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Uzbekistan's Path to Recover and Revitalize Interregional Trade

As M.S. Swaminathan, leader of India's Green Revolution (Encyclopædia Britannica), once said, "if agriculture goes wrong, nothing else will have a chance to go right." Seeing as agriculture provides food for the population of every nation in the world, this adage has rung true since the beginning of time. While countries around the world have unified under the importance of a strong agriculture sector, the international community often turns a blind eye towards Central Asian countries who are suffering from significant food insecurity issues. Primarily, Uzbekistan has endured decades of food insecurity since the early 1990s (United Nations World Food Programme, 2008). This has led to serious implications of political, economic, and social failure.

In a country where nearly 60% of the population is employed in the agriculture industry, it seems implausible that food insecurity could be a major issue (United Nations World Food Programme, 2008). Yet, Uzbekistan still suffers from difficult food insecurity to this day. The problem, in large part, originates back to the times of the Soviet Union, a conglomerate of countries including many Central Asian nations, such as Uzbekistan, formally known as the Union of Soviet Socialist Republics (USSR). The dissolution of the Soviet Union in 1991 led to the creation of self-sufficiency policies in agricultural goods in many formerly Soviet states, causing the breakup of interregional trade in Central Asia (Babu and Rhoe). As a result, Uzbekistan lost the ability to export food products that are to the comparative advantage to the country, such as grains and wheats that were commonly farmed and produced by the Uzbek people (Babu and Rhoe).

While a large percentage of the population works in agriculture, the agriculture industry is slowly declining in economic output. As a result of the long term economic implications of the Soviet Union's dissolution, agriculture makes up only around 25 percent of the nation's GDP. While 20 percent is still a fair amount compared to other developed nations, considering how much of the Uzbek population is employed in agriculture, this statistic should be much higher than it is (Horticulture Value Chain Development). Agriculture constitutes a declining share of Uzbekistan's GDP, although it is employing an increasing amount of Uzbek people. Specifically, exports in cotton, one of Uzbekistan's most grown crops and a major source of Uzbekistan's revenue, have been decreasing each year. In terms of GDP, revenue from cotton dropped from 10 percent in 1992 to 1.8 percent in 2016 (Pike). This, in large part, is due to the difficulty Uzbekistan has with international and interregional trade. Numerous trade barriers have led to crippling food insecurity issues for the population of Uzbekistan.

Agriculture is not only an important part of both the Uzbek economy, but also its society. Of its population of around 31,000,000, 63.41 percent is made up of those living in rural communities (World Bank Group) with around 40 percent of the population being employed in agriculture (Babu and Rhoe). Between the years 2000 and 2014, the rural population grew at a faster rate than the urban population (World Bank Group), which makes it unsurprising that the agricultural industry makes up roughly one-quarter of the Uzbek GDP (The Global Economy, 2021).

Yet another lingering impact of Uzbekistan's Soviet past are the farms themselves. Farmers in Uzbekistan tend to have relatively large farms, due to the nation's history of being a part of the Soviet Union (Curtis, 1996). Before the breakup of the USSR, Uzbekistan's agriculture was dominated by state and collective farms (Curtis, 1996). In 1990s, 2,108 of these farms were still in operation. As a result of the domination

of these collectives, the average farm size was over 24,000 hectares (Curtis, 1996). In comparison, the average farm size in America is only 444 acres (National Agricultural Statistics Service, 2020).

1,100 people are employed in each of these farms, which supplies a typical Uzbek family of 5.2 members with both money and food (Esteve, 2017), though the latter presents a concerning issue. Though the country provides adequate food and calories to feed its people, there is great economic disparity which contributes to the food disparity as well. Nearly 30 percent of the Uzbek people live below the food poverty line and cannot supply themselves with the necessary nutrients (International Food Policy Research Institute, 2010). The poorest 20 percent of the population will spend 61 percent of their yearly income on food (International Food Policy Research Institute, 2010). While almost all of children in the nation (92 percent) have access to primary and secondary education (The Borgen Project, 2019), they are not educated on what constitutes a healthy meal. Due to a lack of education on a proper diet, most Uzbek people eat a diet dominated by cereals, grains, and wheat. However, considering that 80 percent of the country's cultivated land is used to grow wheat and cotton, this comes as no surprise (International Food Policy Research Institute, 2010). Because of a lack of education and a lack of necessary nutrients, even those who can afford to feed themselves cannot be properly nourished with a daily meal.

In most other sectors, Uzbekistan is relatively developed. In terms of medical coverage, the nation has a public healthcare system (IAMAT, 2021). While adequate healthcare is limited, healthcare has improved in recent years, with a growing public and private sector (IAMAT, 2021). Upper-class Uzbek citizens have access to everyday necessities, including electricity (The World Bank Group, 2021), public roads, and transportation (Atlassian Confluence). However, around 20 percent of the rural population lacks access to proper sanitation and clean, safe drinking water (The Water Governance Facility). A struggling agriculture sector has led to a struggling lower and middle class, who at times, lack even the most basic necessities.

While Uzbekistan's interregional trade has been struggling for a multitude of reasons, when looking towards the future of Central Asian trade, Uzbekistan must draft legislation and compromises with its neighbors. Although, firstly, in order to capitalize on future interregional trade, the Uzbek people have to primarily focus on maximizing crop yields. However, farmers face many challenges when growing crops due to the geographic factors of the nation (CIA 2021).

One of the most pertinent challenges for farms in Uzbekistan is the issue of water shortages. The cultivable land is an estimated 25.4 million hectares, yet only 18 percent of the land is cultivated due to lack of available water for farming (FAO, 2012). Water availability, in large part, is reliant on the political standings of Uzbekistan with its neighbor nations. Specifically, Kazakhstan and Kyrgyzstan are nations that have signed agreements with Uzbekistan revolving around dams in the upper Syr Darya river basin (FAO 2012). Similar agreements can be found between Tajikistan and Uzbekistan as well concerning the management of the Kayrakkum reservoir in Tajikistan (FAO 2012). Uzbekistan, a republic (U.S. Department of State, 2008) led by President Shavkat Mirziyoyev (CIA 2021), has had some political rumblings with its neighbors. Because of this, the Uzbek citizens have been suffering. If agreements on water management and usage could be reached, Uzbekistan could resolve many of its current water shortage issues. Nevertheless, because such an agreement would require Uzbekistan to commit to delivering fossil fuel energy to Kyrgyzstan and Tajikistan to limit the usage of hydropower during times of water shortage, it is unlikely that this sort of agreement will ever be reached (FAO 2012).

Seeing as political agreements are not a viable solution for the water shortages of Uzbekistan, farmers can turn towards another feasible resolution: irrigation. While irrigation has been practiced for thousands of years in Uzbekistan, large-scale infrastructure for irrigation was constructed during the Soviet era when there was a growing need for cotton and grains (Kim, 2018). However, since independence from the Soviet Union in the 1990s, Uzbekistan has been faced with the problem of declining water management

and a growing water deficit (Kim, 2018). Along with that, the Uzbek government also faces a lack of funds for further irrigation development projects. Because negotiating transboundary water issues is difficult to achieve due to Uzbekistan's political standing, updating outdated irrigation systems seems to be a much more reasonable solution.

Since independence, there has been little to no further irrigation development, thus management of water resources has focused on maintenance of existing irrigation systems. Case in point: capital investment in water irrigation decreased from 37 percent of the water maintenance budget in 1990 to just 5 percent in 1999. This issue cannot go unnoticed (Kim, 2018). In Central Asia, the largest water user is Uzbekistan, yet the nation simultaneously has the least potential to create water resources. Inefficient water irrigation systems are hurting farmers, and in effect, the rest of the Uzbek society as a whole.

Irrigation projects have already been underway within the past few years. Specifically, the GEF Small Grants Programme focused on fixing irrigation in the Yangiaryk District of the Khorezm region, located near the lower end of the Amu Darya River in the Aral Sea Basin (GEF). This district in particular experiences more water shortages than any other district in the region due to its geography of being located further from the river (CIA 2021). The steps taken in this project could be used as a model for future irrigation projects in the nation.

The project aimed toward decreasing the usage of electric water pumps that are often used by farmers in the area, which are detrimental to the environment, expensive, and consume large amounts of energy. Firstly, existing irrigation channels were drained and leveled to facilitate water flow and reduce the need for electric pumps. The channel was then lined with PE film to reduce water leakage and salinity of surrounding soil (GEF).

Following these simple steps, socio-economic improvements quickly followed for the Yangiaryk's population. Primarily, farmers were able to improve their cotton and wheat yields to levels needed to support their families because of the irrigation and water accessibility improvements. Certain farmers were even able to produce up to 2.8 tons of cotton and 4 tons of wheat per hectare, which equates to an improved yield and increased incomes by around 15 percent. Overall, growing yields and household incomes allowed for the growth of general welfare for 2,500 people of the Yangiaryk region (GEF).

Improvements in irrigation are equally as viable as they are sustainable. While continued monitoring and evaluation are necessary to ensure irrigation projects are successful in the short term, once new irrigation networks have been built and established, the infrastructure should be able to serve Uzbek communities for decades to come. To maintain sustainable irrigation infrastructure, a revolving fund will be necessary to account for maintenance costs as well as fund technological investments in the engineering of water networks. However, new irrigation pipes would be able to sustain wheat and cotton farmers (who make up a majority of the agriculture sector) in the future (GEF).

To lead a project of this scope in Uzbekistan, ideally, an established humanitarian organization would be the most practical group to manage and lead this endeavour. Specifically, the United Nations (UN) would be best because the issues regarding water shortages in Uzbekistan fall under the UN sustainable development goals six and 15 (United Nations). Sustainable development goal six discusses providing clean water and sanitation to all (United Nations), yet many Uzbek citizens lack this due to the unavailability of water, let alone clean water. Life on land is the main concern of sustainable development goal 15 (United Nations) and desertification, where once fertile land becomes desert (Mirzabev and Wu, 2019), is especially pertinent to Uzbekistan.

Encouraging trade in the agricultural sector is also a crucial economic engine in not only Uzbekistan but in all of Central Asia. Because trade was hindered in the 1990s many Central Asian countries suffered

astronomically due to the self-sufficiency policies established after the breakup of the Soviet Union. Uzbekistan's prominent crop is by far cereals and grains (Nurbekov, 2018). Thus, by exporting excess cereal and grains produced by Uzbek farmers, foreign exchange as a whole would be increased going into the nation, which could then be used to import high nutrient foods that are desperately needed by society (Babu and Rhoe).

Increasing interregional trade in Central Asia can benefit Uzbekistan beyond simply selling grain surpluses. Rather, farmers can use their resources more efficiently by cultivating crops that are easier to grow on Uzbek soils. Uzbekistan's geography consists of mostly mid-latitude desert along with flat, intensely irrigated river valleys (CIA, 2021), ideal for growing grains, but not high nutrient crops. The annual climate is typically made up of hot summers and mild winters (CIA, 2021). Regardless, Uzbek farmers are forced to grow certain crops and waste resources simply to feed and sustain themselves. By encouraging interregional trade with its neighbors, Uzbekistan would allow itself to not only sell its surplus but even encourage a surplus growth of grains. In doing so, citizens would be able to take advantage of comparative advantage crop groups to maximize yield. Improved irrigation systems mentioned above will also create a larger yield of easy to grow crops (cotton and grain) for farmers to benefit from (Babu and Rhoe). The result of reinitiating interregional trade: higher incomes, allowing the population to purchase high nutrient foods to improve food security as a whole (Babu and Rhoe).

Reinvigorating interregional trade is far from an impossible task. In fact, in Eastern African countries facing food instability issues, interregional trade is a pivotal part of helping native farmers. For instance, the Ethiopia Commodity Exchange, Zamace, and the Agricultural Commodity Exchange for Africa have all proven that interregional trade can be sparked with the appropriate policy, legislative, and support environment (Morrison, 2016).

The case study of Ethiopian commerce can be observed to understand how a solution can be made for Uzbekistan/Central Asian interregional commerce. Particularly, the Ethiopia Commodity Exchange, also known as the ECX is a platform created to accommodate the lack of reliable communications and power infrastructure in Ethiopia (ECX). To facilitate regional trade, the ECX has specifically focused on inventory management, order processing and fulfillment, and agricultural marketing to assist business owners in the region. The goal of the ECX since its founding in 2008 has simply been to make interregional trade operational once again (CIO, 2021), specifically for coffee production and business (Charles, 2020). In 2016, a study from the Environment for Development regarding market efficiency in Ethiopia found that the efforts of the ECX led to robust and tangible results. Primarily, the efficiency-enhancing features of the ECX led to an increase in the availability of market information that reduced search costs (Andersson, 2016). An additional improvement in the legal framework for businesses and reduced risks of defaults targeted by the ECX also led to reduced transaction costs that decreased price dispersion between both export and local retail prices between regions (Andersson, 2016).

Similar to the ECX, a similar organization could be created to regulate and encourage interregional trade in Central Asia. This organization could be funded through grants—the same way the ECX is funded (IBM, 2016). This may be challenging, due to the scope of trade through Central Asia. The ECX focuses mainly on the coffee industry (Charles, 2020); an organization meant to regulate trade on an interregional scale may be difficult to achieve.

Another possible path to solve the issue of interregional trade is to overall stimulate the integration of Uzbekistan into the global economy. After experiencing a transitional economic recession in the 1990s due to the cessation of the Soviet Union, Central Asian nations who joined the World Trade Organization (World Trade Organization, 2021), were able to experience a rebound. Countries such as Kyrgyzstan and Tajikistan were able to expand commodity trade by being a World Trade Organization member, which is something Uzbekistan would benefit from greatly (World Trade Organization, 2015).

Many of the issues contributing to Uzbekistan's growing food insecurity issue are rooted in the breakup of the Soviet Union in 1991. Since then, the nation has struggled to recover both politically and economically. The geography of the country requires advanced irrigation systems to facilitate the growing of crops, yet the infrastructure is extremely outdated. To benefit everyday Uzbek farmers, as well as the Uzbek economy as a whole, new irrigation infrastructure needs to be established and maintained and agreements need to be made with neighboring countries regarding water allocation, if possible. Secondly, the Uzbek government and international forums, such as the World Trade Organization, can focus on promoting interregional trade in Central Asia. This will allow Uzbekistan to benefit from increased trade, as well as maximize crop yields and gains by growing and exporting the most fruitful crops. In following these steps in the years to come, Uzbekistan will revitalize its agriculture sector and hopefully conquer its food insecurity problem once and for all.

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