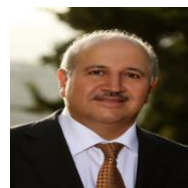


Jordan's Economic Growth: Drought as a Negative Externality



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Jordan's Economic Modernization Vision, coupled with the government's initiatives, has contributed to a real economic growth rate of 2.8% in the second quarter of 2025. This outcome has surpassed expectations and projections, providing optimism for continued progress in the years ahead. However, it is important to note that this growth rate could have been higher were it not for the severe drought that affected the country last year. During that period, rainfall did not exceed 50% of the long-term average, significantly influencing economic performance.

The negative impact of drought on economic growth is categorized as an external factor, known as a negative externality. Unlike standard market forces, the impacts of drought on water shortages, lower food output, and higher agricultural prices, are not directly linked to producers or reflected in market prices. The repercussions of drought do not fall under the responsibility of the sectors most affected, as these are driven by environmental conditions beyond their control. Nevertheless, these effects are felt across the macroeconomy and society.

The drought experienced during the previous rainy season, which is partially linked to the broader issue of climate change, represents a significant economic externality. Its negative impact is evident in water scarcity, reduced agricultural production, lower vegetation cover density, disrupted ecosystems and biodiversity, and weaker supply chains. A quantitative understanding of these impacts is essential, as it is evident that, without the drought, GDP and economic growth would have been higher than the reported figures.

The country experienced a water deficit in dams' storage of approximately 100 million cubic meters, which corresponds to an economic value exceeding 140 million Jordanian dinars. This estimate is based on an opportunity cost of 1.4 Jordanian dinars per cubic meter, averaged across domestic and irrigation waters. The drought also led to a decline in the provision of related services and goods.

In the olive oil sector, preliminary estimates indicate a production decrease of 15,000 tons compared to the previous year. This shortfall translates into a loss of approximately 75 million dinars for farmers and represents a forgone opportunity for exports. Additionally, groundwater recharge, typically averaging around 275 million cubic meters annually, was nearly zero during this period. Well owners reported a significant drop in groundwater levels and increased salinization, with the economic value of mitigating this shortage estimated at over 385 million dinars.

A further consequence of the drought was the reduction in soil moisture, which jeopardized the sustainability of rainfed agriculture, including fruit trees, forestry, and field crops. Tree survival rates under these conditions were about 50%, as evidenced by the weakened look of trees throughout Jordan. This has resulted in substantial economic costs related to decreased production, the need for alternative crops, and reduced success rates in replanting,

particularly for forest species. These challenges have led to significant financial losses and additional economic burdens.

According to the latest international methodologies for quantification of drought as an external factor in economic growth, such as those outlined by the Organization for Economic Cooperation and Development (OECD), a decline of 100 mm of rainfall per year in arid and semi-arid regions like Jordan can negatively impact economic growth by approximately 0.2% annually. Last year, Jordan experienced a decrease in rainfall of at least this magnitude.

When considering the estimated economic losses within the water and agriculture sectors, it is clear that the negative effects of drought have reduced economic growth by at least 0.2%. This figure does not include other indirect environmental costs that further affect national economic performance.