

What Can Be Done to Promote Local Agriculture and a Sustainable Economy in North Carolina?

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In 2007, the average American spent less than 10% of her income on food.¹ While this may seem like a lot, Americans spend less of their income on food than anyone else in the world.² Our cheap food is a result of conventional farming practices, which have come under fire in recent years for being unsustainable, environmentally damaging, and detrimental to public health. Sustainable agricultural practices have been proposed as a solution to a number of problems with industrial farming. Initiatives like Farm to Fork (F2F), an effort by the Center for Environmental Farming Systems (CEFS) at North Carolina State University, are going one step further. F2F is working to combine sustainable agriculture with development of a local economy to make North Carolina stronger.

This project, made possible by funding given to CEFS, brings together people from all over North Carolina to gather ideas and suggestions.³ Their work addresses a variety of issues from integration of local foods into school systems to marketing ideas, but this paper focuses on why we need to change our conventional agricultural practices and three policy suggestions from F2F that will support the transition to greater sustainability. This paper starts with a brief look at the evolution of farming in recent history, followed by a discussion of the concepts behind sustainable agriculture and Farm to Fork's work.

¹ Annette Clauson, *Despite Higher Food Prices, Percent of U.S. Income Spent on Food Remains Constant*, USDA: AMBER WAVES (Sept. 2008), <http://www.ers.usda.gov/AmberWaves/September08/Findings/PercentofIncome.htm>.

² *Food CPI and Expenditures: 2008*, USDA: ECONOMIC RESEARCH SERVICE, (July 19, 2010) http://www.ers.usda.gov/Briefing/CPIFoodAndExpenditures/Data/Table_97/2008table97.htm.

³ FARM TO FORK, N. C. STATE UNIVERSITY CEFS, <http://ncsustainablefood.wordpress.com/> (last visited Oct. 21, 2010).

I. History of Modern Agriculture

Farming has changed dramatically since the mid-eighteenth century. The transformation started when farmers began raising commodities like cattle, hay and wood that could be sold at market instead of simply what they needed to survive.⁴ This “market-orientated agriculture” led to an intensive regime requiring more labor, technology and capital.⁵

Agriculture grew tremendously during the twentieth century. Early on, commercialization encouraged industrial monoculture as farmers started to ship their goods across the country in refrigerated train cars.⁶ To “produce uniform, eye appealing fruit,”⁷ farmers started to use irrigation⁸ and pesticides on their fields.⁹ By the 1920s, chemicals were applied to the produce to slow the natural decomposition process on its trip to the store.¹⁰ Developments in hybrid crop varieties, farm machinery, chemical fertilizers and pesticides marked the latter half of the century.¹¹ Consolidation and industrialization led to the number of farms declining from 6.8 million in 1935 to just about 2 million farms today,¹² with the average farmer providing food to 129 Americans.¹³ For some, this shift has led to deterioration in rural communities as small farmers are forced out of the business.¹⁴

⁴ TED STEINBERG, *DOWN TO EARTH: NATURE’S ROLE IN AMERICAN HISTORY* 49 (2002).

⁵ STEINBERG, *supra* note 4, at 49, 50; *see generally* Carolyn Merchant, *Farms and Subsistence*, in *MAJOR PROBLEMS IN AMERICAN ENVIRONMENTAL HISTORY* 147 (Carolyn Merchant ed., Houghton Mifflin, 2nd ed. 2005) (providing additional details of agricultural methods introduced).

⁶ STEINBERG, *supra* note 4, at 175-176.

⁷ *Id.* at 186.

⁸ *Id.* at 176.

⁹ *Id.* at 184.

¹⁰ *Id.* at 186.

¹¹ ANNE NADAKAVUKAREN, *OUR GLOBAL ENVIRONMENT: A HEALTH PERSPECTIVE* 116 (6th ed. 2006).

¹² U.S. ENVIRONMENTAL PROTECTION AGENCY, *DEMOGRAPHICS*, <http://www.epa.gov/agriculture/ag101/demographics.html> (last updated Sept. 10, 2009).

¹³ Bryan Walsh & Rebecca Kaplan, *America’s Food Crisis and How to Fix It*, *TIME*, Aug. 31, 2009, available at Academic Search Premier, ISSN 0040781X.

¹⁴ Leo Horrigan, Robert S. Lawrence & Polly Walker, *How Sustainable Agriculture Can Address the Environmental and Human Health Harms of Industrial Agriculture*, *ENVIRONMENTAL HEALTH PERSPECTIVES*, May 2002, at 445-6.

II. Industrial Agriculture

Modern agriculture is aptly described by the Union of Concerned Scientists as viewing “the farm as a factory with ‘inputs’ (such as pesticides, feed, fertilizer, and fuel) and ‘outputs’ (corn, chicken, and so forth). The goal is to increase yield (such as bushels per acre) and decrease costs of production, usually by exploiting economies of scale.”¹⁵ Concentrated Animal Feeding Operations (CAFOs), where animals are kept in very close confines as they are fattened for slaughter, have developed.¹⁶ More than 40% of all beef production in the United States comes from 2% of the feedlots.¹⁷ Generally, industrial agriculture relies on unsustainable amounts of water to operate.¹⁸ While effective, these methods are starting to receive a lot of criticism.¹⁹

Concern about conventional farming methods is spreading slowly throughout the U.S. as more and more people become apprehensive about the un-sustainability of modern agricultural practices, which utilize a significant amount of non-renewable resources like fossil fuels and renewable resources faster than they can be generated.²⁰ Public health concerns often focus on the excessive amount of fat and protein in animal-based diets, which are linked to many chronic degenerative diseases like heart disease and breast cancer.²¹ Additionally, the use of growth-promoting antibiotics in animal feed has been identified as one of the factors that are increasing antibiotic resistance in humans.²² Environmentalists are concerned because pesticides have polluted surface and ground water, with the EPA estimating that they are responsible for

¹⁵ Horrigan, *supra* note 14, at 445.

¹⁶ Walsh, *supra* note 13.

¹⁷ Horrigan, *supra* note 14, at 448.

¹⁸ *Id.* at 445.

¹⁹ Walsh, *supra* note 13.

²⁰ Horrigan, *supra* note 14, at 445-6.

²¹ *Id.* at 445.

²² *Id.*

contaminating 70% of the nation's rivers and streams.²³ The treatment of animals on these farms has also motivated people to speak out.²⁴

III. Growth of Sustainable Agriculture

Sustainable agriculture has been advocated as a solution to problems currently caused by conventional agriculture. Its promoters present it as a holistic solution,²⁵ where farmers are to consider their long-term interest in their land, how their land is unique and what will grow best on it.²⁶ If executed correctly, sustainable agriculture may be one way to help repair the damage done by current agricultural practices.²⁷

Sustainable agriculture is a flexible term for a variety of agricultural practices that are better for the environment and human health.²⁸ Sustainable techniques include crop rotation, no-till and low-till farming, diversity of crops²⁹ and integrated pest management(IPM).³⁰ It is based on the idea that relatively small farms that use less “off-farm inputs, integrate animal and plant production, if possible, maintain a higher biotic diversity, emphasize technologies that are appropriate to the scale of production, and make the transition to renewable forms of energy”³¹ can be as profitable as conventional farming methods while benefiting the environment and human health.³²

²³ *Id.* at 446-7.

²⁴ *Id.* at 448.

²⁵ Kristen Corselius, Suzanne Wisniewski, & Mark Ritchie, *Sustainable Agriculture: Making Money, Making Sense*, INSTITUTE FOR AGRICULTURE & TRADE POLICY & FIRES OF HOPE INITIATIVE, 5 (March 2001), <http://www.foodroutes.org/doclib/21/MakingMoneyMakingSense.pdf>.

²⁶ Horrigan, *supra* note 14, at 452.

²⁷ *Id.*

²⁸ *Id.*

²⁹ *Id.*

³⁰ Corselius, *supra* note 25, at 20 (defining IPM as enhancing natural enemies, planting pest-resistant crops, adapting cultural management, and using pesticides judiciously).

³¹ Horrigan, *supra* note 14, at 446.

³² Corselius, *supra* note 25, at 9 (making a comparison on a per-animal or per-acre basis).

IV. Buying Local

One often sees “sustainable” with “organic” and “local” in the news. The National Organic Program, which certifies organic products, is designed to encourage cycling of resources, the promotion of an ecological balance, and conservation of biodiversity.³³ “Local,” on the other hand, does not mean organic or sustainable production; it just refers to origination.³⁴ Because there are different standards for labeling an item as “locally” grown or produced, “local” can sometimes refer to something grown seven hours away or in the neighboring state.”³⁵ While the term may be vague, there are a number of reasons why people advocate for “local” agricultural efforts.

Buying locally produced goods can be beneficial for the community and environment. If one looks at the life-cycle analysis of products (from “cradle-to-grave”) where all factors that contribute to production are considered, the merits of buying sustainably produced food close to home becomes clear.³⁶ For many “locavores,” buying local is about supporting their community, eating healthier foods³⁷ and having a relationship with the person who is growing their food.³⁸

V. What is Farm to Fork?

Farm to Fork is an initiative by North Carolina State University’s Center for Environmental Farming Systems to research what it will take to build a sustainable local food

³³ UNITED STATES DEPARTMENT OF AGRICULTURE: AGRICULTURAL MARKETING SERVICE, *NATIONAL ORGANIC PROGRAM*, <http://www.ams.usda.gov/> (last updated Nov. 9, 2010).

³⁴ Juile Schmidt, ‘*Locally Grown*’ Sounds Great But What Does It Mean? USA TODAY, Oct. 31, 2008, http://www.usatoday.com/money/economy/2008-10-27-local-grown-farms-produce_N.htm.

³⁵ *Id.*

³⁶ Sarah DeWeerd, *Is Local Food Better?* WORLD WATCH May-June. 2009, <http://www.worldwatch.org/node/6064>.

³⁷ Marian Burros, *Preserving Fossil Fuels and Nearby Farmland by Eating Locally*, N.Y. TIMES, Apr. 25, 2007, http://www.nytimes.com/2007/04/25/dining/25loca.html?ref=local_food.

³⁸ DeWeerd, *supra* note 36, at 6.

economy in North Carolina.³⁹ The initiative has been working to bring people together from across the state to gain insight into how it can be done.⁴⁰ F2F has held a statewide summit, regional meetings and interviews to gather suggestions.⁴¹ It will produce a Statewide Action Plan that will detail specific steps that members of the community and government can take to support local, economic growth.⁴²

While their proposals touch on all aspects of creating a local economy, this paper will only highlight three of their policy proposals targeted at supporting the local agricultural community. The first is to amend the Present Use Value Program, the second is to address zoning ordinances and the third is to give broad authority to local governments to offer incentives for local and sustainable agriculture in local economic development efforts.⁴³ Adoption of any one of these proposals would help to promote local agricultural development.

VI. The Present-Use Value Program

The Present-Use Value Program allows property used for agriculture, horticulture or as forestland to be assessed for tax purposes at its present use-value (PUV) rather than at its market value.⁴⁴ Land's present-value is "the value of the land in its current use solely on its ability to produce income and assuming an average level of management."⁴⁵ This value is normally significantly less than its market value, thus reducing the amount of tax the owner owes.⁴⁶ The

³⁹ FARM TO FORK, *supra* note 3.

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² *Id.*

⁴³ FARM TO FORK: LOCAL GOVERNMENT & LAND USE, NORTH CAROLINA STATE UNIVERSITY CEFS, <http://ncsustainablefood.wordpress.com/working-issue-groups/local-government-land-use/> (last visited Oct. 10, 2010).

⁴⁴ NORTH CAROLINA DEPARTMENT OF REVENUE, PRESENT-USE VALUE PROGRAM GUIDE 3, (28 Dec. 2009), http://www.dorn.com/publications/puv_guide.pdf.

⁴⁵ PRESENT-USE VALUE PROGRAM GUIDE, *supra* note 44, at 3.

⁴⁶ *Id.*

tax office will establish a market value for the land, and the difference between it and the PUV is kept in tax assessment records as deferred taxes that become due for the present year and the three proceeding years with accrued interest when property no longer qualifies for the present-use value program.⁴⁷ Thus, there are incentives to enroll in the program, (paying lower taxes) and to stay in the program, as a lump sum is due immediately upon exiting the program.

To qualify for the program, agricultural land must have at least one tract of land measuring ten acres or more in actual production,⁴⁸ while horticultural land is required to have at least one tract of 5 acres in actual production.⁴⁹ Both agricultural and horticultural lands are required to have generated \$1,000 for the three proceeding years⁵⁰ and to be in sound management.⁵¹

North Carolina farms differ dramatically in size,⁵² and imposing a 10 acres restriction on agricultural land can restrict small farmers from participating in the Present-Use Program. In 2007, the USDA found there to be 5,001 farms measuring less than 10 acres in North Carolina.⁵³ While this data can conclusively indicate the number of farmers who would participate in the Present- Use Value Program, it suggests that there are farmers out there who have not been given the chance to take advantage of it. F2F suggests that the land measurements be amended to include agricultural land four acres and above instead of ten.⁵⁴ This alteration would give small farms to opportunity participate in the program.

⁴⁷ *Id.*

⁴⁸ *Id.* at 5.

⁴⁹ *Id.*

⁵⁰ PRESENT-USE VALUE PROGRAM GUIDE, *supra* note 44, at 55.

⁵¹ *Id.* at 75.

⁵² USDA: THE CENSUS OF AGRICULTURE, STATE LEVEL DATA, NORTH CAROLINA LAND IN FARMS, HARVESTED CROPLAND, AND IRRIGATED LAND, BY SIZE OF FARM, (Feb. 3 2009), http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_1_State_Level/North_Carolina/index.asp.

⁵³ *Id.*

⁵⁴ FARM TO FORK: LOCAL GOVERNMENT & LAND USE, *supra* note 43.

VII. Amending Zoning Ordinances

Zoning ordinances vary from county to county and city to city across North Carolina. However, swine farms are the only agricultural practice that can be regulated by these zoning ordinances under North Carolina General Statute §153A-340, and this is only if they have a waste management system of 600,000 pounds of steady state live weight or greater.⁵⁵ “Bona fide farms” are exempted. This includes any farm involved in “production and activities relating or incidental to the production of crops, fruits, vegetables, ornamental and flowering plants, dairy, livestock, poultry, and all other forms of agricultural products as defined in G.S. 106-581.1 having a domestic or foreign market.”⁵⁶ It is important to note that counties are allowed to apply zoning ordinances to farm land that is used for non-farm purposes.⁵⁷ This can be a challenge for farms that are attempting to build structures that may not be considered for a “general agricultural purpose,”⁵⁸ as can be the case with constructing additional houses for farm labor. F2F has highlighted this as a particular challenge for farmers.⁵⁹

Creating agricultural districts is one way that counties and cities can take actions to protect agricultural land and allow building expansion to house farm labor.⁶⁰ These districts are intended to assist the state in preserving farmland that meets certain requirements, as described in Article 61 of the North Carolina General Statutes.⁶¹ Article 61 is careful to specify that only development of no more than 3 lots in accordance with county standards is allowed.⁶² The

⁵⁵N.C. GEN. STAT. § 153A-340(b)(3) (WestlawNext through 2010 Regular Sess.).

⁵⁶*Id.*

⁵⁷*Id.*

⁵⁸PATRICIA E. SALKIN, AMERICAN LAW OF ZONING: § 33:4 (5th ed. 2010).

⁵⁹FARM TO FORK: LOCAL GOVERNMENT & LAND USE, *supra* note 43.

⁶⁰ Agricultural Development and Preservation of Farmland, N.C. Gen. Stat. § 106-735 (WestlawNext through 2010 Regular Session).

⁶¹*Id.*

⁶²*Id.*

challenge for policy makers will be to expand the regulations to allow only development for farm workers without opening up the door to developers.

VIII. Broad Authority to Local Governments to Offer Incentives

F2F points out that there is broad authority for local governments to fund economic development efforts under NCGS §158-7.1.⁶³ Under the Local Development Chapter, each city and county within the state is authorized to encourage activities that will “increase the population, taxable property, agricultural industries and business prospect” in the city or county.⁶⁴ To generate revenue for this purpose, the city or county is allowed to levy taxes or utilize other funds that are not otherwise restricted by law.⁶⁵ The statute goes on to specify agreement requirements between a city or county and a private entity.⁶⁶

Using city or county funds for investment in local, sustainable development may be met with opposition, as some people in the community may feel that it could be more appropriately spent elsewhere. The statute, as it stands currently, allows for this kind of investment but seems intended to encourage other types of development in the commercial and industrial sectors.⁶⁷ In an effort to utilize §158-7.1, Guilford and Henderson Counties have established guidelines to evaluate proposals for local development efforts.⁶⁸ While neither county explicitly encourages

⁶³ FARM TO FORK: LOCAL GOVERNMENT & LAND USE, *supra* note 43.

⁶⁴ Local Development Act of 1925, N.C. Gen. Stat. § 158-7.1, If one were to levy taxes, adherence to G.S. 153A-149 and G.S. 160A-209 is required. *Id.*

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ See HENDERSON COUNTY BOARD OF COMMISSIONERS ECONOMIC DEVELOPMENT INCENTIVES GUIDELINES, <http://www.hendersoncountync.org/board/EconDev.html> (last visited Oct. 11, 2010); see also GUILFORD COUNTY ECONOMIC DEVELOPMENT INVESTMENT GUIDELINES, http://www.co.guilford.nc.us/ED_Policy_Final_022208.pdf (last visited Oct. 11, 2010).

agricultural applications, both could serve as references for a policy that would include agricultural development.⁶⁹

Cabarrus County, having recently created the Cabarrus County Council for a Sustainable Local Economy, seems to be applying the ideas behind the Local Development Chapter to sustainable agriculture.⁷⁰ They have instituted an Economic Development Grant Program, relying on the provisions of §158.⁷¹ Their efforts are a good model for cities and counties throughout the state. F2F suggests that counties start utilizing §158 for sustainable and local agriculture development because it would not only support local farmers but the area's economy.⁷²

Conclusion

These policy suggestions are only a very small part of F2F's efforts. F2F is working to reach out to the community to promote a sustainable local economy, from education to direct marketing.⁷³ Policymakers, educators and residents need to take up the cause. Community involvement and organizations like Farm to Fork can help get North Carolina on the road to supporting local sustainable agriculture while growing its economy.

⁶⁹ HENDERSON COUNTY, *supra* note 68; GUILFORD COUNTY, *supra* note 68 .

⁷⁰ CABARRUS COUNTY BOARD OF COMMISSIONERS,
<http://www.cabarruscounty.us/Commissioners/boardsandcommittees.html#SUS> (last visited Oct. 12, 2010).

⁷¹ CABARRUS COUNTY DEVELOPMENT GRANT PROGRAM,
<http://www.cabarruscounty.us/Commissioners/economicdevelopment.html> (last visited Oct. 12, 2010).

⁷² FARM TO FORK: LOCAL GOVERNMENT & LAND USE, *supra* note 43.

⁷³ FARM TO FORK: WORKING ISSUES, NORTH CAROLINA STATE UNIVERSITY,
<http://ncsustainablefood.wordpress.com/working-issue-groups/> (last visited Oct. 11, 2010).