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POST-CONFLICT ECONOMIC RECOVERY IN SYRIA THROUGH AN ORGANIZED INDUSTRIAL ZONE APPROACH:

Pre-Feasibility Study for the Daraa Organized Industrial Zone (OIZ)

August 2026

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Table of Contents

Figures

1 Introduction

This report evaluates the viability of using an Organized Industrial Zone (OIZ) model to drive post-war economic reconstruction in Syria, specifically focusing on the Daraa region as a case study. The analysis begins by outlining the conceptual framework for OIZ-led economic revitalization. It then profiles Syrian-partnered businesses operating in Turkey and reviews the results of the "Business Conditions in Syria" survey carried out by TEPAV.

Later sections of the report apply this broader framework directly to Daraa. First, it assesses the region's logistical connectivity, highlighting its strategic proximity to highways, maritime ports, airports, and Turkish border crossings. Next, the study reviews local land use, property rights, and zoning regulations. Drawing on field observations and stakeholder interviews, it maps out the existing infrastructure capabilities and future requirements across energy, water, sanitation, telecommunications, and civic facilities. Subsequent chapters provide a technical assessment of Daraa's soil conditions, climate patterns, and disaster risks. The report concludes by outlining the preliminary design and spatial layout for the pilot OIZ and discussing the comprehensive viability of the Daraa OIZ initiative.

1.1 OIZ-Focused Approach in Syria's Economic Recovery Process

Syria's economic recovery requires more than the physical reconstruction of damaged infrastructure. Years of conflict have weakened industrial capacity, disrupted trade and supply chains, reduced investment, and dispersed a significant share of the country's entrepreneurs, workers, and technical expertise across neighboring countries. At the same time, the gradual return of refugees and internally displaced persons is increasing demand for housing, public services, income-generating activities, and employment. While these movements may contribute to economic revitalization in the medium term, they also place immediate pressure on already limited local infrastructure and labor markets.

Nevertheless, the institutional and external environment for recovery has begun to improve. The restructuring of the Central Bank of Syria has advanced, with efforts focusing on strengthening its independence, restoring monetary-policy capacity, rehabilitating the banking and payment systems, and reconnecting the financial sector with the international system. By early 2026, the authorities had ended central-bank financing of the government budget, maintained a tighter monetary stance, and begun introducing a new currency, while the IMF reported a marked slowdown in inflation compared with the previous year.

Syria's engagement with international financial institutions has also accelerated. The IMF resumed staff missions to Damascus in 2025 after a 16-year interruption and subsequently agreed an extensive technical-assistance programme covering public financial management, taxation, debt management, financial-sector regulation, banking supervision, monetary policy, and official statistics.

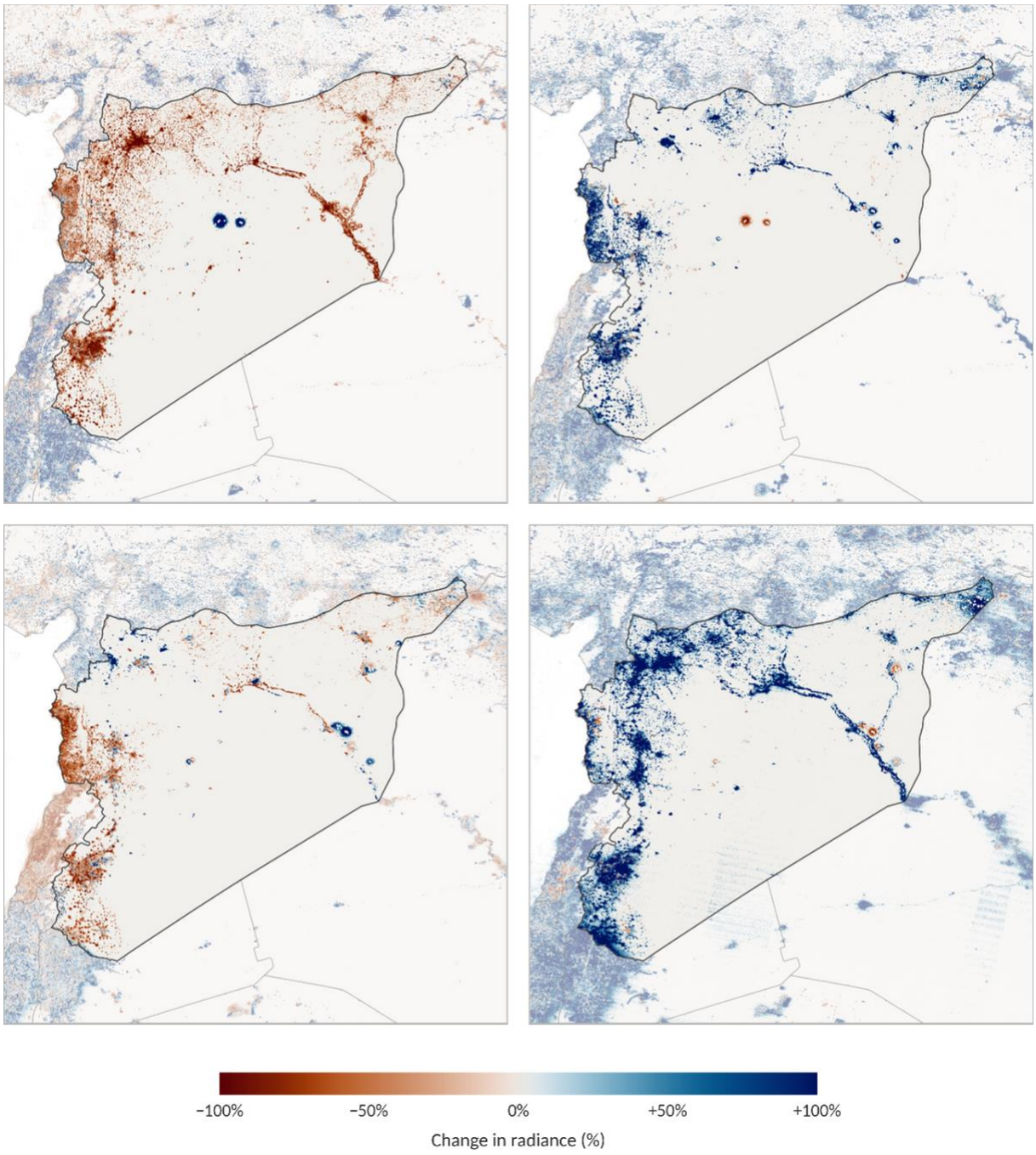
Syria's arrears to the World Bank's International Development Association were cleared in May 2025, restoring its eligibility for new World Bank operations. This was followed by financing for electricity-sector rehabilitation and reforms in public financial management, procurement, transparency, and the digitalization of government systems.

Syria's reintegration into the international economic system has also gained momentum through the easing of external restrictions. The United States terminated its comprehensive Syria sanctions programme effective 1 July 2025, while retaining targeted measures against the former regime, human-rights abusers, terrorist organizations, narcotics traffickers, and other destabilizing actors. The European Union lifted its economic sanctions in May 2025, except for measures based on security grounds, and restored the full application of the EU–Syria Cooperation Agreement in May 2026.

According to an IMF report published on 4 August 2026, Syria's economic recovery is gaining momentum, with double-digit growth projected for 2026 and further strong expansion expected in 2027. The recovery is being supported by improvements in agriculture, hydrocarbon production, electricity supply, trade, and services, alongside refugee returns, rising visitor numbers, and government expenditure. Nevertheless, poverty remains widespread and the benefits of growth are unevenly distributed across regions. The IMF also highlights the need to maintain sound fiscal and monetary policies, strengthen public financial management and revenue collection, rehabilitate the banking sector, improve economic statistics, and sustain international support for Syria's humanitarian and development needs.

The trajectory of Syria's economic recovery can also be observed through satellite-based night-time light data, which is widely used as a proxy for economic activity and electricity availability where conventional statistics are limited (Henderson, Storeygard, & Weil, 2012). Figure 1 presents the change in night-time light radiance across Syria over four periods, calculated from NASA's Black Marble (VNP46A3) monthly product. Between January 2012 and March 2016, radiance declined sharply across most of western Syria, including Aleppo, the Damascus region, and the southern governorates, reflecting the destruction of productive capacity and the collapse of electricity supply during the most intense phase of the conflict. The subsequent periods show a partial and geographically uneven recovery: luminosity increased in parts of western Syria between April 2016 and September 2019, weakened again between October 2019 and August 2021, and expanded broadly across the west and south of the country between September 2021 and June 2026. The most recent panel indicates that the acceleration in economic activity reported by the IMF is observable on the ground, while its concentration in western and southern Syria confirms that the benefits of growth remain unevenly distributed across regions. As night-time lights capture electricity availability as well as economic activity, these patterns should be read as indicative of the direction and geography of recovery rather than as a precise measure of output.

Figure 1 Change in Syria's Night-Time Lights by Period, 2012–2026



Panels show the percentage change in radiance over four periods: January 2012–March 2016 (top left), April 2016–September 2019 (top right), October 2019–August 2021 (bottom left), and September 2021–June 2026 (bottom right).

Source: NASA Black Marble (VNP46A3), TEPAV calculations

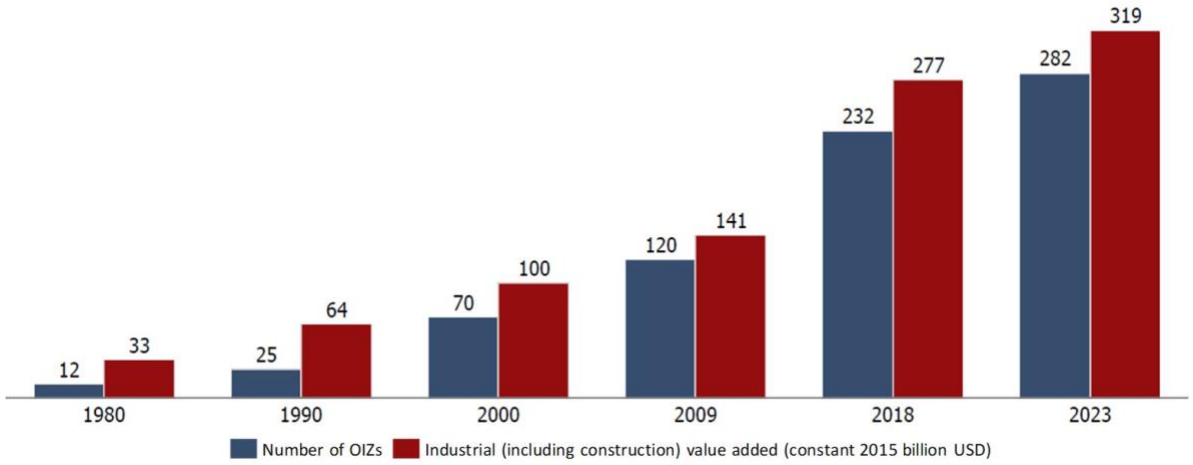
Although these developments do not eliminate Syria's structural economic constraints, they improve the conditions for institutional rebuilding, international financing, foreign trade, banking transactions, private investment, and the implementation of large-scale reconstruction and industrial-development projects.

A spatially concentrated industrial development model can enable scarce public and private resources to be directed toward selected production areas where electricity, water, transport, telecommunications, wastewater management, security, and administrative services can be provided in a coordinated manner. Organized Industrial Zones (OIZs) offer such a framework by bringing firms together within planned industrial sites, establishing shared infrastructure, and reducing the costs and uncertainty associated with accessing essential services.

The OIZ model can also provide a more predictable institutional environment for investors. Through a dedicated zone administration and a single-window mechanism, procedures related to land allocation, construction, licensing, operating permits, infrastructure connections, and other administrative requirements can be coordinated within a unified structure.

In Turkey, OIZs, which began to be established particularly in the 1960s, have played a decisive role in the country's industrialization process. With the proliferation of OIZs, the country's industrial value added has steadily increased. Indeed, the number of operational OIZs rose from 12 in 1980 to 282 as of 2023. During the same period, industrial value added increased from 33 billion USD to 319 billion USD.

Figure 2 Number of OIZs in Turkey and the Development of Turkey's Industrial Value Added, 1980-2023



Source: World Bank, OSBÜK, TEPAV visualizations

In the context of Syria, the recovery of productive activity is constrained by unreliable access to essential services. Under these circumstances, an OIZ-based model could help channel scarce public resources into designated locations and prioritize the completion of infrastructure in selected production hubs. Establishing industrial zones with functioning infrastructure, clearly defined security provisions, and streamlined administrative procedures would reduce investor uncertainty and provide a more predictable basis for production decisions. It would also encourage firms to operate formally within designated industrial areas rather than remaining dispersed across insecure and poorly serviced locations, thereby supporting a more orderly reorganization of economic activity.

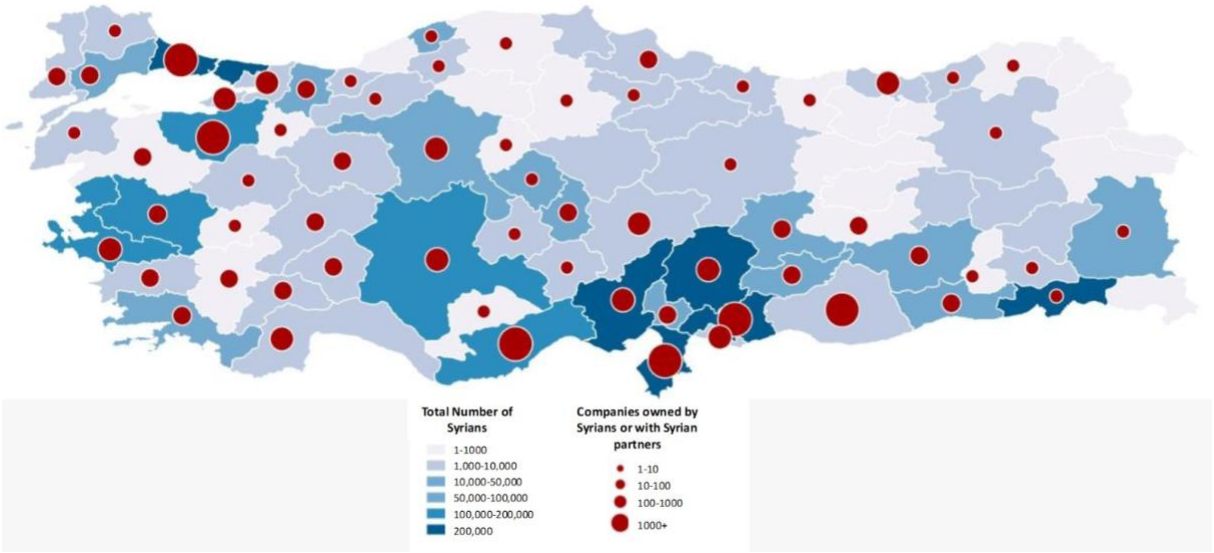
The OIZ model could also contribute to recovery by creating employment and increasing industrial value added. Serviced industrial plots and shared infrastructure would allow firms to lower fixed costs, expand production, and operate more efficiently. In addition to generating direct industrial employment, OIZs would stimulate indirect job creation in logistics, supply chains, maintenance and repair, security, catering, and other supporting services. Over time, higher production levels could raise

regional incomes and strengthen the local economy. OIZs should therefore be viewed not merely as sites for private investment and manufacturing, but as broader instruments for economic recovery through employment generation, productivity growth, and the expansion of industrial activity.

1.2 Syrian Companies in Turkey and Findings from TEPAV's Survey on Business Conditions in Syria

There are a large number of Syrian-partnered Turkish companies operating in Turkey. These companies have the potential to play a significant role in Syria's economic revitalization. Out of the 34,210 Syrian-partnered companies established since 2010, 12,635 consist entirely of Syrian partners. Approximately 30,135 companies are currently active, with 5,123 operating in the manufacturing industry and the remainder in the trade and services sectors. These businesses are concentrated particularly in border and logistics hubs such as Gaziantep, Hatay, Mersin, Şanlıurfa, Kilis, Adana, and Kahramanmaraş, forming important links in the supply chains targeting both the Turkish domestic market and regional countries, especially Syria. In this context, Syrian-partnered Turkish companies have the potential to contribute directly to OIZ-focused economic revitalization plans.

Figure 3 Distribution of Syrian Population and Companies in Turkey, 2024



"Syrian companies" represent companies owned by Syrians and/or companies with Syrian partners

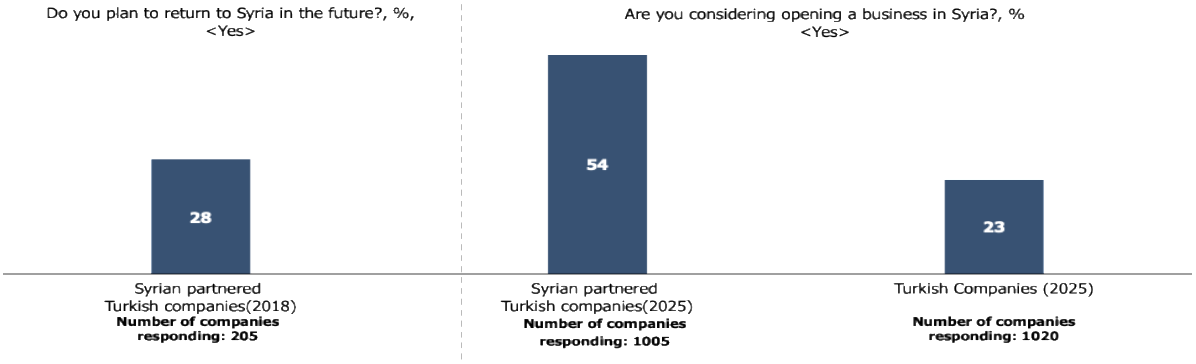
Source: TOBB, TEPAV calculations

To better understand the investment potential of these firms, TEPAV conducted the *Survey on Business Conditions in Syria* between 7 March and 14 April 2025. The survey covered 1,024 Turkish businesspeople and 1,005 businesspeople associated with Syrian-partnered companies in Adana, Gaziantep, Hatay, Kahramanmaraş, Kilis, Mersin, and Şanlıurfa. The findings provide information on firm characteristics, sectoral expertise, employment structures, previous commercial experience in Syria, and intentions to establish or re-establish operations in the country.

The survey demonstrates a substantial willingness among Syrian-partnered companies to resume business activities in Syria. As presented in *Figure 3*, 53.9 percent of Syrian-partnered firms indicated that they were considering opening a business in Syria, compared with 23.2 percent of Turkish firms. This represents a significant increase from the 28.3 percent recorded among Syrian companies in the 2018 survey. The results suggest that a growing share of Syrian entrepreneurs no longer view

investment in Syria as a distant possibility and are beginning to consider it as part of their future business strategy.

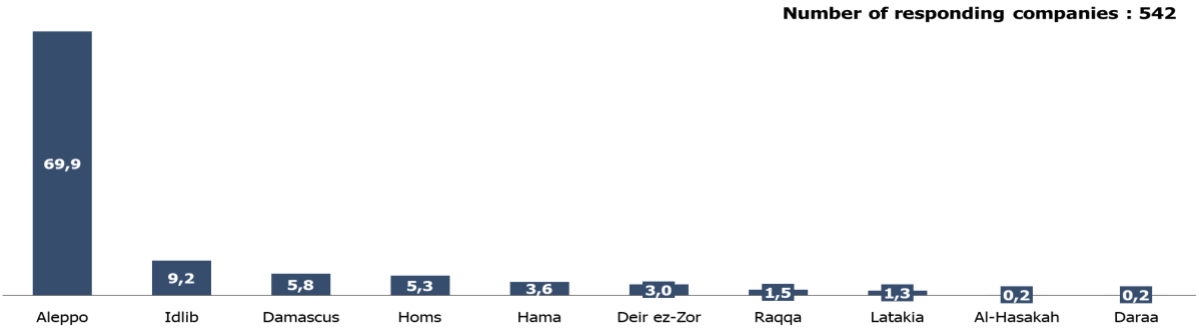
Figure 4 Do You Plan to Return to Syria in the Future?



Source: Survey on Business Conditions in Syria, TEPAV calculations

According to the survey data, Daraa is among the regions where Syrian entrepreneurs currently operating in Turkey had previously conducted business, but it accounts for only 0.2 percent of the sample. This indicates that the investor base of a potential OIZ in Daraa should not be limited to companies that previously operated in the region. The investment attraction strategy should also target other Syrian entrepreneurs seeking to expand their production and distribution activities into Daraa, Turkish companies considering entry into the Syrian market, and foreign investors capable of creating employment and providing production capacity and capital in the region.

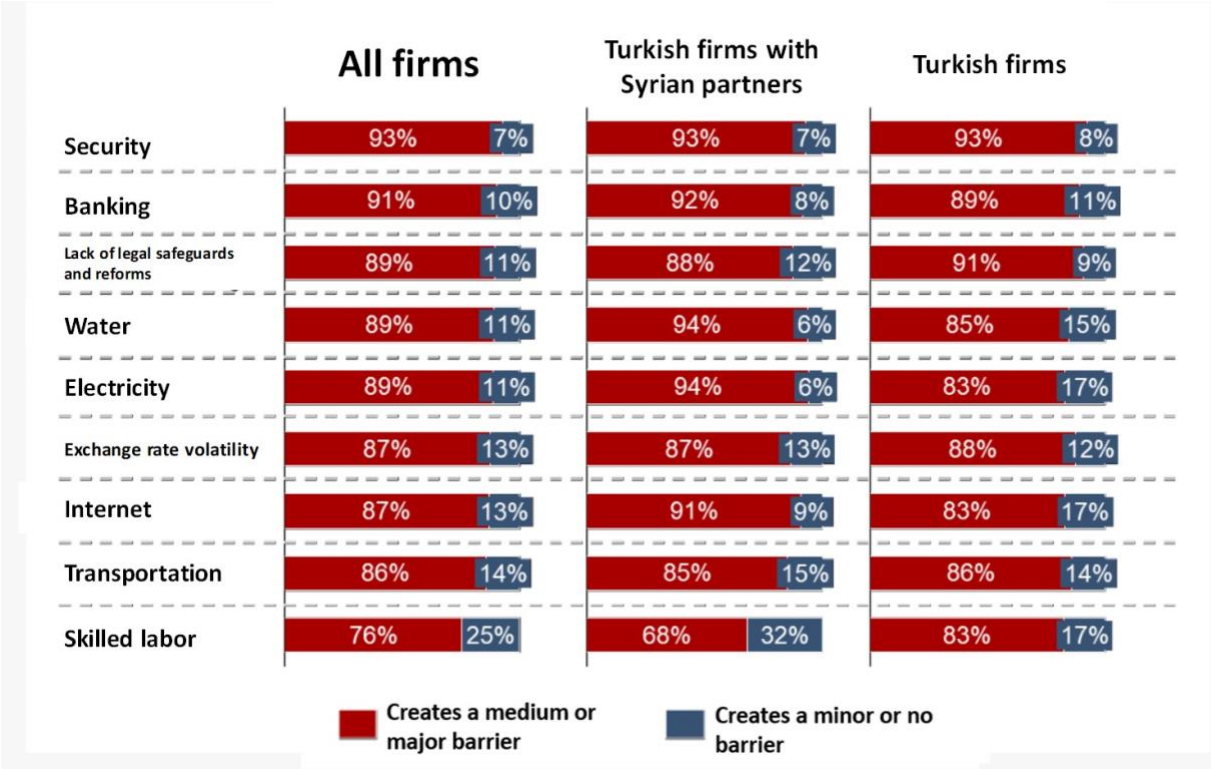
Figure 5 Where Was the Business Located in Syria?, %



Source: Survey on Business Conditions in Syria, TEPAV calculations

Findings from the survey, focus groups, and interviews suggest that the willingness of Syrian businesses to return to Syria and resume or expand their operations depends primarily on access to secure, fully serviced industrial zones supported by a clear administrative framework. In the survey, 94 percent of Syrian-partnered firms identified deficiencies in water and electricity infrastructure as a medium- or high-level obstacle to doing business in Syria. Security conditions were cited by 93 percent, limited access to banking services by 92 percent, and inadequate internet infrastructure by 91 percent. These results indicate that firms would be more prepared to relocate part or all of their production to Syria and undertake new investments if reliable electricity, water, transport, and communications infrastructure were provided, customs and logistics links functioned effectively, and licensing and permitting procedures became more predictable.

Figure 6 Barriers to Doing Business in Syria, 2025



"Syrian companies" refer to the firms owned by Syrians and/or firms with a Syrian partner.

Source: TOBB, TEPAV calculations

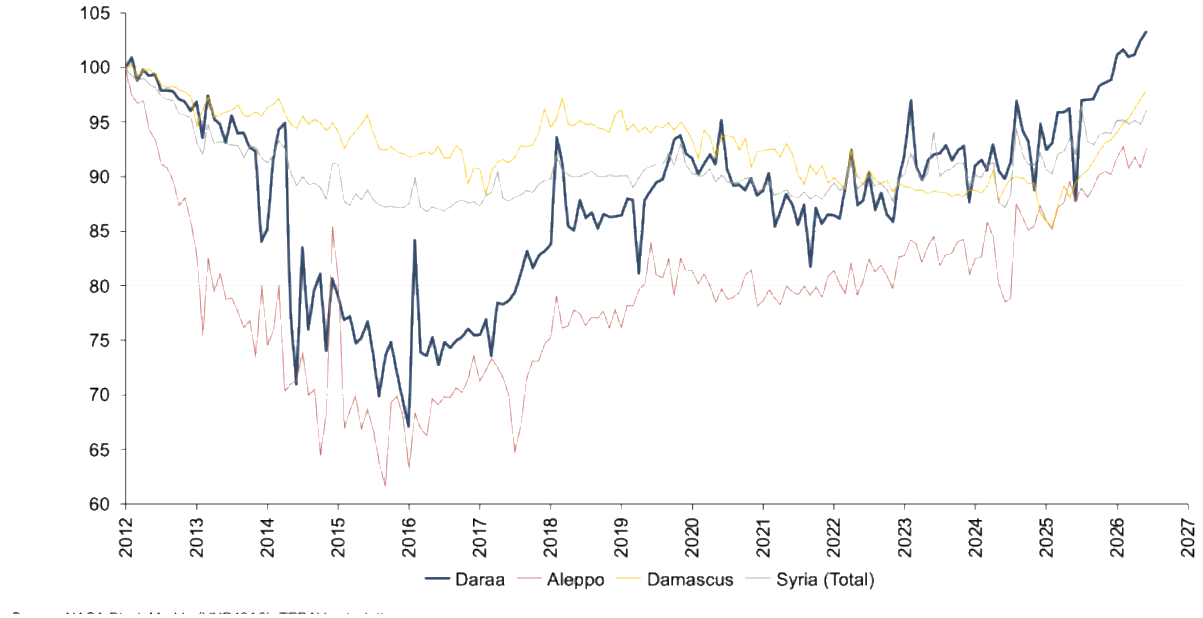
Other major requirements include access to finance, customs and logistics arrangements that facilitate the transfer of machinery and equipment into Syria, links with the Turkish banking system, and vocational training programs to strengthen the supply of skilled labor. Within this framework, OIZs in Syria would serve not only as locations capable of attracting new investors, but also as institutional platforms for bringing Syrian capital, expertise, and entrepreneurial capacity currently based in Turkey back into the country and integrating them into the economic recovery process. For this mechanism to operate effectively, secure and well-equipped industrial zones must be developed alongside the financial, legal, and administrative structures needed to support return and investment.

2 Daraa as a Pilot Region

The objective here is to operationalize the Organized Industrial Zone (OIZ)-based economic revitalization framework developed in the previous sections with specific reference to the Daraa region of Syria. In the following subsections, the logistical position and accessibility of the Daraa region will be analyzed, findings from field surveys and interviews will be summarized, land and ground conditions along with the planning framework will be evaluated, possible preliminary design options for the OIZ will be discussed, and finally, economic feasibility estimates based on different investment scenarios will be presented.

The selection of Daraa as a pilot region is supported by observed trends in economic activity. Figure 7 presents night-time light radiance indices for Daraa, Aleppo, Damascus, and Syria as a whole, calculated from NASA's Black Marble (VNP46A3) monthly product with January 2012 taken as 100. Daraa's luminosity fell to 67.1 in January 2016, roughly one-third below its pre-conflict level, reflecting the intensity of the conflict in southern Syria, while Aleppo recorded the deepest contraction in the comparison at 61.6 in September 2015. The subsequent recovery in Daraa, however, has been equally pronounced. By June 2026, the governorate's index had reached 103.3, making it the only series in the comparison to have surpassed its January 2012 level; Aleppo stood at 92.6, Damascus at 97.9, and the country as a whole at 96.1. This long-term trajectory indicates that economic activity in Daraa has already returned to, and moved beyond, its pre-conflict benchmark, providing a favourable baseline for new industrial investment.

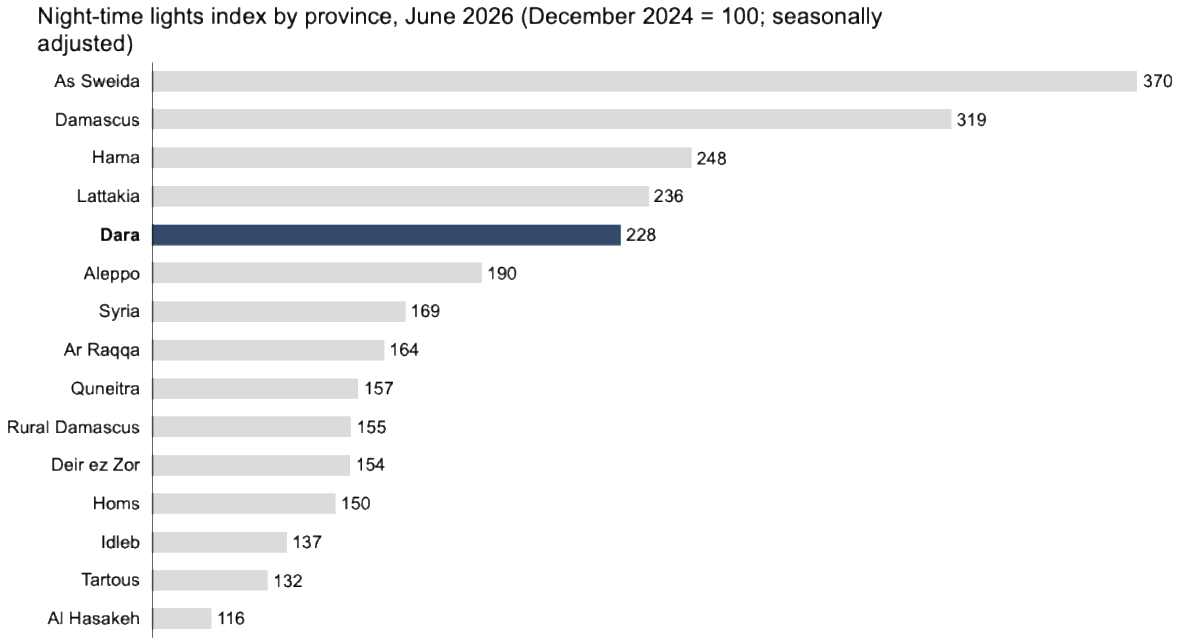
Figure 7 Night-Time Light Radiance Indices for Daraa, Aleppo, Damascus, and Syria, January 2012 = 100, 2012-2026



Source: NASA Black Marble (VNP46A3), TEPAV calculations

The momentum of this recovery has strengthened since the change of government in December 2024. As shown in Figure 8, the seasonally adjusted night-time lights index for June 2026, with December 2024 taken as 100, stood at 228.5 in Daraa - the fifth highest value among the fourteen governorates and well above the national figure of 169.4. The strongest increases were recorded in the southern and western parts of the country, with As-Sweida at 370.1, Damascus at 319.0, Hama at 247.8, and Lattakia at 236.1, while Al-Hasakeh recorded the lowest value at 116.2. This distribution indicates that the post-2024 recovery has been concentrated in southern Syria and that Daraa is among the governorates where economic activity has revived most rapidly. Taken together with the longer-term trajectory presented in Figure 7, these findings suggest that a potential OIZ in Daraa would be established in a region where economic activity is already on a recovering path.

Figure 8 Night-Time Lights Index by Governorate, June 2026 (December 2024 = 100; Seasonally Adjusted)



Source: NASA Black Marble (VNP46A3), TEPAV calculations

2.1 Logistic Assessment of the Daraa Region

The proposed industrial area near Izra and Al-Nujayh benefits from its proximity to the Damascus-Amman international highway, located approximately 2.5 km from the site. This position provides a strong logistical basis for a potential OIZ investment by connecting the area with Damascus, southern Syria, and neighbouring markets. The wider transport network also supports connections between Damascus and the Gulf, while the northbound road corridor extends from Damascus to Homs over approximately 160 km and from Homs to the port city of Tartus over a further 110 km.

The area is strategically positioned in relation to Jordan, Lebanon, Iraq, Syria, and Palestine. It has the potential to develop into an industrial centre capable of accommodating activities such as heavy industry, petrochemicals, pharmaceuticals, machinery assembly, semiconductor-related production, and gas and energy supply infrastructure.

The proposed site is approximately 3-9 km from Izra and around 75 km from Damascus. The nearest industrial centre is Adra Industrial City. Its proximity to these urban and administrative centres could facilitate access to local markets, labour, services, and public institutions. The Damascus-Amman highway could also support the integration of the proposed OIZ into neighbouring markets and road-based export routes. Within Syria, the movement of goods is described as unrestricted, while the customs, commercial, industrial, and tax framework is considered flexible.

In terms of maritime connections, the proposed industrial area is linked to Tartus through the road corridor extending from Damascus to Homs and onward to Tartus. The distance between Damascus

and Homs is 160 km, while the distance between Homs and Tartus is 110 km. The area is also served by numerous local transport companies, while international transport companies operate along the Damascus-Gulf corridor.

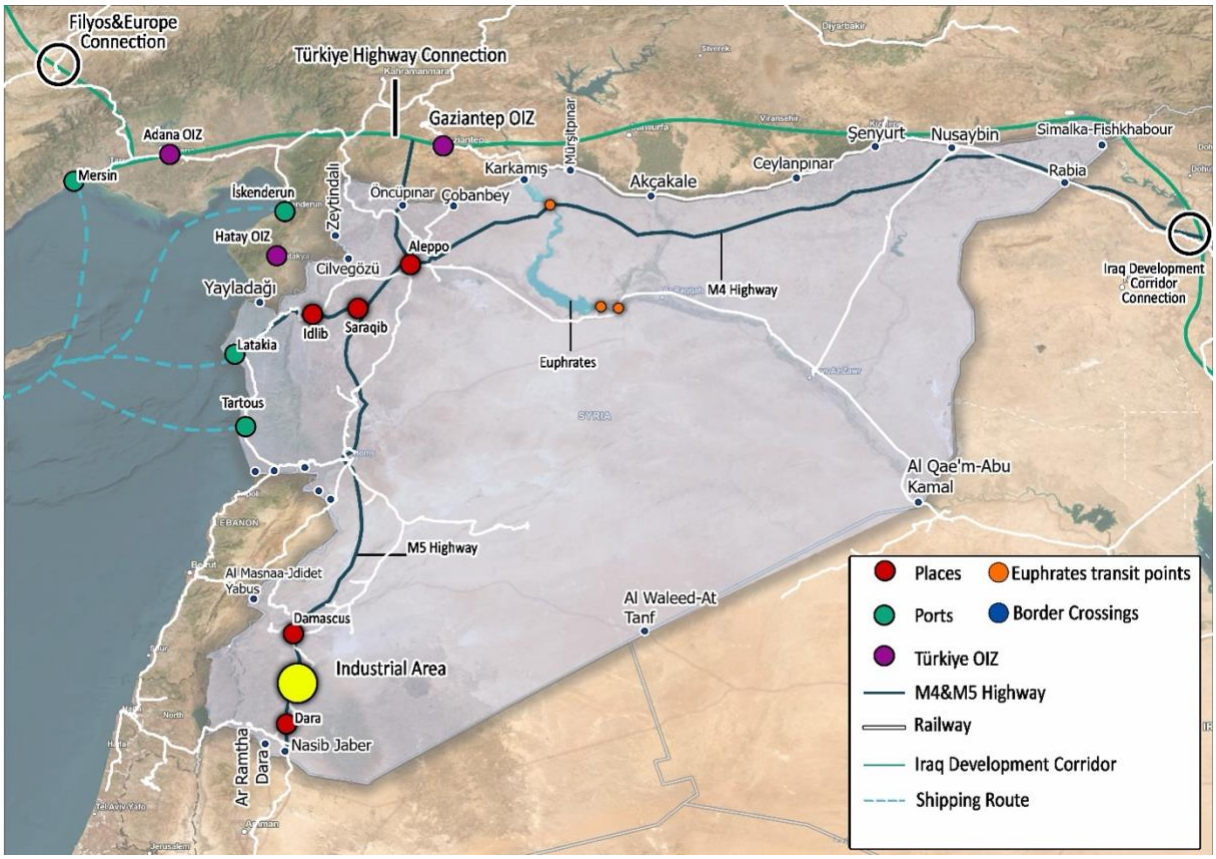
Damascus International Airport is located approximately 75 km from the proposed industrial area, and the road connecting Damascus with the airport is in good condition. This proximity may create potential for air-cargo operations, particularly for high-value, time-sensitive, or low-volume products, subject to the availability of appropriate cargo services and handling capacity.

On the other hand, several constraints must be addressed to fully realise this potential. Although existing roads pass immediately adjacent to the proposed industrial area and provide functional external connections, there is currently no internal road network within the site. Moreover, the road extending towards the nearest settlement, Al-Nujayh, is in poor condition and includes asphalted, dirt, and rocky sections, requiring rehabilitation and upgrading for industrial and freight traffic. The existing electricity infrastructure is outdated, irregular, and requires substantial improvement, while sewage infrastructure is not available. The site boundaries have not yet been formally determined by the Cadastre Department, and the presence of residential buildings constructed on state-owned land will require careful consideration during the planning process.

A railway line is located approximately 2 km from the boundaries of the proposed industrial area. This proximity represents one of the site's most important location-specific advantages, as many alternative industrial locations in the region do not have comparable access to existing railway infrastructure. If rehabilitated and connected to the OIZ through appropriate freight facilities, the line could substantially strengthen the area's potential for bulk cargo, containerised freight, and intermodal road-rail transport.

However, the railway's current operational status, freight capacity, technical condition, and connection requirements have not yet been established. Its contribution to the OIZ will therefore depend on a detailed technical assessment and coordination with the relevant railway and transport authorities. More broadly, the logistical competitiveness of the industrial city will require the development of an internal road network, upgrading of external access roads, integration with the Damascus-Amman highway and regional trade corridors, and joint planning with local transport companies and international operators serving the Damascus-Gulf route.

Figure 9 Daraa Logistic Map



Source: OSM, TEPAV visualizations

2.2 Assessment of the Daraa Field Survey

In this section, the findings concerning the proposed industrial area are evaluated. The broader site covers approximately 14 million m², extending from the east of Izra and the west of Busra al-Harir to Al-Nujayh village in the north and Al-Buwayr village in the west. This total area represents the long-term development framework, while the initial phase of the industrial city is planned to cover approximately 1.5 million m². The findings presented in this report are based on a field visit to Daraa conducted by a TEPAV expert team on 20–23 June. During the visit, the proposed site and its surroundings were examined to assess their suitability for the establishment of an industrial city. Following the field visit, a separate questionnaire was prepared to collect the additional information required for a more detailed feasibility assessment and was submitted to the relevant authorities in Daraa. This report was prepared on the basis of the field observations and the responses received from these authorities.

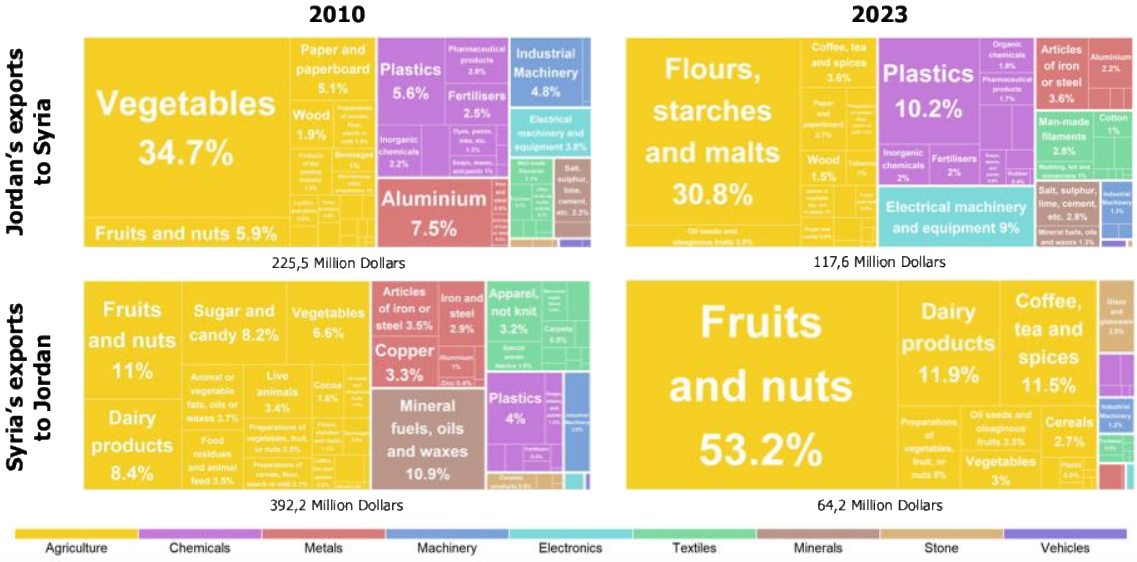
2.2.1 General Location and Strategic Importance of the Region

Izra, a settlement in the Daraa Governorate in southern Syria, stands out for its proximity to the M5 motorway, the Damascus-Amman international highway, located approximately 2.5 km from the proposed industrial area. The site lies at Syria's southern gateway to Jordan and, through Jordan, to Gulf markets. Its location along the M5 connects the region with Damascus, Homs, Hama, and Aleppo, while providing access to Jordan through the Nassib-Jaber border crossing. The generally good condition of the main roads further strengthens the area's accessibility and provides a solid basis for industrial, trade, and logistics activities.

The site is approximately 75 km from Damascus, 75 km from Damascus International Airport, and 3-9 km from Izra city centre. Its strategic position in relation to Jordan, Lebanon, Iraq, Syria, and Palestine creates an important accessibility advantage for domestic production and regional trade. The surrounding village settlements, extending towards Al-Nujayh in the north and Al-Buwayr in the west, may also support labour supply and daily services such as transportation, catering, and maintenance.

Daraa's main comparative advantages include its agricultural production base, proximity to Jordan, connection to the international highway, access to the Nassib-Jaber border crossing, availability of local labour, and links to Gulf markets. Building on these advantages, the proposed Al-Nujayh Industrial Zone could develop beyond a conventional industrial project into a southern production, trade, and export platform. Potential activities include agro-food processing, cooling and sorting, packaging, construction materials, light manufacturing, and logistics services. These activities could enable agricultural and other local products to be processed closer to their source, retain a larger share of value added within Syria, and create employment and productive capacity in the south.

Figure 10 The Distribution of Products Exported by Jordan to Syria and Syria to Jordan, HS2, 2010 and 2023



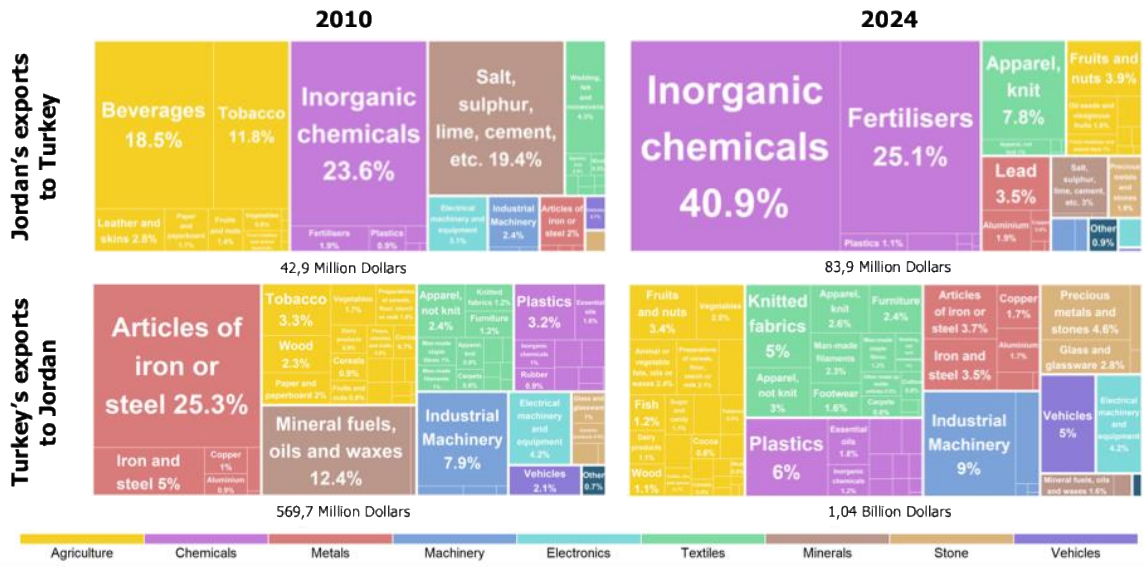
Source: Harvard Trade Atlas, TEPAV calculations

As shown in Figure 7, the product composition of trade between Jordan and Syria changed considerably between 2010 and 2023. Jordan's exports to Syria shifted from a relatively diversified structure led by vegetables, which accounted for 34.7 percent of exports in 2010, towards food-processing inputs and industrial intermediate goods. By 2023, flours, starches, and malt had become the largest export category, with a share of 30.8 percent, followed by plastics at 10.2 percent and electrical machinery and equipment at 9 percent.

Syria's exports to Jordan became more concentrated in agricultural and food products over the same period. In 2010, exports were distributed across fruits and nuts, mineral fuels and oils, dairy products, sugar products, vegetables, metals, and other goods. By 2023, fruits and nuts alone accounted for 53.2 percent of Syrian exports to Jordan, while dairy products and coffee, tea, and spices represented 11.9 percent and 11.5 percent, respectively.

So, the pattern presented in Figure 7 indicates a degree of complementarity between the two economies. Jordan supplies Syria with food-processing inputs, plastics, electrical equipment, and other industrial goods, while Syria's exports to Jordan are increasingly concentrated in agricultural products. For the proposed Al-Nujayh Industrial Zone, this creates potential for agro-food processing, sorting, cold storage, packaging, and logistics activities, as well as for production models using Jordanian industrial inputs to process Syrian agricultural products for Syrian, Jordanian, and wider regional markets.

Figure 11 The Distribution of Products Exported by Jordan to Turkey and Turkey to Jordan, HS2, 2010



Source: Harvard Trade Atlas, TEPAV calculations

The existing structure of Turkey-Jordan trade adds another dimension to this model. As shown in Figure 8, Turkey's exports to Jordan increased from USD 569.7 million in 2010 to USD 1.04 billion in 2024, while Jordan's exports to Turkey rose from USD 42.9 million to USD 83.9 million. In 2024, Jordanian exports were strongly concentrated in inorganic chemicals and fertilizers, while Turkey supplied a more diversified range of manufactured products, including industrial and electrical machinery, plastics, iron and steel products, vehicles, and textiles. This structure suggests complementary roles for the two countries in supporting production in Daraa. Turkey could supply machinery, production technologies, electrical equipment, metals, plastics, and packaging materials, while Jordan could provide chemicals, fertilizers, and other industrial and agricultural inputs. Combined with Syrian agricultural production and labour, these inputs could support regional production chains in which final or semi-processed goods are produced in Daraa and supplied to Syrian, Jordanian, and Gulf markets. In this way, the OIZ could help extend the existing Turkey-Jordan commercial relationship into a wider Turkey-Syria-Jordan production network.

The viability of such a model would be strengthened by recent steps towards regional transport integration. In April 2026, Turkey, Syria, and Jordan signed a trilateral agreement covering road, rail, air, maritime, and multimodal transport, with the aim of facilitating freight and passenger movements, improving supply-chain efficiency, and strengthening regional connectivity. This complements ongoing initiatives to restore and modernize north-south railway connections between Turkey, Syria, Jordan, and the Gulf, including work related to the Hejaz Railway corridor and missing railway infrastructure in Syria.

Beyond that, the proposed industrial area is reported to be located approximately 2 km from an existing railway alignment and is also close to the Damascus–Amman international highway and the Nassib-Jaber border crossing. If the railway is incorporated into the planned north–south corridor and connected to the industrial city through appropriate freight infrastructure, Al-Nujayh could develop into an important road–rail logistics and customs hub serving both the OIZ and wider regional trade flows. Subject to regulatory approval, facilities such as cargo consolidation and distribution centres, bonded warehouses, customs and inspection services, truck parking, and cold storage could be established within or adjacent to the zone. This could improve Turkish producers' and logistics companies' access to southern Syria, Jordan, the Port of Aqaba, and Gulf markets, while reducing logistics and border-related transaction costs and creating additional demand for railway, engineering, construction, maintenance, and other technical services.

Lastly, the establishment of an OIZ in this strategically important border region could also contribute to the security and stability of southern Syria. By creating formal employment opportunities, increasing household incomes, and supporting improvements in local welfare, the project could help reduce the economic incentives associated with smuggling, narcotics trafficking, and other illicit activities. In this respect, the proposed industrial city could support not only economic recovery and regional trade but also social stability and the strengthening of legitimate economic activity in southern Syria.

2.2.2 Land, Property, and Planning Status

The proposed industrial city covers approximately 14,000,000 m² of state-owned land administered by the Directorate of Agriculture. This represents the long-term development area, while an initial development phase of approximately 1,500,000 m² is envisaged. The site is generally flat and rocky and is not classified as agricultural land, although its surroundings include agricultural land and grain cultivation. Several residential buildings are located within the wider area. According to information provided by the authorities in Daraa, the approximate value of the land is stated as USD 3 per square metre.

The site is not currently enclosed by a wall, fence, or another physical boundary structure. Boundary determination falls under the responsibility of the Land Registry and Cadastre Department, under the guidance of the Ministry of Economy and Industry, the Daraa Governorate, and the local community. Completing this process will be necessary before detailed zoning, parcel allocation, infrastructure design, and construction can begin.

Both the land and the existing infrastructure are identified as state-owned. Property transfer may be possible depending on the investment proposal, while a build-operate-transfer model is identified as the principal framework under consideration. However, the precise conditions governing land transfer, long-term leasing, investor access, and industrial plot allocation have not yet been defined and will need to be clarified.

The area is surrounded by modest village settlements. A number of residents have constructed homes on state-owned land. The planning and development of the industrial city must therefore take local living conditions and customary practices into consideration.

Administrative authority over the area rests with the Daraa Governorate and the Al-Nujayh Municipality. The Governorate is authorized to regulate and publish building regulations, commercial and industrial licensing rules, and business-establishment conditions.

From a planning perspective, a specific zoning plan for the proposed industrial city has not yet been completed. The zoning plans of the surrounding villages remain at an initial stage, and no supplementary plans for urban expansion have been prepared. These village zoning plans are revised every three years. Urban expansion in the surrounding settlements generally tends to move towards rocky areas because of their lower development cost. This pattern should be considered when defining the industrial city's boundaries and managing possible interactions between future industrial development and nearby settlements.

2.2.3 Transportation and Logistics Infrastructure

2.2.3.1 Highway

The distance of the industrial city to the Damascus-Amman international highway is 2.5 kilometers. An access road to the proposed site already exists; however, the route extending towards Al-Nujayh village is in poor condition and includes asphalted, dirt, and rocky sections. It therefore requires rehabilitation and upgrading to accommodate industrial and freight traffic. All corridors for the movement of labor, production, imports, and exports are open. Because it is strategically situated right in the middle of five countries, the area has the potential to become a central hub for supply lines and a dry port for inter-regional transportation. Furthermore, the presence of numerous local transport companies, as well as international shipping companies operating between Damascus and the Persian Gulf, is complementary in supporting logistics and transportation activities.

2.2.3.2 Port and Airport Connections

- Maritime Access: The proposed industrial area is approximately 75 km from Damascus. The distance between Damascus and Homs is approximately 160 km, while the distance between Homs and the port city of Tartus is approximately 110 km. Based on these figures, the total road distance through Damascus and Homs would be approximately 345 km. However, the condition, travel time, freight cost, and exact route to Tartus Port require further confirmation.

- Airway Access: Damascus International Airport is the nearest airport and is located approximately 75 km from the proposed industrial area. The road connecting Damascus to the airport is described as being in good condition.

2.2.3.3 Railway

Currently, there is an international railway line located just 2 km away from the boundaries of the industrial city. The old railway line passing near the region is part of the historic Al Hijaz Railway, The nearest station is the Izra railway station, which is currently non-operational due to severe neglect and damage sustained during the Syrian conflict (Al Kassem et al., 2024). Given this close proximity, the railway connection is anticipated to be a determining factor in the development of the industrial city.

2.2.3.4 Logistics Services and Truck Parking Area

Numerous local transport companies operate in the wider area, while international transport companies provide services along the Damascus-Gulf corridor. The main corridors for labour, production, imports, and exports are described as open, and local and international organizations can

access the area. However, there is currently no general car park or dedicated truck-parking area serving the proposed industrial city. The development of the OIZ will therefore require the planning of truck-parking, vehicle-parking, loading and unloading, and other supporting logistics facilities.

2.2.4 Energy, Water, and Environmental Infrastructure

2.2.4.1 Electricity

The existing electricity infrastructure serving the proposed industrial city requires upgrading. The current lines will need to be renewed, and a dedicated transformer substation will be required for the industrial area. The proposed site is largely undeveloped and does not currently have an internal electricity network; therefore, a new distribution system will need to be established as part of the OIZ infrastructure. This system is expected to operate as part of the local electricity network.

An electricity production centre is located in Izra. Its stated capacity is approximately 5 MW, and fuel and gas are identified as its energy sources. However, the available information does not clarify whether this figure refers to total generation capacity, transformer capacity, or the amount of electricity that could be allocated to the proposed industrial city. The distance between this facility and the OIZ site is also not specified.

Electricity supply in the wider area is intermittent. The available responses indicate that electricity is generally supplied for approximately 10-12 hours per day, although another local estimate places daily availability at between 5 and 10 hours on certain days. Electricity supply should therefore not be regarded as continuous or sufficiently reliable for industrial production under current conditions.

A major electricity distribution line passes through the proposed site. This may provide a physical basis for connecting the OIZ to the wider grid. However, its technical capacity, voltage level, condition, and ability to serve industrial loads have not yet been established. A detailed technical assessment will be required to determine whether the existing line can be incorporated into the OIZ network or whether additional external supply lines will be necessary.

The electricity tariff is stated as approximately USD 0.14 per kWh. However, the available information does not distinguish between residential and industrial tariffs or clarify whether this rate would apply directly to firms operating within the OIZ.

2.2.4.2 Water Supply

The proposed industrial area is rich in groundwater resources. Water supply is expected to rely mainly on artesian wells, with groundwater identified at depths of approximately 60-80 metres, 120-160 metres, and 180-240 metres. The available groundwater is described as suitable for drinking.

Around 15 wells are located in the wider Izra area, and available water resources are considered sufficient. However, the existing water network is intermittent: water is generally supplied every other day and remains available for only four to six hours when service resumes. The current network therefore cannot provide the continuous supply required for industrial production.

A municipal chlorination facility and a water reservoir are located in Izra. Drinking water costs approximately USD 7 per 1,000 litres. However, the capacity of these facilities and their ability to serve the proposed industrial area are not specified.

2.2.4.3 Wastewater, Stormwater, and Natural Gas

There is no sewage infrastructure within the proposed industrial area. A central wastewater treatment plant will therefore need to be constructed. Treated wastewater could potentially be used by neighbouring agricultural areas. A repaired wastewater network is also referenced, but its location, capacity, and connection to the proposed industrial area are unclear.

An existing waste-disposal site is located in the area and could be relocated. Wastewater collection, treatment, and discharge arrangements should take the nearby village settlements into consideration.

Stormwater collection and drainage infrastructure is not available. A dedicated drainage network and controlled discharge system will therefore need to be included in the OIZ design.

Natural gas infrastructure is also unavailable. The area is considered suitable for geological exploration for possible oil and natural gas resources, but no confirmed reserves, supply network, or operational gas source have been identified. Natural gas supply should therefore not be assumed in the initial development phase.

2.2.5 Social, Institutional, and Support Infrastructure

2.2.5.1 Banking and Financial Services

There is no banking facility within the proposed industrial area. The nearest banking and administrative services are in Izra, The financial capacity of Al-Nujayh Municipality is limited, which indicates that major supporting infrastructure will require assistance from higher-level public institutions or external investors.

2.2.5.2 Education and Health

The nearest university is Yarmouk Private University. The wider Daraa region also hosts several private universities, many of which are located along the Damascus-Daraa international highway in the Jabab and Ghabagheb areas. Those institutions could provide a basis for workforce development, applied research, internships, and university–industry cooperation for the proposed industrial city

Health services are concentrated in Izra. A health centre and a public hospital are available in the wider area, with the hospital located approximately 5 km from the proposed site. An ambulance service is located approximately 3 km away. These facilities provide a basic level of health and emergency access, but their capacity to serve a large industrial workforce has not been established.

2.2.5.3 Accommodation, Commercial, and Other Services

Most commercial and municipal services are available in Izra. Restaurants and catering services are also located in Izra and in Al-Ghazali, approximately 25 km away. The nearest hotel is a three-star facility located in Daraa.

A fire brigade is located in Izra, approximately 5 km from the site. However, there are no fire hydrants within the proposed industrial area. A dedicated fire-suppression network, emergency-response facilities, and hydrant system will therefore need to be included in the OIZ design.

Large mosques are located approximately 1 km away, while Izra Church is approximately 5 km from the area. A sports facility is also planned.

2.2.5.4 Telecommunications and Internet

A modern Syriatel 4G+ communications tower has been installed in the area. However, there is no fixed telephone line. This provides a basic mobile-communications advantage, but fixed internet, fibre-optic infrastructure, DSL/ADSL access, and network capacity within the proposed industrial area have not been established.

2.2.6 Labor Market and Wages

The surrounding region has an abundant labour supply across a wide range of occupational categories, including engineers, doctors, technicians, skilled workers, and unskilled male and female workers. This provides a broad employment base for industrial production and supporting services within the proposed OIZ.

Available information indicates considerable variation in wage levels according to occupation and skill category. Reported figures include monthly salaries starting from approximately USD 300 for engineers and around USD 500 for technicians, while unskilled labour is estimated at approximately USD 14–15 per day. No specific figure is available for semi-skilled workers. A more detailed labour-market survey would be required to establish representative wage levels and total employment costs.

The general monthly wage range in the region is stated as approximately USD 150-1,000.

The standard working schedule is six hours per day and six days per week. Fridays and a limited number of official holidays are identified as non-working days.

2.2.7 Tax, Customs, and Foreign Trade Regime

The tax and social security framework is described as favourable for business establishment. Investment incentives are provided through the relevant investment authority and are determined according to the specific characteristics of each investment project. Investors may receive an average tax exemption of approximately 70 percent, with the exemption rate increasing in line with the share of production exported.

The available information also indicates that Syria has free trade agreements and incentive arrangements with most neighbouring countries. Within Syria, the movement of goods is described as unrestricted, while customs, commercial, industrial, and tax regulations are considered flexible.

The Nassib border crossing is the nearest customs gate, located approximately 60 km from the proposed industrial area. The Nassib Free Zone is also approximately 60 km away. This location may facilitate the movement of imported inputs and exported products, although the operational capacity, customs-clearance times, and available services at the border crossing and free zone have not been specified.

Despite the reported incentives, several important elements of the fiscal and foreign trade regime remain unclear. The applicable rates for income tax, corporate tax, value-added tax, customs duties, labour taxes, and other indirect taxes have not been provided. The eligibility conditions, duration, legal basis, and application procedures for the tax exemptions also require confirmation.

2.2.8 Security and Administrative Conditions

Administrative authority over the proposed industrial area rests with the Daraa Governorate and the Al-Nujayh Municipality. The municipality is directly affiliated with the Governorate and is identified as the highest local administrative authority in the area.

Security control has not yet been fully consolidated across Daraa Governorate. Weapons, local armed networks, and isolated individuals linked to former Assad-era military and security structures remain present in some areas. However, available assessments do not indicate a broad, organized former-regime insurgency centred around Izra or the proposed industrial site.

Security conditions are more sensitive in western Daraa and neighbouring Quneitra due to their proximity to Israel and the occupied Golan Heights. Military activity and the risk of escalation are higher in these border areas than around Izra. Violence in neighbouring Sweida has also displaced civilians towards Daraa, increasing pressure on housing, employment, public services, and local conflict-management mechanisms.

Cross-border smuggling remains a persistent concern. Although enforcement measures introduced over the past year have weakened large-scale Captagon production and trafficking networks, narcotics,

chemical inputs, and other illicit goods continue to move through southern Syria and across the Jordanian border. Radical armed elements are not widespread, but isolated cells and clandestine networks may still be present.

There are no security facilities, military zones, or controlled areas surrounding the proposed industrial site. So, for the proposed industrial city, these risks underline the need for an on-site security unit, controlled entry points, cargo and personnel screening, perimeter monitoring, emergency-response systems, and close coordination with the Governorate, security services, customs authorities, and the Nassib-Jaber border administrations. Particular attention should be given to preventing logistics, warehousing, and customs facilities from being used for smuggling or other illegal activities.

The surrounding settlements are characterized by a strong tribal culture. Local residents are described as welcoming towards external actors and potential investors. Nevertheless, the development and security management of the industrial city should take local customs, living conditions, and community relations into consideration. Particular attention should be given to consultation and compensation where residential structures on state-owned land may be affected.

3 Land and Climate Conditions of the Region

3.1 Ground Conditions

The Izra–Daraa area lies within the Hauran sector of the Harrat Ash Shaam volcanic province, an extensive Cenozoic volcanic field covering southern Syria and extending into Jordan and Saudi Arabia. Regional geological studies identify basaltic lava formations as a principal feature of this landscape. However, the basaltic sequence is not necessarily uniform and may include massive, fractured, weathered, and vesicular units, as well as sedimentary or clay-rich layers between volcanic formations (Al Kwatli et al., 2012; Asfahani, 2025).

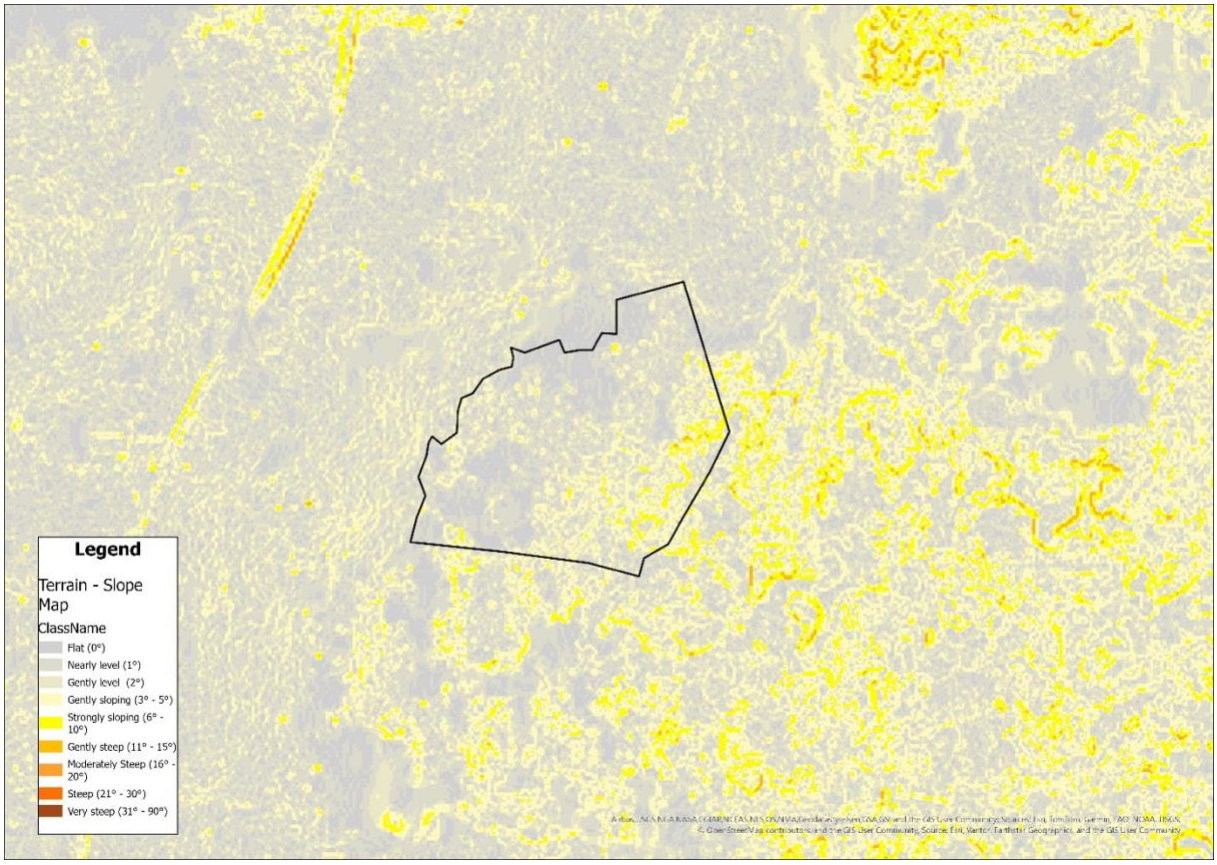
Hydrogeological research conducted in southern Syria confirms that weathered and fractured basalt formations can function as groundwater aquifers. Studies also demonstrate substantial spatial variation in aquifer depth, thickness, permeability, and protective capacity. Research on the wider Yarmouk groundwater system further indicates that groundwater quality varies according to geological formations, recharge sources, structural controls, and the mixing of basaltic, limestone, and deeper saline waters (Asfahani, 2025; Möller et al., 2020). The depth, yield, seasonal availability, and quality of groundwater at the proposed industrial site therefore cannot be determined from regional evidence alone.

The basaltic setting may provide favourable foundation conditions where competent rock occurs close to the surface. Nevertheless, fractured, weathered, clay-filled, or highly vesicular units may create variable bearing-capacity, settlement, and excavation conditions. The available literature does not provide site-specific bearing-capacity values, bedrock depths, or subsurface profiles for the proposed Al-Nujayh–Izra industrial area. Geotechnical boreholes, rock coring, geophysical surveys, groundwater observations, and laboratory testing will therefore be required before foundation systems and the suitability of individual plots for heavy industrial structures can be determined (Asfahani, 2025).

Southern Syria is also located within the broader tectonic environment influenced by the Dead Sea Fault System. Seismological research confirms active deformation and predominantly strike-slip earthquake mechanisms along Syria’s principal seismogenic belts. However, regional seismic studies do not establish the local ground response of the proposed site. A site-specific seismic assessment, including subsurface profiling, shear-wave velocity measurements, and site classification, should therefore be completed before structural design parameters are defined (Abdul-Wahed & Al-Tahhan, 2010).

Overall, the available literature identifies the Izra–Daraa region as a basalt-dominated environment with regional groundwater potential. However, the proposed site's bearing capacity, groundwater availability, drainage characteristics, and seismic response can only be confirmed through detailed site-specific geological, geotechnical, hydrogeological, topographic, and seismic investigations.

Figure 12 Slope Map of Area



Source: USGS, TEPAV visualizations

3.2 Climate Conditions

The Izra-Daraa area has a semi-arid climate with pronounced Mediterranean seasonality, characterised by hot and almost completely dry summers and cool, rainy winters. As no published long-term meteorological series was identified specifically for the proposed Al-Nujayh site, the climatological records for Daraa provide the closest available regional baseline. These data should therefore be supplemented by on-site measurements during the detailed feasibility and design stages.

Temperatures: The World Meteorological Organization (WMO) climatological series for Daraa indicates an annual mean temperature of approximately 17.5°C. July and August are the hottest months, with mean daily maximum temperatures of around 32.6°C and mean daily minimum temperatures of approximately 18-19°C. January is the coldest month, with an average daily maximum of 13.3°C and an average minimum of 3.2°C. These conditions permit construction and industrial activity throughout most of the year. Nevertheless, summer temperatures will increase demand for ventilation and cooling and require heat-protection measures for employees working outdoors or in production facilities.

Precipitation Regime: Average annual precipitation in Daraa is approximately 251 mm. Rainfall is strongly concentrated in winter: nearly 88 percent of the annual total falls between November and March, while precipitation is negligible between June and September. January is the wettest month,

with an average of approximately 61 mm, whereas July and August normally receive no measurable rainfall (WMO, 2026). The long summer dry period creates water-supply and landscaping constraints, while concentrated winter rainfall requires an adequately designed stormwater collection and discharge system.

Rainfall averages alone do not provide a sufficient basis for water planning. FAO's analysis of precipitation between 1980 and 2021 identifies substantial interannual variability, uneven seasonal distribution, recurrent drought conditions, and increasing water scarcity across Syria (Food and Agriculture Organization of the United Nations [FAO], 2021). For the proposed OIZ, industrial water demand should therefore not depend on annual rainfall or assumed groundwater recharge. Water-efficient production processes, wastewater reuse, storage capacity, and rainwater-harvesting measures should be incorporated into the feasibility assessment.

The extended dry and sunny season also provides favourable conditions for solar energy generation. The Global Solar Atlas places Syria's long-term average global horizontal irradiation within a national range of approximately 4.82–5.90 kWh/m² per day. This resource supports the consideration of an OIZ-integrated photovoltaic system, particularly as a supplementary source for common facilities, water pumping, treatment infrastructure, and backup supply. However, expected output and system size should be confirmed through a site-specific solar-resource and grid-integration assessment (World Bank, 2023).

Overall, the regional climate is generally compatible with year-round industrial activity. The principal climatic considerations for OIZ planning are summer cooling and worker heat protection, seasonal water scarcity, recurrent drought, winter stormwater management, and dust control during the prolonged dry season.

3.2.1 Natural Disaster Risk

The available screening-level data indicate that the principal natural hazards affecting the Izra area are water scarcity and wildfire, both classified as high, followed by earthquake and extreme-heat hazards, which are classified as medium. Pluvial or urban flooding is classified as very low, while no detailed river-flood data are available specifically for Izra. These classifications provide an initial indication only and do not replace a site-specific disaster-risk assessment for the proposed industrial area (ThinkHazard!, 2026).

Earthquake Risk: Izra is classified as having a medium earthquake hazard. Southern Syria lies within the wider tectonic environment influenced by the Dead Sea Fault System, one of the principal active tectonic structures affecting seismicity in Syria. National seismic-hazard studies have produced peak-ground-acceleration maps for return periods of 475, 1,000, and 2,475 years and underline the importance of using longer return periods when designing strategically important structures (Alhourani et al., 2018).

The medium hazard classification does not determine the expected ground motion or structural performance of the proposed OIZ site. Before detailed design, a site-specific seismic assessment should be conducted, including geotechnical boreholes, shear-wave velocity measurements, site classification, and an evaluation of local amplification and liquefaction potential. All industrial buildings, utility networks, storage tanks, silos, and facilities containing hazardous materials should comply with modern earthquake-resistant design standards. The OIZ should also have emergency water storage, backup electricity, alternative communication systems, first-aid capacity, and procedures for maintaining access and essential services following an earthquake.

Flood and Inundation Risk: Available hazard screening classifies pluvial flooding in Daraa Governorate and urban flooding in Izra as very low. River flooding is classified as having no hazard at the governorate level, although location-specific river-flood data for Izra are unavailable (ThinkHazard!, 2026).

This relatively low classification does not rule out localized surface-water accumulation following short periods of intense rainfall, particularly in natural depressions or where drainage routes are interrupted by roads and buildings. No detailed flood map, catchment model, or stormwater-flow analysis was identified for the proposed site. The OIZ master plan should therefore be based on a detailed topographic survey, catchment delineation, rainfall-intensity analysis, and identification of natural drainage channels. Stormwater should be collected separately from industrial wastewater and directed towards controlled discharge, retention, or infiltration facilities. Critical infrastructure should not be located in natural low points until the hydrological assessment is completed.

Water Scarcity, Extreme Heat, and Wildfire Risk:

Screening-level assessments suggest that water scarcity and wildfire may represent relatively significant hazards for Izra, while the risk associated with extreme heat appears to be moderate (ThinkHazard!, 2026). Long-term precipitation analysis for Syria also indicates strong seasonal and interannual variability, recurrent drought conditions, and increasing pressure on available water resources (FAO, 2021). These climate-related hazards are likely to have greater operational significance for the proposed OIZ than large-scale flooding.

The industrial area should therefore incorporate water-efficient production processes, treated-wastewater reuse, adequate emergency water storage, and contingency arrangements for prolonged supply interruptions. Wildfire and industrial-fire risks should be managed through firebreaks, vegetation control, hydrants, dedicated firefighting water reserves, and reliable access for emergency vehicles. Heat-resistant equipment specifications, ventilation and cooling systems, shaded working areas, and occupational heat-management procedures should also be incorporated into the project design.

Overall, earthquake risk requires resilient structural design and emergency preparedness, while flood risk appears comparatively limited but still requires site-specific drainage planning. Water scarcity, extreme heat, and wildfire constitute the most important climate-related risks for the long-term operation of the proposed industrial area.

4 Preliminary Design for Daraa OIZ

This section presents three preliminary spatial development alternatives prepared for the area planned for the initial phase of the Daraa Organized Industrial Zone. Rather than defining a final master plan, the alternatives are intended to examine how the site could be organized under different sectoral orientations, production structures, and investment priorities. Each alternative provides a distinct framework for the distribution of industrial plots, production and storage areas, logistics facilities, administrative and social services, technical infrastructure, open spaces, and internal circulation networks.

The alternatives were developed by considering the site's physical characteristics, long-term expansion potential, surrounding settlements, regional production capacity, labour availability, and connections to the Damascus–Amman highway and the nearby railway corridor. The preliminary designs also respond to the infrastructure requirements identified during the field assessment, particularly the need for internal roads, electricity distribution, continuous water supply, wastewater treatment, stormwater drainage, telecommunications, fire protection, and dedicated logistics facilities.

The three alternatives should therefore be understood as scenario-based planning options rather than final or mutually exclusive proposals. They allow different approaches to sectoral specialization, land-use intensity, plot structure, circulation, infrastructure requirements, environmental performance, and phased implementation to be assessed comparatively. Elements from more than one alternative may ultimately be combined following detailed demand analysis, investor consultations, engineering

studies, environmental assessments, and confirmation of the site boundaries and applicable planning framework.

4.1 First Alternative

The first alternative proposes an agriculture-specialized development model that builds on Daraa's agricultural production base and the wider productive capacity of the Hauran Plain. The spatial concept is designed to bring agricultural production, controlled-environment cultivation, processing, storage, logistics, technical infrastructure, and supporting services together within an integrated industrial zone. The objective is not only to accommodate agricultural production facilities, but also to establish a complete value-chain structure in which locally produced raw materials can be processed, packaged, stored, and prepared for domestic and regional markets within the same planned area.

- The master plan is organized around a clearly defined internal circulation structure that connects the main entrance, production areas, industrial plots, logistics facilities, and administrative and social functions. The northern and northeastern sections of the site are primarily allocated to greenhouse and controlled-production areas. Their regular and modular layout allows production units to be developed in phases and adjusted according to investor demand, crop type, greenhouse technology, and water and energy requirements. The concentration of these functions within a distinct zone would also facilitate the shared provision of irrigation, energy, climate-control, and agricultural service infrastructure.

- Industrial processing, packaging, storage, and warehouse facilities are distributed across the central, southern, and western sections of the site. These plots are intended to accommodate activities such as food processing, grading and sorting, cold storage, packaging, agricultural-input production, machinery maintenance, and other manufacturing activities associated with the regional agricultural economy. The proximity of the production and greenhouse areas to the processing and storage facilities would reduce internal transport distances, shorten the time between harvesting and processing, and limit product losses, particularly for perishable goods.

- The design also incorporates dedicated areas for logistics and freight movement. Industrial buildings are positioned along roads capable of accommodating trucks, loading operations, and service vehicles, while the circulation network is structured to limit conflicts between heavy vehicles, employee transport, and pedestrian movement. This organization would support the transfer of products from production and processing facilities to the Damascus–Amman corridor, the Nassib border crossing, and wider regional markets.

- Administrative, commercial, training, and employee-oriented services are concentrated near the main entrance and along the central development axis. This area may include the OIZ administration, investor services, vocational training facilities, meeting and business-support spaces, food and retail services, and other common facilities. The location of these functions near the entrance would make them accessible without requiring visitors and service users to enter production and freight-intensive parts of the site.

- Social and recreational facilities are positioned separately from the principal industrial and logistics areas. Sports fields, landscaped common areas, and employee facilities are intended to improve the working environment and provide services for the future workforce. Their separation from heavy production and freight movements contributes to occupational safety and creates a more legible functional organization within the industrial zone.

- The alternative also includes areas for renewable energy and environmental infrastructure. Solar-energy installations could supplement electricity supply for common facilities, greenhouse systems, water pumping, and infrastructure operations. Water-storage, wastewater-treatment, and reuse facilities are located at the edge of the development area, allowing treated water to be

considered for landscaping, industrial processes, or nearby agricultural activities, subject to appropriate treatment standards. Green corridors and landscaped buffers support drainage, dust control, microclimatic regulation, and separation between different land uses.

Overall, this alternative positions the Daraa OIZ as an integrated agriculture-based production and industrial platform. Its principal advantage lies in connecting the region's existing agricultural capacity with higher-value processing, storage, logistics, and export functions. Its implementation would nevertheless require detailed assessments of water availability, energy demand, greenhouse operating costs, crop and product selection, cold-chain requirements, investor demand, and the long-term sustainability of groundwater use.

Figure 13 First Alternative Concept Design

Source: TEPAV visualizations

4.2 Second Alternative Plan

The second alternative proposes a general industrial development model structured around a more conventional organized industrial zone layout. Compared with the first alternative, this scenario places less emphasis on agricultural specialization and instead focuses on creating a balanced industrial environment capable of accommodating large-scale manufacturing, light industry, logistics, small and medium-sized enterprises, and supporting administrative and social services within a unified spatial framework. Its main objective is to establish a flexible and scalable industrial platform that can attract a broader range of investors while maintaining a clear internal hierarchy and an orderly circulation system.

- The spatial structure of this alternative is organized around a strong main avenue and a central development axis that define the overall layout of the site. This creates a legible internal structure in which industrial parcels, logistics functions, service areas, and social facilities are clearly separated yet remain functionally connected. The main circulation system is reinforced by roundabouts and secondary roads, allowing different parts of the site to be reached efficiently while improving traffic distribution and internal accessibility.

- A major component of this alternative is the allocation of dedicated areas for large-scale and light-manufacturing activities. These parcels are generally positioned along the outer sections of the site and in areas with strong access to the main road network, enabling them to accommodate larger buildings, loading operations, storage functions, and heavy vehicle movement. Their size and arrangement suggest suitability for a wide range of activities, including light manufacturing, assembly, processing, warehousing, and medium-scale industrial production. The presence of large, regular plots also supports phased development and gives investors flexibility in terms of building size, layout, and operational requirements.

- A separate logistics zone forms another important element of the plan. This area is designed to accommodate freight movement, truck access, loading and unloading operations, and warehouse-related services. Its positioning within the overall site structure helps reduce conflicts between freight traffic and other daily activities, while also supporting efficient connections between production parcels and external transport corridors. In operational terms, this would strengthen the OIZ's capacity to function not only as a production area but also as a logistics and distribution platform linked to wider domestic and regional markets.

- In addition to large industrial parcels, the plan includes a SME workshop zone intended for smaller enterprises, subcontractors, repair and maintenance activities, and start-up production units. This component broadens the economic base of the OIZ by creating space for firms that may not require large parcels but can contribute to production networks, supplier relationships, and employment creation. The inclusion of smaller workshop areas is particularly important for developing local entrepreneurship and integrating small and medium-sized businesses into the industrial ecosystem.

- Administrative and social facilities are concentrated along the central axis in a prominent and accessible location. This part of the design functions as the civic and institutional heart of the organized industrial zone. It may accommodate OIZ management offices, investor support services, meeting and training facilities, commercial units, and communal open spaces. The presence of social infrastructure, including landscaped public areas, employee amenities, and religious facilities, supports the creation of a more complete and service-oriented industrial environment rather than a purely utilitarian production enclave.

- The plan also incorporates environmental and technical infrastructure as integral elements of the overall design. A wastewater-treatment facility is included within the site, indicating that environmental services are considered part of the initial planning framework. Green areas and

landscaped buffers are distributed throughout the site, although at a more limited scale than in the first alternative. These spaces can contribute to dust control, microclimatic comfort, visual quality, and the separation of potentially incompatible land uses. The visual material also suggests the possible use of rooftop solar systems on industrial buildings, which could support energy efficiency and reduce operating costs over time.

From a planning perspective, the main strength of this alternative lies in its clarity, flexibility, and investment readiness. The land-use structure is easy to read, the road hierarchy is well defined, and the parcel system appears suitable for phased implementation. At the same time, the diversified program of large industrial plots, logistics facilities, SME workshops, and administrative and social services makes this alternative adaptable to different investor profiles and sectoral demands. For these reasons, this scenario may be particularly suitable if the development objective is to create a broadly accessible and operationally efficient industrial zone capable of attracting a mixed portfolio of industrial and logistics investments.

Figure 14 Second Alternative Concept Design

Source: TEPAV visualizations

4.3 Third Alternative

The third alternative proposes a general industrial development model with a moderate orientation towards chemical and related manufacturing activities. This scenario should not be understood as a

heavy petrochemical or high-risk industrial model. Rather, it is conceived as an organized industrial zone structure capable of accommodating a broader industrial mix while providing relatively more suitable conditions for sectors such as plastics, packaging materials, construction chemicals, cleaning products, paint and coating production, agricultural inputs, selected pharmaceutical-related activities, and other light- to medium-scale chemical manufacturing operations.

The overall spatial structure is defined by a strong internal road hierarchy, multiple roundabout connections, and a clearly legible parcel system. Compared with the previous alternatives, this layout gives greater emphasis to regularity, plot clarity, and the efficient separation of circulation, production, service, and technical infrastructure functions. The main development spine organizes the site in a north–south direction, while secondary roads distribute traffic across a series of relatively large and medium-sized industrial blocks. This structure supports both phased development and operational flexibility, allowing plots to accommodate different production types with varying building footprints, storage needs, and logistics requirements.

One of the main advantages of this alternative is its suitability for industries requiring more controlled operational environments and stronger technical infrastructure. The relatively regular parcel geometry and the separation of larger production blocks create favourable conditions for industrial uses that may require dedicated loading areas, internal storage space, controlled access, and greater separation from neighbouring plots. In this respect, the alternative appears more appropriate for chemical-related production than a purely mixed and compact industrial layout, while still remaining within the scale of a conventional organized industrial zone.

The plan also allows for a clearer distinction between large industrial parcels, medium-sized production units, and supporting business areas. This would make it possible to accommodate a combination of anchor investors and smaller supplier firms within the same industrial ecosystem. Larger parcels may be used for industrial plants with higher utility demand, warehousing, packaging, formulation, or assembly operations, while smaller and medium-sized plots could support subcontractors, component suppliers, workshops, maintenance units, and firms engaged in finishing and distribution activities. This structure is particularly relevant for chemical-related sectors, where production often depends on supplier linkages, packaging operations, and logistics integration rather than on a single large-scale facility alone.

A further strength of this alternative is the attention given to access control, logistics organization, and internal circulation. The site appears to be served by multiple entry points connected to the surrounding road system, including the M5 corridor, which would improve traffic distribution and reduce dependence on a single gate. The internal road network is broad and orderly, allowing heavy vehicles to circulate efficiently between production plots, storage areas, and external transport routes. Such a configuration would be particularly beneficial for sectors handling raw materials, packaged inputs, industrial supplies, and outbound freight on a routine basis.

In functional terms, this alternative also appears compatible with the establishment of a more robust utility and environmental-management framework. The presence of dedicated areas for treatment and service infrastructure is especially important for a development model that includes a limited concentration of chemical-related industries. Even where heavy or hazardous chemical production is not envisaged, sectors such as cleaning products, paint, plastics, fertilizers, or construction chemicals require stronger attention to wastewater management, storage standards, ventilation, fire safety, and controlled handling of materials. The spatial structure of this alternative is more capable of accommodating these requirements than a simpler mixed-use industrial layout.

Administrative and service functions remain an important component of the plan. Social, institutional, and service-oriented uses are positioned around the main central axis, creating a recognizable core within the industrial zone. This would support OIZ management, investor services, workforce facilities, and other shared functions while maintaining a degree of separation from the more intensive

production areas. In practical terms, this helps preserve a clear internal order and reduces potential conflicts between administrative uses and freight-intensive industrial operations.

From a development perspective, the main value of this alternative lies in its balance. It does not require the scale, risk profile, or highly specialized infrastructure of a heavy chemical or petrochemical complex. At the same time, it offers a more suitable framework than a purely generic industrial layout for attracting selected chemical and industrial-processing activities that are realistic for the Daraa context. It may therefore be considered a middle-ground scenario: one that broadens the industrial profile of the OIZ, increases value-added potential, and improves sectoral diversity, while remaining compatible with the site's physical conditions, infrastructure constraints, and phased development logic.

Figure 15 Third Alternative Concept Design

Source: TEPAV visualizations

5 Conclusion

The Pre-Feasibility Study for the Daraa Organized Industrial Zone was prepared to assess whether an OIZ-based approach could support post-conflict economic recovery in southern Syria. The study first examined the broader institutional and economic role of organized industrial zones, drawing on Turkey's experience and the investment intentions of Syrian-partnered companies operating in Turkey. This framework was then applied to Daraa through field observations, information obtained from the relevant local authorities, technical and environmental assessments, trade analysis, and three preliminary spatial development alternatives.

The findings indicate that the proposed Al-Nujayh-Izra area has significant strategic potential for industrial development. Its location near the Damascus-Amman international highway, approximately 2.5 km from the proposed site, provides access to Damascus, the Nassib-Jaber border crossing, Jordan, and Gulf markets. The site is also approximately 75 km from Damascus and Damascus International Airport. Most importantly, an existing railway alignment is reported to pass approximately 2 km from the proposed area. If rehabilitated and connected to the industrial city, this railway could strengthen the zone's role in freight transport, cargo consolidation, warehousing, customs clearance, and intermodal road-rail logistics.

Daraa's agricultural production base, available labour, proximity to Jordan, and access to regional markets create a strong basis for agro-food processing, cooling, sorting, packaging, storage, construction materials, light manufacturing, and logistics services. The current composition of Syria-Jordan trade also indicates a degree of complementarity: Syria supplies agricultural and food products, while Jordan provides food-processing inputs, plastics, electrical equipment, and other industrial goods. The proposed OIZ could therefore support a regional value chain in which Syrian agricultural products are processed locally using domestic, Jordanian, and Turkish inputs and then supplied to Syrian, Jordanian, and Gulf markets. It could also help restore Syria-Jordan trade, which remains considerably below its pre-conflict level.

The project could also create broader benefits for Turkey. Turkish companies could participate as suppliers of machinery, electrical equipment, metals, plastics, packaging materials, production technologies, construction services, and technical expertise. If ongoing efforts to rehabilitate north-south railway connections between Turkey, Syria, Jordan, and Gulf markets advance, the proposed industrial city could become part of a wider regional transport and production corridor. Its proximity to the railway therefore represents not only a local logistics advantage but also a potential connection between Turkish production networks and markets in southern Syria, Jordan, the Arabian Peninsula, and the Red Sea.

The wider site comprises approximately 14 million m² of state-owned land, while the initial development phase is envisaged at approximately 1.5 million m². This scale provides considerable long-term expansion potential and allows the project to be developed in phases. However, the site boundaries have not yet been formally determined, a specific zoning plan has not been completed, and the conditions governing land transfer, leasing, plot allocation, and the proposed build–operate–transfer model require clarification. Residential structures located on state-owned land must also be addressed through consultation, transparent planning, and appropriate compensation arrangements where necessary.

The principal infrastructure requirements are substantial but identifiable. Existing roads immediately adjacent to the site provide functional external access, although an internal road network must be constructed and the route towards Al-Nujayh requires rehabilitation. Electricity infrastructure needs to be upgraded through new distribution lines, a dedicated substation, and reliable backup capacity. Continuous industrial water supply must be confirmed through hydrogeological studies, while sewage, wastewater treatment, stormwater drainage, natural gas, fire protection, fixed telecommunications,

truck parking, and common logistics facilities will largely need to be developed as part of the OIZ investment. The zone should therefore be planned as an integrated infrastructure project rather than simply as a subdivision of industrial land.

The ground and climatic conditions do not present an evident obstacle to industrial development, but the available regional evidence is insufficient to confirm site-specific construction parameters. The basalt-dominated environment may offer favourable foundation conditions, although bearing capacity, groundwater yield and quality, drainage behaviour, and seismic response must be verified through detailed geological, geotechnical, hydrogeological, topographic, and seismic studies. The semi-arid climate is generally compatible with year-round industrial activity and offers favourable solar-energy potential. Nevertheless, water scarcity, summer heat, drought, wildfire, and the need for controlled winter stormwater management should be incorporated into infrastructure and operational planning from the outset.

The three preliminary design alternatives demonstrate that the site can accommodate different development models. The first alternative builds on Daraa's agricultural base through an integrated structure combining controlled agricultural production, agro-processing, cold storage, packaging, and logistics. The second offers a flexible general industrial model incorporating large industrial plots, light manufacturing, logistics, SME workshops, and common services. The third provides a more specialized framework for selected chemical-related and medium-scale manufacturing activities requiring stronger utility, storage, safety, and environmental-management systems. At this stage, these alternatives should not be treated as mutually exclusive. A phased approach could initially prioritize agro-food industries, logistics, light manufacturing, and SME facilities, while reserving appropriate areas for more utility-intensive and specialized activities once investor demand, infrastructure capacity, and environmental requirements have been confirmed.

The OIZ could also contribute to employment, local income generation, and stability in southern Syria. Formal economic opportunities may reduce some of the incentives associated with smuggling, narcotics trafficking, and other illicit activity. Nevertheless, unresolved security risks, illicit cross-border movements, isolated armed networks, and possible regional escalation require a clearly defined security-management framework. Controlled entry points, cargo and personnel screening, perimeter protection, emergency-response capacity, and close coordination between the OIZ administration, Governorate, customs authorities, security institutions, and the Nassib–Jaber border administrations should therefore form an integral part of the project.

The project's success will ultimately depend on the establishment of a predictable legal, institutional, and financial framework. The responsibilities of the OIZ administration, landowner, municipality, Governorate, investment authority, infrastructure providers, customs administration, and private developer must be clearly allocated. Tax and customs incentives, licensing procedures, land-use rights, investor protections, dispute-resolution mechanisms, infrastructure tariffs, and the conditions for transferring profits and equipment should also be confirmed before investment promotion begins. Financing will likely need to combine public resources, private investment, international development finance, and contributions from infrastructure and logistics partners.

In conclusion, the pre-feasibility findings indicate that the Al-Nujayh–Izra site has strong potential to accommodate an organized industrial zone serving Daraa, southern Syria, and wider regional markets. Its main advantages are its location on Syria's southern trade gateway, proximity to the Nassib-Jaber crossing and an existing railway alignment, agricultural and labour resources, large long-term expansion area, and potential connections with Jordanian, Turkish, and Gulf supply chains. Its constraints, particularly infrastructure deficiencies, incomplete land and planning arrangements, water uncertainty, institutional gaps, and security risks, are significant but can be addressed through phased development and coordinated public-private investment.

The recommended next step is therefore to proceed to a detailed feasibility stage. This should include confirmation of the site boundaries and land model; investor and sector-demand analysis; detailed engineering, environmental, geotechnical, hydrogeological, transport, railway, and security studies; preparation of a phased master plan; definition of the OIZ's governance and legal framework; and development of a financing and implementation plan. If these conditions are met, the Daraa OIZ could become a pilot platform for production, employment, regional trade, and economic stabilization in southern Syria, while providing a model that could later be adapted to other regions of the country.

6 Annex: TEPAV–Daraa OIZ Structured Question Form

General Location

- What is the location of the area (environmental conditions, neighbourhood characteristics)?
- Are the boundaries clearly defined and enclosed?
- What are the ground conditions of the land? (Geology, slope, elevation, etc.)
- Which is the nearest city centre and what is its distance?
- Which is the nearest district centre and what is its distance?
- Which is the nearest urban centre and what is its distance?
- Which is the nearest university and what is its distance?
- Which are the nearest main and relevant industrial centres, and what are their distances?

Ownership Information

- Who owns the land?
- Who owns the infrastructure?
- Who owns the superstructure?
- Is the transfer of ownership possible?
- What is the market price of the land? (m^2 / USD)
- What is the monthly land rental price? (m^2 / USD)
- What is the monthly building rental price? (m^2 / USD)
- What is the total area? (m^2)
- How many buildings are there?
- What is the total floor area of the buildings? (m^2)

Transport Facilities

- Are there access roads? What are their distance (km) and quality?
- Is there a port? What are its distance (km) and quality?
- Is there an airport? What are its distance (km) and quality?
- Is there an asphalt road? What are its distance (km) and quality?
- Are there international transport companies? What is their quality?
- Which airline companies operate and what is the frequency of flights?
- Is there a railway station? What are its distance (km) and quality?

Road Infrastructure

- What is the structure of the roads? (asphalt / concrete / stabilized / dirt)
- What is the road width?
- Are there parking areas and a truck parking area? What is their capacity?
- What is the total length of the road network? (km)

Electricity Infrastructure

- What is the condition of the grid (infrastructure and superstructure)?
- Is the grid independent or part of the local network?
- What is the distance to the transformer station?
- What is the capacity of the transformer station? (MW)
- What are the structure and capacity of the external grid?
- What are the characteristics and capacity of the source of supply?
- What is the electricity price? (USD/kWh)
- What are the structure and capacity of the internal grid?
- How many transformers are there and what are their capacities?
- From where is the electricity supplied?
- How is the continuity of electricity supply (frequency of outages)?

Water Supply

- Are drinking water and utility water supplied separately?
- What are the source and quantity of drinking water?
- What are the source and quantity of utility water?
- What are the structure of the water network and the daily leakage rate?
- How is the continuity of the water source?
- What are the laboratory analysis results for drinking water?
- What are the laboratory analysis results for utility water?
- What is the price of drinking water? (USD/m^3)
- What is the price of utility water? (USD/m^3)
- What is the total length of the drinking water network? (km)
- What is the total length of the utility water network? (km)
- Is there a chlorination plant?
- Is there a water reservoir? If yes, what is its capacity? (m^3)

Wastewater Infrastructure

- What is the quality of the wastewater network?
- What is the capacity of the wastewater network? (m^3/h)
- What is the length of the network? (km)
- Is it connected to industrial facilities?
- Do firms have pre-treatment plants?
- What is the quality of the wastewater?
- What is the final discharge point?
- How many discharge points are there?
- What is the legal framework regarding this issue?
- How does the wastewater collection and treatment system operate?

Wastewater Treatment Plant

- Is there a wastewater treatment plant?
- What is the quality of the plant?
- What is the capacity of the plant?
- What is the discharge point?
- What is the sludge disposal method?
- What are the laboratory reports for the incoming water?
- What are the laboratory reports for the outgoing (treated) water?
- If there is no plant, is there an available area for its construction?
- What is the legal framework regarding discharge standards?

Natural Gas

- Is natural gas available in the area?
- Is the distribution network independent?
- What is the available volume of natural gas? Is it sufficient?
- What is the condition of the distribution network?
- Does each plot have access to natural gas?
- Who operates/manages the natural gas network?
- What is the price of natural gas?
- How is the continuity of natural gas supply?

Stormwater (Rainwater)

- Is there a stormwater (rainwater) drainage network?
- What is the annual precipitation level? (kg/m²)
- What are the quality and adequacy of the network?
- What is the discharge point?
- Does each plot have access to this network?

Social and Support Infrastructure

- Is there a management/administration centre? Is it adequate?
- Is there a bank or a bank building on site?
- What is the distance to the nearest bank?
- Are there restaurants or catering companies in the vicinity? What is the distance?
- Is there a health centre? What are its distance and quality?
- Is there a first-aid/ambulance facility? What is the distance?
- Is there a fire brigade? What is the distance?
- Are there fire hydrants on the plots?
- Is there a shopping centre? What is the distance?
- Is there a hotel? How many stars does it have and what is the distance?
- Is there a place of worship? (mosque, church) What is the distance?
- Is there a sports facility?

Telecommunications Infrastructure

- Is there a telecommunications infrastructure?
- What is the quality of the network? (underground, overhead, fibre, copper)
- Is there an ISDN network?
- Is there a telephone exchange? What is the distance?
- What are the capacity and expansion possibilities of the telephone system?
- Is there internet access? Who is the service provider, what is the capacity, and what is the cost?
- Is DSL/ADSL available? What is the cost?
- Does the distribution network reach all plots?
- Is there a GSM network? Is its capacity sufficient?
- What are the local and international call charges?

Climatic Conditions

- What are the monthly temperature values?
- What is the monthly average precipitation?
- Is there a wind feasibility study?

Zoning and Construction

- Is there a zoning/development plan?
- What are the criteria for amending the zoning plan?
- What is the plot coverage ratio? (How much construction is allowed per 100 m² of land?)
- What is the floor area ratio? (Total construction area allowed per 100 m² of land?)
- What is the maximum building height?
- Which authority issues the construction permit? How many days does it take? What is the fee?
- Which authority issues the operating licence? How many days does it take? What is the fee?
- How many documents are required for the operating licence? How fast is the process?
- What are the conditions for establishing and registering a business?

Labour Force and Wages

- What is the supply of engineers? What are their wages?
- What is the supply of technicians? What are their wages?
- What is the supply of semi-skilled workers? What are their wages?
- What is the supply of unskilled workers? What are their wages?
- What is the monthly minimum wage?
- What are the weekly working hours?
- How many public holiday days are there per year?
- What are the labour tax and social security contribution rates?

Social Security Legislation

- What is the social security legislation?
- What is the impact of the social security law on wages?

Tax Legislation

- What is the tax legislation?

- What are the income tax, corporate tax, and VAT rates?
- Is there a customs duty? What are the rates?
- What other taxes exist and what are their rates?
- How effective is the tax administration in tax collection?

Foreign Trade Opportunities

- Are there free trade agreements, and what do they cover?
- What is the scope of the free trade agreements? (duration and sectors)
- How close are the border crossing points? What are the customs processing time and capacity?
- What is the quality of the logistics companies?
- What are the customs regulations and how effective is the customs administration?

Other Issues

- Is there free movement of goods and people within the country?
- What are the conditions for employing foreign workers?
- What is the fuel cost? (diesel / gasoline)
- How much are apartment rental prices?
- How much are vehicle rental fees?

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