in the realities faced by farmers and are more likely to be effective in achieving their intended goals.

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