

Faith Austin
Carmel High School
Carmel, Indiana
Albania, Climate Volatility

Albania: A Future (not) Underwater

Nicknamed the “Land of Eagles”, the country of Albania is nestled in Southeastern Europe’s Balkan Peninsula, with the Pindus mountains stretching over the countryside highlands and into the coastal lowlands. Roughly the size of the state of Massachusetts at 11,100 square miles, Albania experiences a Mediterranean climate of dry summers and wet winters (The Central Intelligence Agency). Due to the topographical layout and weather patterns, Albania suffers from droughts in the summer and severe flooding in the winter, which significantly hinders the future of Albania in a multitude of ways. Improving Albania’s response to climate volatility benefits the nation in terms of economic, political, and societal sectors which ultimately promotes sustainability and development.

Today, the average Albanian household size is approximately 3.9 persons, with 61.2% of Albanians living in urban areas while 39.8% reside in rural settlements. Albanian families consume the typical Mediterranean diet, which is made up of primarily grains, produce, and olive oil- they do not eat that much meat or dairy (Eurostat). Muslim guidelines against pork influence dietary choices, since around 80% of Albanians affiliate with Islam whereas the rest associate with Christianity (Pew Research). Food in cities is accessed through commercial markets, where in rural areas the most common source of food is through subsistence agriculture, meaning most families eat straight from garden to the table. In regards to housing, in cities such as the capital Tirana brick townhomes fill the streets while in rural towns cottages are most common. As noted by the Food and Agriculture Organization, “while the GDP (of Albania) has been growing substantially, poverty still affects a large proportion of the population, particularly in rural areas and among the newly urbanized, and causes problems of access to food and health services” (Food and Agriculture Organization). Although more than 95% of the population has access to healthcare services, sanitation facilities, and is educated, the quality of the overall system remains questionable. As the government attempts to fund public healthcare and education, the failure is reflected in increasing poverty rates and poor nutritional status. In fact, one third of Albanian children under five years of age experience stunted growth because of undernourishment (Pacific Prime). Elaborating further on public services, the government funded electrical and plumbing system suffers, leaving 98% of families to use private radiators and plumbing networks, since nearly all pipelines and electrical systems remain non-functional (Encyclopedia of the Nations).

The various aforesaid shortcomings of the current structural status of Albania are just a few of the ripple effects from the presence of the Soviet Union. After breaking off from former Yugoslavia in 1948, Albania became dependent on the Soviet Union in terms of economics, politics, and resources. The Communist Party of Albania under the leadership of Stalinist dictator Enver Hoxha imposed poor policies such as mock-five year plans for agriculture growth and rapid industrialization. According to the European Union’s findings, “Albania is far below the standards of other European countries in terms of development” (The European Bank Press Office). The various effects of Communist rule in Albania can be seen in all areas, from agrarian practices to infrastructure- all underdeveloped and laying an unstable foundation to adjust to the natural circumstances of the region.

Agriculture plays a large role in Albania's identity ever since its founding, 73% of Albanians work within the agriculture industry today, with each family earning approximately 15,800 USD annually (Export.gov). The importance of agriculture in Albania cannot be stressed enough since more than 20% of the country's GDP is derived from the industry, therefore being a fundamental piece of economic growth. In terms of agrarian practices, pastoralism and transhumance are very popular practices in the mountain regions. Only 60% of farmers utilize machinery for harvesting, a strong example of the lack of mechanization within the country. The average farm family owns 2.47 acres, due to national privatization of farmland and harsh feelings surrounding communal effort instilled during the Cold War era. The top raw exports include asphalt, metals and metallic ores, and crude oil although "Albania has the most fertile land in Europe" (The European Commission). The most popular crops include vegetables, fruits, and olives (The World Bank IBRD). Moreover, Albania is deemed to have some of the most fertile lands in Europe, yet poor responses to the nation's climate negatively impact the country in three overarching areas: economics, politics, and the Albanian population.

First, the economic impacts the climate has on Albania are extreme, taking into consideration the agriculture industry generates 20% of the nation's GDP and harvests are half of their potential due to flooding. The poor response to weather patterns has caused farmland to be waterlogged and unusable, making it comprehensive that while 24% of land in Albania is arable, only 2.3% is permanently cultivated. Breaking down the numbers, only 3,537 square miles of the total 11,100 square miles in Albania is irrigated, detailing the correlation between the lack of sufficient systems and unproductivity of arable lands (The European Commission). In 2018, 17,000 of the total 28,000 cultivated acres did not produce a harvest due to waterlogged grounds, and 40% of rural villages were inaccessible from the capital of Tirana (USAID). Even without flooding, accessibility of transportation within Albania is already limited, with only 1/3 of roads being paved, limiting Albanian's economic opportunities (CIA World). Albania's weather patterns damage the subsistence lifestyle, and harm farm-to-market transportation between rural and urban areas. In monetary value, 68 million USD is lost due to loss of agricultural land and harvest outputs each year (Export.gov). While Albania has strong perspectives in organic agriculture since no agribusiness has used heavy fertilizers or pesticides, the excess or scarcity of water in fields stifles the possibility of this path.

Secondly, the political wellbeing of Albania is threatened, for unmet irrigation and drainage needs prevent Albania from being accepted into the European Union (EU). Currently, Albania is a pending candidate country in being accepted into the EU. One of the key obstacles preventing Albania from being accepted includes noncompliance with the EU's agricultural standards such as having functioning drainage and irrigation structures or legislative alignment in organic farming. Improving the water systems allows organic farming to be pursued, checking off another EU membership requirement. To be accepted into the EU would open up many opportunities and benefits for Albania, since membership entails removal of trade barriers, increase in tourism, and higher levels of regional security (The Europa). The acceptance of Albania into the EU is crucial for the country's political future, yet underdeveloped irrigation and drainage systems act as a barrier.

Third, the Albanian people suffer immensely from the reactive stance of the Albanian government to the climate. In 2017 alone, the Red Cross reported that 21,000 Albanians were affected by flooding and took considerable losses. Government reports further show that 3,340 houses flooded, 65 bridges collapsed, 56

public schools were damaged, and some areas had no electricity or access to clean water for a period of time (The Relief Network). Flooding harms the infrastructure, education, and the population's accessibility to electricity and water. With flooding and droughts on top of pre-existing issues, if an Albanian rural family is unable to grow necessary crops for a supply of food due to extreme flooding or drought, the relative isolationism and lack of external income limits their ability to acquire proper nutrition. The lack of food security and agricultural stability caused by poor responses to climate volatility is indiscriminate in terms of gender, religion and race. Although the entire rural population lacks economic opportunities with 30% of the population under the poverty line, 60% of rural adolescents and elderly are under the poverty line, illuminating these as the groups that are hit hardest (Ylli). Lack of nutrition is well documented among these more vulnerable groups, with respectively 70% and aforesaid 30% of elderly and child populations undernourished (Shpata). After analyzing the critical underlying issues threatening food security and agricultural sustainability in Albania, it is apparent that improving irrigation and infrastructure systems is the first step in a better future for the country.

The proposed solution focuses on rehabilitating the existing irrigation and drainage structures of Albania, reforming the supervising power structure, and thereby giving the country leverage and resistance to the annual floods. By preserving arable land and preventing waterlogging, the extent to which arable land is cultivated is dramatically increased, therefore creating economic, political, and societal advantages. The first step in the proposed solution's process is to reconstruct and fix the existing water systems. With precedent history, multiple operations of a smaller scale show the goal of reconstruction to be feasible and successful. In a project named *Albania Irrigation & Drainage II* by the Kuwait Fund and the World Bank, 24 million dollars was invested into Albania's agricultural infrastructure with the goal of alleviating flood risks. The Kuwait Fund reported that crop productivity rose 150% from pre-project status, and that flooding severity was significantly reduced in study areas (The World Bank Group). The venture concluded in 2006 and was performed on a smaller scale, yet the outcome was optimistic and inspired the proposed solution. Today, Albania is divided into 6 river basins that independently operate their share of the total 600 irrigation and drainage systems. Out of the 600 systems, there are 14 dams located in the Drin-Buna and Semani river basins that are the largest and most inefficient systems (Johnson). The water collected by the dams can then be used as sustainable irrigation water in the summer, through pre-existing drip methods. The majority of arable land occupies the Drin-Buma and Remani basins, further emphasizing the urgency of the reconstruction. According to the Dam Rehabilitation and Improvement Project, rehabilitating the 14 dams requires initial inspections of each, meaning inspectors would check dams for cracking, disintegration, seepage, erosion, and joint failure (Waller). The government of India has utilized this process when creating massive dams along the Ganges River. In terms of construction materials needed, the following items are exigent: high performance concrete, bonding agents, mortar, epoxy, steel liner, and geo-membrane along with various other materials (Waller). In total, with the initial construction, material, labor and operational costs of rehabilitating 14 of the country's largest dams, the sum amount for the plan is approximately 43 million USD. This estimated cost is based off of averaged projected costs and past ventures of a smaller extent. The initial investment of 43 million dollars can be provided in part by the pre existing funds towards agricultural infrastructure. The Albanian government already contributes 14.7 million USD annually, and on top of that the International Development Association currently invests 24.1 million USD in Albanian agricultural infrastructure. (Zhillma)(Trading Economics). This leaves a relatively small amount, 4.2 million USD, needed to put this proposed solution into place, which can be easily provided by non-governmental organizations such as the World Bank. Detailing later, these costs will easily offset the numerous economic benefits this solution creates. To

summarize, the first step of the plan is to reconstruct and rehabilitate Albania's 14 most inefficient dams to alleviate flooding, and use the collected water for sustainable drip irrigation during droughts.

The second step of solvency entails an emphasis to the current management system overseeing the irrigation and drainage systems in Albania. In the status quo, voluntary farmer unions with the government title of “Water User Organizations (WUOs)” supervise the maintenance of water systems under the 61 municipalities in the country, which are ultimately overseen by the Minister of Agriculture, Rural Development and Water Administration. These farmers do not have advanced education and despise government interference due to a lack of trust from the Cold War era, making it understandable as to why the majority of dams are no longer functioning (US Library of Congress). Uplifting these workers with proper training and mechanical education will build back political trust and ultimately allow the systems to remain functioning. This minor change to the supervision requires little funding, for there are less than 500 WUOs and simple workshops are affordable, especially when in partnership with NGOs. Improving the management of the water systems allows the rehabilitated structures to remain sustainable and functioning. In the grand scheme, the Albanian government and the rural farmers play the largest role in the implementation and success of this solution. Cooperation is vital; the government’s participation is guaranteed because the country is already trying to take steps to address the issue, and the farmers’ participation is also promising because this plan will provide them with opportunities to grow in their income, food supply, and job outlook.

The advantages of this plan cover the three key areas of the status quo: Albania’s economy, politics, and society. In terms of economy, it is important to restate that Albania would be able to cultivate the total amount of arable land since it will no longer be waterlogged, therefore the 68 million dollars lost from flooded land are regenerated. Additionally, Albania has many prospects eager to invest in Albania for organic agriculture. The Research Institute of Organic Agriculture argues that the soil quality, untouched biodiversity, prime conditions for horticulture, and the relative closeness to key European markets makes Albania the perfect country to expand in organic agriculture (Research Institute of Organic Agriculture). On top of this, Agro Intelligence research shows that 70% of Europeans purchase organic products due to their strong beliefs that organic farming methods address their animal welfare, environmental, and rural development concerns (Agro Intelligence). Economically, with the organic industry thriving after fields are properly irrigated and drained, many jobs will be created of adequate pay- which support not only rural farmers but also the urban market. The Swiss Agency for Development predicts organic agriculture could create exports generating millions of dollars for Albania (Bernet). Second, repairing the present water systems allows Albania to move one step closer to full acceptance with the EU. With one of the EU’s requirements of expanding organic agriculture, that checkpoint will also be met. Not only does the creation of jobs and suitable income satisfy the economic needs of Albania, but it also generates respect and credibility to the Albanian government from the general population. And third, a proactive response to climate volatility will benefit the population of Albania in countless ways. Without the high risks of severe flooding or drought, food security is improved, roads are easily maintained, and the government is able to take on other challenges facing the nation. Importantly, families will experience food security and agricultural stability as a result of the water systems.

In 1970, agronomist Norman Borlaug preached in his Nobel Prize speech, “If you desire peace, cultivate justice, but at the same time cultivate the fields to produce more bread; otherwise there will be no peace.” This observation stands true, and especially in the case of Albania, serving as a powerful reminder that

even in an era of unprecedented technological and human achievement, peace can only be achieved if agricultural advances are made. The Albanian government is capable of radical change through which economic, political, and societal impacts will manifest, exclusively through the fulfillment of the above proposition. To promote prosperity in the future of Albania, action must be taken. With effort and support, three million Albanians will have increased food security, promising livelihood for the opportunity to reach the nation's boundless potential.

Works Cited:

- Agro Intelligence. "Organic Agriculture Booming in Europe." *Agro Intelligence*, Data Publishings, 2 May 2019, gro-intelligence.com/insights/articles/organic-agriculture-booming-in-europe.
- Bernet, Thomas, and Iris S. Kazazi. *Organic agriculture in Albania-Sector Study 2011*. Swiss Coordination Office in Albania (SCO-A), Research Institute of Organic Agriculture (FiBL) and Ministry of Agriculture, Food and Consumer Production of Albania (MoAFCP), 2012.
- Encyclopedia of the Nations. "Albania - Infrastructure, Power, and Communications." *World Development Indicators*, 2019, www.nationsencyclopedia.com/economies/Europe/Albania-INFRASTRUCTURE-POWER-AND-COMMUNICATIONS.html.
- Eurostat. "Albania Agriculture Output." *Standard Output Coefficients - Eurostat*, The European Union, 2012, ec.europa.eu/eurostat/web/agriculture/so-coefficients.
- Export.Gov., "Albania - Agricultural Sector." *Albania - Agricultural Sector*, The United States Federal Government, June 4AD, <https://www.export.gov/article?id=Albania-Agricultural-Sector>.
- Food and Agriculture Organization. "Albania: Nutrition Country Profile." *Nutrition Country Profiles: Albania Summary*, Agriculture and Consumer Protection Department, 2020, www.fao.org/ag/agn/nutrition/alb_en.stm.
- Johnson, Sam H., Mark Svendsen, and Fernando Gonzalez. *Institutional reform options in the irrigation sector*. World Bank, Agriculture and Rural Development Department, 2004.
- Pacific Prime. "Albanian Health Insurance." *Albania Health Insurance - Pacific Prime*, Mar. 2019, www.pacificprime.com/country/europe/albania-health-insurance-pacific-prime/.
- Pew Research Center. "Religions in Albania: PEW-GRF." *Pew-Templeton Global Religious Futures Project*, 2020, [www.globalreligiousfutures.org/countries/albania#/?affiliations_religion_id=0&affiliations_year=2010&ion_name=All Countries&restrictions_year=2016](http://www.globalreligiousfutures.org/countries/albania#/?affiliations_religion_id=0&affiliations_year=2010&ion_name=All+Countries&restrictions_year=2016)
- Research Institute of Organic Agriculture. "Sustainable Agriculture Support for Albania." *FiBL*, 2020, www.fibl.org/en/themes/projectdatabase/projectitem/project/450.html.
- The Central Intelligence Agency. "The World Factbook: Albania." *The United States Federal Government*, Central Intelligence Agency, 1 Feb. 2018, <https://www.cia.gov/library/publications/the-world-factbook/geos/al.html>.
- The Europa. "Agriculture in EU Enlargement." *European Commission - European Commission*, The European Union, 2 Aug. 2019,

ec.europa.eu/info/food-farming-fisheries/farming/international-cooperation/enlargement/agriculture-eu-enlargement_en.

The European Bank Press Office. "Albanian Infrastructure." *European Bank for Reconstruction and Development (EBRD)*, 4 May 2017, www.ebrd.com/news/2010/albanian-infrastructure.html.

The European Commission. "2019 Albania Report." *European Neighbourhood Policy And Enlargement Negotiations - European Commission*, The European Union, 2 July 2019, ec.europa.eu/neighbourhood-enlargement/countries/detailed-country-information/albania_en.

The Relief Network. "Albania: Floods - Emergency Plan of Action Final Report, Operation n° MDRAL007 - Albania." *The Relief Network*, Relief Web Org., 2018, reliefweb.int/report/albania/albania-floods-emergency-plan-action-final-report-operation-n-mdral007.

The World Bank IBRD. "Agriculture- Albania." *The World Bank Data: Albania*, IBRD & IDA, 2018, <https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=AL>.

Trading Economics. "Albania Government Spending." *Albania Government Spending | 1996-2019 Data | 2020-2022 Forecast | Calendar*, Jan. 2020, tradingeconomics.com/albania/government-spending.

USAID. "Climate Risk Profile: Albania." *ClimateLinks*, USAID: From The American People, 1 June 2016, www.climatelinks.org/resources/climate-change-risk-profile-albania.

US Library of Congress. "Albania Country Studies." *Albania - Drainage*, 2019, countrystudies.us/albania/45.htm

World Bank. 2006. *Albania - Irrigation & Drainage II (English)*. Washington, DC: World Bank Group. <http://documents.worldbank.org/curated/en/454801475075539626/Albania-Irrigation-Drainage-II>

Ylli, Alban. "Health and social conditions of older people in Albania: baseline data from a national survey." *Public Health Reviews* 32.2 (2010): 549.

Zhllima, Edvin, Grigor Gjerci, and Drini Imami. "Agriculture and agricultural policy in Albania." *Agricultural policy and European integration in Southeastern Europe*. FAO, Budapest, Hungary (2014).