



F U N D F O R O U R  
E C O N O M I C F U T U R E

### **Agricultural Biosciences Industry Cluster - Executive Summary**

Northeast Ohio has a significant opportunity to increase high-paying jobs, slow no-growth sprawl, bolster both our rural and urban economies, and improve environmental stewardship by developing the specialty agriculture and food processing industry cluster. Currently, the region is home to a large and growing, but disparate, array of regional agricultural assets. Yet, with an increase in numerous technological advancements, the region is in a position to capitalize on recent trends in the production of specialty crops and bioproducts as well as local food sourcing programs. The Ohio State University's Ohio Agricultural Research and Development Center, with significant leverage from an existing \$2.26 million grant from the United States Department of Agriculture (USDA) to Dr. Casey Hoy and colleagues, has been awarded \$250,000\* to accelerate the development of this industry cluster by developing a comprehensive inventory of agricultural resources in the region, a portfolio of at least ten business projects that can serve as an example to others, an online infrastructure to enable networking across the region, a region-wide Leadership Council, and a plan to build the cluster in the coming years.

*\*The Ohio Agriculture and Development Center (OARDC), an Advance Northeast Ohio Partner, is represented in grants and contracts by the Ohio State University Research Foundation.*

### **The Opportunities**

Over the course of 2008 and into 2009, Fund staff worked with Fund members and ANEO partners to develop a specialty agriculture and food processing industry cluster-building initiative. Lead ANEO partners are OARDC, the entity within OSU that will do the work on this grant, and the Wayne Economic Development Council. OARDC is currently organizing over 350 other organizations and individuals across Northeast Ohio, who are part of the local food system, and who have had direct and indirect opportunities to influence this proposal.

Opportunities exist to: 1) enhance the region's agricultural resources and production capabilities; 2) transform the cluster from lower-valued commodity production into higher value specialty crop and bioproduct production; and 3) accelerate the local food system movement in the region.

Doing so will enable the region to:

- increase its stake in the \$60 billion national specialty crop market
- increase the number of high-paying full and part-time jobs in the region.
- increase the amount of food sourced locally, so as to capture an increased share of the annual \$14.4 billion annual food expenditures by the region's citizens (less than five percent of the food consumed in the region is sourced locally at present)
- increase the amount and variety of artisanal foods (e.g. wines, specialty cheeses, herbs) produced in Northeast Ohio and sold both within and outside of the region
- increase the amount of research, development and commercialization of bioproducts for various non-food industry applications

- decrease no-growth sprawl, by increasing land values through the cultivation of high-value specialty crops
- take advantage of recent and pending legislation at federal and state levels aimed at increasing the production of specialty crops as well as renewable energy, soil remediation and brownfield clean-up, water purification, carbon sequestration, and conversion of energy production facilities into renewable energy facilities (e.g. First Energy conversion of coal-fired generation facility to biomass facility)

### **The Barriers**

At present, this cluster in Northeast Ohio generates over \$8.2 billion in revenue annually. Yet, there are multiple systemic factors that prevent the region from being more economically competitive within this cluster. The production of commodity products (e.g. corn, wheat, soybeans) nationally and globally is subsidized by policies and regulations, thus reducing the value of these products over time. For example, corn prices at the end of 2008 (despite the price “spike” due to ethanol demand) are 50 percent what they were in 1974. In Northeast Ohio, 40 percent of the land is used for agriculture, with the majority of this land used for a limited number of commodity products. The reduction in the price of these commodities, in addition to land use incentives, has forced many individual farmers and communities to sell and/or convert the land for residential or commercial development. The percentage of land devoted to agricultural use has steadily declined, while the region has seen an increase in no-growth sprawl, rising per capita infrastructure costs and higher taxes per household. And, despite the fact that Northeast Ohioans spend nearly \$15 billion annually on food, the supply chain distribution systems for locally sourced foods are ill-defined and inefficient – especially when compared to the more mature and well-designed systems for globally sourced foods.

### **Regional Assets**

Collectively, Northeast Ohio has a number of assets within this cluster that make it a ripe candidate for growth. Within the “specialty agriculture”<sup>1</sup> arena alone, the region bears:

- at least 40 wineries, 975 vegetable and potato farms, 675 fruit and berry farms, 800 nursery, greenhouse, floriculture and sod operations, and 235 farms providing trees and other woody plants
- a strong heritage of dairy processing plants and with a sector of artisanal ice cream, yogurt and cheese-making operations emerging
- a small, but growing herb and medicinal plant production capability

From a local sourcing perspective, the region is home to:

- 4,400 cattle producers
- 1,550 poultry and egg operations
- 1,400 dairy farms
- 1,000 hog farms
- nearly 100 farms with sheep and goats
- 4,000+ farms producing hay for bovine and equine consumption
- 46 aquaculture operations raising perch, blue gill, trout and freshwater shrimp
- 100 fully inspected and custom meat processing operations

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<sup>1</sup> The USDA defines “specialty crops” as fruits and vegetables, tree nuts, dried fruits and nursery crops (including floriculture) and excludes commodity grains like corn, soybeans, and wheat

## **Growth in the Cluster and New Technologies**

OARDC has attracted investments to develop biopolymers and other biomaterials (e.g. natural latex from Russian dandelions), as well as providing support to a variety of agbioresource companies through the Ohio Bioproducts Innovation Center and the Third Frontier Biomass to Energy Cluster. Northeast Ohio has not only the research expertise to develop new products, it also has the land resources to grow raw materials. Understanding the land's capacity to grow bio-raw materials is a regional competitive advantage. The ability to leverage opportunities for job growth and income growth from growing raw materials, production, processing or manufacturing is dependent upon having more information about what resources the land in Northeast Ohio provides to our economy.

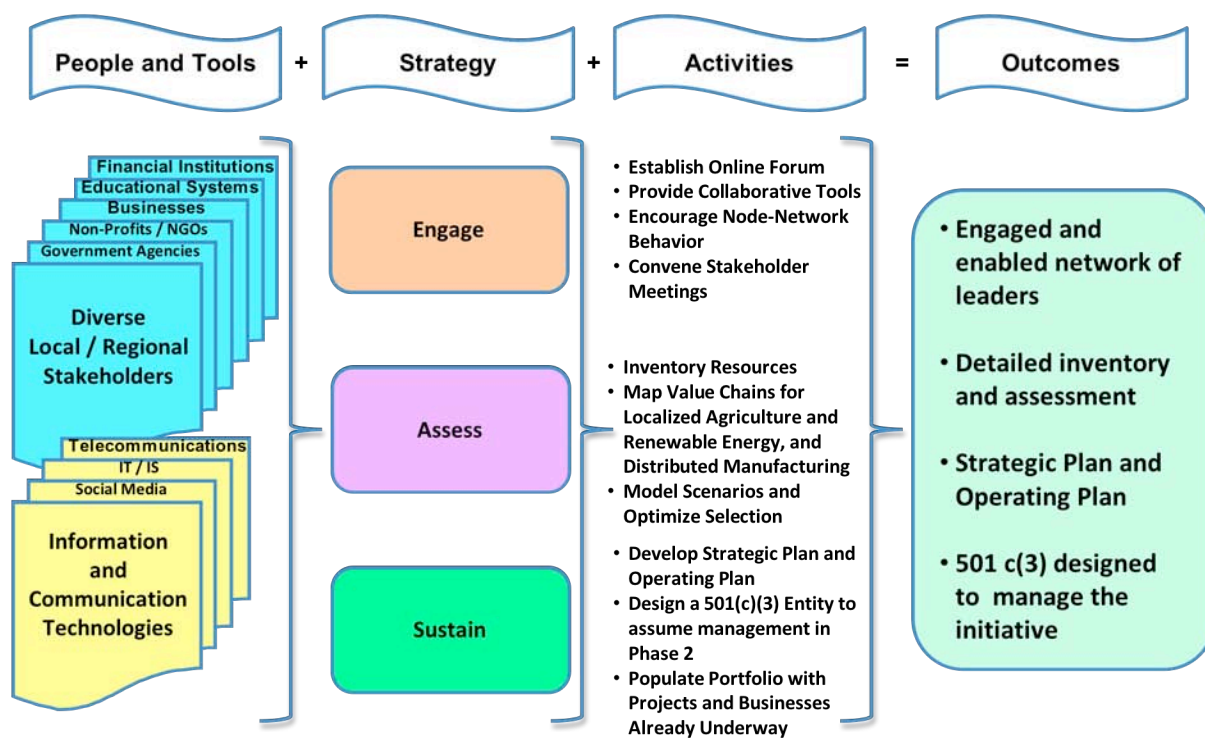
Advancements in technology have also opened a number of avenues for more systematic growth. New food marketing and distribution companies such as FreshForkMarket.com and LocalCrop.com connect local producers with local restaurants and food service firms. Since starting in June 2008, FreshFork has a network of 47 suppliers and nearly 60 foodservice clients, including retailers, restaurants, the Cleveland Clinic, and some schools. In fact, throughout the entire food retailing industry, most major retailers (Heinens, Giant Eagle, Walmart, ACME) are all emphasizing local food sourcing and enabling store managers the ability to form relationships with local suppliers. Also in 2008, the Ohio Agriculture Research and Development Center (OARDC) in Wooster OARDC launched an initiative to develop the specialty agriculture industry with the support of its \$2.26 million USDA grant (which this proposal leverages). That initiative aims to expand networking infrastructures (localfoodsystems.org) in order to build local food system networks and extends from Pennsylvania to Michigan. Northeast Ohio is playing a central role to the effort with strong rural leadership from Ashtabula and Wayne counties.

## **Proposal**

*We propose to help revitalize rural areas in the region and reconnect them with the urban and suburban cores by building local food and agricultural bioscience-based economies. We envision a vibrant, adaptive, and expanding industry cluster, characterized by entrepreneurial ecosystems that extend from rural to urban areas of the region and that enhance the region's abundant natural, human, and social capitals. Overall, this effort will provide a model for building local economies replicable in many parts of the country and applicable to many market sectors, including energy, manufacturing, finance, retail, health, and recreation.*

We envision two phases of work to accomplish the vision described above. The goals of Phase 1 are to engage the region's current and potential leaders in the agricultural bioscience industry, assess the region's resources to expose the best opportunities, and sustain the momentum with a strategic plan and the design for a nonprofit organization to provide ongoing support. The goals of Phase 2 are to implement the business cases developed in Phase 1, prepare the industry participants and labor force, and manage the portfolio of new and existing businesses that continue to strengthen the NE Ohio economy around food, energy, and renewable materials.

# Building Local and Regional Economies: Phase 1



With significant leverage from the USDA's existing grant to the OARDC, the project targets the following deliverables in phase 1A:

- A comprehensive inventory of agricultural resources including:
  - A resource map that demonstrates where land could be utilized more strategically based upon its ability to support the ag-bio industry cluster including its ability to produce crop, energy or serve production and processing. The map will include both biophysical data (e.g. soils) and socioeconomic data (e.g. labor, demographics).
  - Farming and processing equipment that can inform joint ventures or investment opportunities
- Definition of value chains for localized agriculture and renewable energy and distributed manufacturing. The success of this work will be apparent as businesses report:
  - increased efficiency,
  - mutually beneficial business-to-business activities,
  - an optimized value chain,
  - increased profits partly through reduced costs, and
  - local governments are engaged in collaborative efforts supporting local agriculture and their business growth portfolios.
- A portfolio of at least ten projects and business ideas to implement in a subsequent phase of the project. We will include the locations and identification of the best opportunities for production, processing, distribution, and food service or retail in local food economies in the region. This will require detailed modeling and economic optimization of the

physical flow of food products from production or potential production sites, through processing and distribution channels, and finally to the consumer. The assessment of current resources and modeling of new potential business activity will clarify the full impact of the Ag-Bio industry cluster on job growth and economic development in the region.

- An online infrastructure and series of collaboration tools to enable networking and best practice sharing across the region so that businesses can grow and thrive. These activities set the stage for the industry cluster to continue to enhancing itself, while at the same time further empowering the cluster of enterprises to act on their own behalf as a group, guide future actions, secure funding, and communicate their successes and lessons learned with other localities and regions within and beyond Ohio.
- A region-wide Leadership Council, co-chaired by Wayne Economic Development Council and the Ashtabula Growth Partnership, with industry representation from across the 16-county region and sub-regional/stakeholder groups that will provide additional input to the Council
- A set of recommendations for a strategic plan moving forward and the role to be played by a lead fiscal entity

The timeline for Phase 1A is one year:

		Phase 1A - in progress						Phase 1B - planned		...	
Strategy	Activities	WI09	SP09	SU09	AU09	WI10	SP10	SU10	AU10		
Engage	Convene Stakeholder Meetings	F2F	F2F	F2F	F2F	F2F	Virtual	F2F	F2F		
	Establish Online Forum	X	→								
	Provide Collaborative Tools	X	→								
	Encourage Node-Network Behavior	X	→								
Assess	Inventory Resources			X	→						
	Map Value Chains for Localized Agriculture and Renewable Energy, and Distributed Manufacturing				X	→					
	Model Scenarios and Develop Cases					X	→				
Sustain	Populate Portfolio with Business Cases and Businesses Already Underway				X	→					
	Develop Strategic Plan							X	→		
	Design role of a 501(c)(3) Entity							X	→		

The Ohio State University Research Foundation will serve as the fiscal agent for the work in Phase 1A. Casey Hoy of OARDC, Professor and Kellogg Endowed Chair in Agricultural Ecosystems Management, will manage the project, working collaboratively with the Leadership Council (defined above) and key project participants Brian Gwin (Wayne Economic Development Council), Steve Bosserman (Bosserman & Associates), and Jim Currie (OARDC ATECH). The proposed 501 c3 will be expected to sustain the project in Phase 2.

# Building Local and Regional Economies: Phase 2

