American food systems lack resiliency, agropark projects can help

As COVID-19 ravaged across the nation and sickened workers in the food industry, the food supply chain showed signs of strains and weaknesses. The crisis made cities and communities across the nation realize how fragile the United States’ food supply chains are, showing the complexities, convolutions, and vulnerabilities of them. As a result, U.S. food supply chains and systems need to change.

Food production of the future must be healthy, fair, localized, affordable, accessible, and of good quality. The change will have to involve simpler food chains with shorter distances and closer connections between producers and consumers.

Production should use as little resources and create as little waste and emissions as possible. As a result of these changes, the distance food is transported from producer to consumer is reduced and middlemen are eliminated. This means growers and farmers will be able to earn an adequate income without raising the cost of produce on consumers.

A nation which has developed and adopted a solution to the complexity and vulnerability of traditional food supply chains is the Netherlands. The nation is about the size of Maryland with a population of about 17 million. Agriculture Trade Advisor Caroline Feitel of the Embassy of the Kingdom of the Netherlands said due to land surface limits, the nation built an integrated, coordinated, and innovative ecosystem for food production. She described The Netherlands food system as a nationwide agropark that has created an ecosystem of logistics, production, research and development, and other facilities.

An agropark is a complex, large-scale project where businesses in the agriculture, horticulture, infrastructure, production, trade, distribution, marketing and logistics industries are cleverly linked together at a single location, creating a complete ecosystem. Agroparks are optimal because they connect urban and rural areas, combine the logistical and infrastructural needs of producers and consumers, and adapt quickly to consumer demand.
An agropark provides a variety of benefits. They are sustainable solutions that make large-scale food production cheaper, more nutritious, and less harmful to the environment.

Eric Egberts, CEO of Dutch Greenhouse Delta, said the biggest benefit is the reduction in cost. For example, he said it is cheaper for companies to work together to gather resources such as equipment, water, energy, etc. instead of companies doing this individually.

Elselien Breman, Agricultural Attaché of the Embassy of the Kingdom of the Netherlands, said because crops are grown in greenhouses, controlled environments, there is less chance for crops to acquire diseases or pests which decreases the need for pesticides. She also said growers are able to grow in any season and in places where it was not possible to grow before.

“It’s a great benefit that you’re able to produce the whole year with a consistent volume, which makes it easier to work with supermarkets because you are able to supply them the whole year with the same amount of crops,” Breman said.

Agropark projects also use less resources such as water and energy. The agropark concept optimizes water use by recycling and reusing about 99 percent of the greenhouse’s water supply.

In the United States, agroparks would facilitate sustainable agriculture in mega cities and connect them to rural areas benefitting local companies, growers, and farmers. They would also improve the health of local communities through the accessibility and consumption of more nutritious food.

Breman said agroparks will also bring jobs to regions and the involvement of the businesses, the growers and farmers, the government, and research institutions will create an ecosystem of entities working together to optimize the production and quality of fruits and vegetables.

Egberts said to begin the agropark conversation in the U.S., he first talks to the retailers and grocery stores. He said after the retailers and stores have agreed agropark projects are beneficial, next steps are to start planning. Based on the demand of the retailer, the agropark design process begins.
He said the agropark concept directly benefits underserved and low-to-moderate income communities because they will bring labor and jobs to the communities. Having growing, production, and logistics in a single location closer to these communities makes the produce more affordable and accessible.

“Being affordable means cutting out the middleman,” Egberts said. “So, when we produce around the corner close to a city, we can cut out the middleman.”

When concepts like this are introduced to communities with already established farmers and production and logistics companies, the million-dollar question is how to include all of these people.

Egberts said the misconception is that agroparks will take away jobs, but they are actually doing the opposite. By needing about 15 workers per hectare in the greenhouses, he said plenty of jobs will be created. He said they will need skilled people who already have knowledge on the area’s seasonality, weather, and ground structure. He said he envisions the current farmers of the land being the workers and managers of the greenhouses.

“Being affordable means cutting out the middleman” - Eric Egberts, CEO | Dutch Greenhouse Delta

Agroparks will also provide food security through increased yield and ability to produce all year. According to the U.S. Department of Agriculture (USDA), at some time in 2019, 10.5 percent (13.7 million) of U.S. households were food insecure. The USDA also found the prevalence of food insecurity was higher for households located in nonmetropolitan areas (12.1 percent) and for those in principal cities of metropolitan areas (12.4 percent), and lower in suburban and other areas outside principal cities (8.3 percent). Sustainable food development is crucial for urban areas as they are fast growing and often classified as food deserts experiencing food shortages.

Globally, agroparks can play a role in the quickly increasing urbanized world. According to a projection by the United Nations, around 2.5 billion more people will be living in cities by 2050. This means by 2050, two out of every three people are likely to be living in cities or other urban centers. This highlights the need for sustainable urban planning and public services especially in the agriculture sector. Reliable food chains that provide fresh products will be of strategic importance for the growth of urbanized areas.

As the global population grows, there will be a major increase in consumer demands. According to Dutch Greenhouse Delta, a company breaking new ground in the Dutch horticulture sector, the world will have to produce more food in the next 40 years than it has in the past 1,000 years. The demand for food will be 60 percent greater than it is today.

As CEO of Dutch Greenhouse Delta, Egberts said it is the organization’s mission to help people understand that climate, economic, and energy crises can all be solved by changing the food supply chain. He said Dutch Greenhouse Delta is doing that by promoting startups and the use of horticulture technology around the globe.
In a webinar presentation given by Egberts, he said the Dutch Greenhouse Delta’s goal is: “Ensuring global food security and contributing to green, livable cities worldwide in a sustainable and efficient way by using as little water and energy as possible. Resilience is our key driver.”

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