Sustainable Agriculture in New York

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Introduction

The "green revolution" introduced several new agricultural technologies including mechanical harvesters, inorganic fertilizer and various management practices. These technologies have contributed to economic growth and increased yields. However, a heavy dependence on these technologies has resulted in environmental degradation throughout the world. Water pollution, decreased biodiversity, and soil erosion are some of the major problems associated with agricultural industrialization that now threaten the viability of modern farming practices. In response to these problems, the idea of sustainable agriculture has become increasingly popular in recent years. As defined by Congress, sustainable agriculture is an integrated system of plant and animal production practices having a site-specific application that will, over the long term:

- satisfy human food and fiber needs;
- enhance environmental quality and the natural resource base upon which the agricultural economy depends;
- make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls;
- sustain the economic viability of farm operations; and
- enhance the quality of life for farmers and society as a whole (SARENE, 2006).

Agriculture is incredibly important to the state of New York as it makes up 25 percent of New York's land use ("2004-05 Annual Report"). In 2002, agriculture generated 3.1 billion dollars in market value in New York (Herrera & Mendenhall 4). Sustainable agriculture must be adopted by New York if economic viability and environmental quality are to be maintained. Programs such as Agricultural Environmental Management, Sustainable Agriculture Research and Education, and non-governmental organizations like the New York Sustainable Agriculture

Working Group have used a variety of mechanisms to promote sustainable agriculture in New York. While all these efforts signify a step toward sustainable agriculture in New York, there is considerable room to improve. This brief will explore the effectiveness and shortcomings of each of these approaches and provide recommendations for future policies.

Agricultural Environmental Management: an incentive-based approach

In 2000, the New York State Department of Agriculture and Markets created the Agricultural Environmental Management (AEM) program to promote sustainable agriculture by helping farmers meet pollution regulations while also keeping farming profitable. The program is incentive based and totally voluntary, providing money to farmers who chose to take part in the program to meet environmental standards ("2004-05 Annual Report" 1). This is change from earlier environmental policies that forced farmers to reduce the amount of pollution they produce or else they would be stung with penalties and fines. Also new to environmental policy is that AEM, unlike many earlier environmental programs, is individualized and local, putting farmers in leadership positions ("2004-05 Annual Report" 1). The characterization of "expert" is being given less often to the scientist or policy maker, and more often to experienced farmer who has been working in the business first hand for years. This kind of policy, one that uses market incentives and community input, is relatively new and its viability is still being researched.

The effectiveness of this policy in promoting sustainable agriculture is debatable and depends on whom you ask. From the government's standpoint, AEM has been extremely successful. The Department of Agriculture and Markets measures the performance of the program based on the number of farmers using what the Department has qualified as "best management practices" (Zimmerman, 2006). Using "best management practices" can qualify a

farmer for subsidies from AEM, and so far over 9,000 farmers have received a total of over 45 million dollars in grants and subsidies ("2004-05 Annual Report" 1; Zimmerman, 2006). Applying these criteria for success, the AEM program appears to be very effective.

This way of measuring AEM's efficiency can, however, be misleading. This way of measuring policy assumes that pollution is decreasing as a result of the "best management practices" without monitoring it. The amount of money going into the program is massive, but it may not be the most effective way of achieving sustainable agriculture. There is no solid, numerical evidence that pollution has actually gone down, and this is because the state chooses to assess the program's value as described above, not by quantifying pollutants.

The question of whether the program actually encourages sustainable agriculture is also questionable. AEM uses monetary incentives and subsidies to promote sustainability, but if farmers need the grants to maintain profitability, it is unsure if the program is actually sustainable. One of the five goals of sustainable agriculture, as described by Congress, is to "sustain economic viability of farming operations" (SARENE, 2006). Keeping this in mind, granting subsidies to farmers may not promote sustainability because without the grants it is uncertain whether or not the farm would self-sustaining. It is possible that once the subsidies end, the farm will lose its profitability. Moreover, it could even be possible that the government is subsidizing farmers for practices that are actually antagonistic to the environment. Lastly, because it is voluntary it leaves it up to the farmer to make the decision to become sustainable. Currently, 25% percent of New York farmers have taken part in some aspect of AEM ("2004-05 Annual Report" 1), but if it remains voluntary, the other 75% may never take the step or even learn about the program. While it is undeniable that AEM has helped encourage sustainable agriculture, it has to be measured in a cost effective manner because the amount of money put in

may not be worth the environmental benefits, especially because they currently are not measured directly.

Sustainable Agriculture Research and Education: an outreach approach

An alternative mechanism for promoting sustainable agriculture in New York State entails research, education and outreach. The Sustainable Agriculture Research and Education (SARE) program exemplifies this mechanism well. SARE was created in 1988 and is a federally funded, regionally administered program that promotes sustainable agriculture primarily through competitive research and education grants. The program adopts a very broad definition of sustainable agriculture including equal elements of environmental conservation, profitability and quality of life (SARENE, 2006). These objectives are reflected in the types of research/education projects that receive grants. Five flavors of grants are available depending on the recipient(s): farmers, researchers (universities), extension agents/educators, communities and partnerships. Grants range from $5,000 for small farm research to $100,000 for university research and they are often supplemented by outside NGO funding. Additionally, the program operates the sustainable agriculture network (SAN) designed to facilitate the distribution of valuable research findings to other farmers.

A case study will be useful for demonstrating the SARE program. In 1998 a New York farmer submitted a grant proposal for a project to convert his tractor to electric power. SARE administrators decided to fund the project $10,000 based on the potential usefulness to other farmers and satisfaction of the three aforementioned sustainable agriculture objectives. The farmer successfully modified his/her cultivation tractor. Step-by-step conversion instructions

were then placed online (one component of the SAN) where they remain today for interested farmers to utilize.

The SARE program has *five key attributes* that make it a powerful tool for promoting sustainable agriculture. First, SARE is a program that has clear goals directed solely at sustainable agriculture. All projects must have the capacity to improve profitability, conservation or quality of life for farmers as well as being practical and applicable. Decision-makers carry this holistic requirement into all funding and extension initiatives (Mellon, 1996). Secondly, SARE has a local focus because of its organization. The program divides the US into four independently administered regions which allows research and education to hone in on the specific problems that concern farmers. Nationally, the four regions face significant agricultural differences, but on the regional level farmers share more of the same problems. As a result, regional research is often relevant and useful to many farmers within that region (Holm, 2006). The third attribute is incentives. Regulatory policies have struggled to curb the pollution associated with unsustainable agriculture in NY because of non-point tendencies as well as the large quantity of farms. Incentives are capable of promoting sustainable agriculture because they draw farmers in as opposed to chase them down (Mellon, 2006). Fourth, SARE instills progressively creative and forward-thinking sustainable agriculture. The most innovative projects are funded because repetitious ones aren't as useful to farmers or revealing of new sustainable practices. This challenges farmers and researchers to continually exceed their competition if they want to receive funding (Holm, 2006). Lastly, the SAN is a powerful feature. Efficient communication spreads knowledge and increases the opportunities for adoption of sustainable agriculture practices. Also, an agricultural network targeted at and maintained by farmers builds norms of trust and reciprocity that will be necessary if sustainable agriculture is to succeed.

SARE also exhibits *two key weaknesses* that limit its ability to promote sustainable agriculture. The first is limited funding. The Northeast region, which NY falls within, was allocated $2.5 million for grants, education and other initiatives for 2006. However, with a two-thirds denial rate on proposals, opportunities are not being realized (Holm, 2006). NY received only a dozen grants totaling less than a half-million dollars in 2005 (Holm, 2006). Because results are less immediate with SARE grants than with conservation subsidy programs such as AEM, funding is difficult to receive. The second problem is related to the practicality of a program like SARE. Farmers that receive SARE grants are obviously inspired and most likely knowledgeable about the benefits of sustainable agriculture, but the remaining farmers that are expected to adopt new practices may not be. A tremendous investment of time and money is necessary for farmers to alter their agricultural system. Some farmers may be able to make time, but they must still find the money; it is important to acknowledge that SARE only funds the original researcher. Moreover, even if farmers are lucky enough to have the time and money to invest they must still be educated about the benefits of sustainable agriculture to do so. SARE and many other USDA programs and services attempt to educate with outreach but here funding again seems to be the limiting factor.

The research and education mechanism exemplified by SARE has much potential for advancing sustainable agriculture New York State. It continually pushes the envelope on sustainable agriculture research and creates strong farmer motivation through education and incentives. Additionally, regional zoning addresses local problems and the SAN facilitates knowledge accumulation. SARE is a cutting-edge program attempting to promote sustainable agriculture, not through external incentives or regulations, but through educated farmers aware of the benefits sustainability brings. However, this mechanism faces hurdles. Congress will

continue to under-fund programs like SARE because it struggles to produce immediate results. Future policies must find a way to produce more tangible and immediate results while maintaining the attributes that make the research and education mechanism so promising.

New York Sustainable Agriculture Working Group: an NGO approach

NYSAWG began in 1991 as part of the emergence of sustainable agriculture working groups across the country. There are currently 4 official SAWGs representing the Northeast, Midwest, South, and West; and two 'junior partners': New York and Northern California. NYSAWG brings together people from diverse agriculture and food system constituencies, including farmers, consumers, environmentalists, members of the faith community, labor activists, advocates from the anti-hunger community, and farmworkers. Its mission is to foster and promote sustainable agriculture practices and sustainable local-regional food systems. NYSAWG aims to build "economically viable, environmentally sound, and socially just community-based food systems that provide community food security for all New Yorkers" (Herrera and Mendenhall, 2005). It works through cross-constituency organizing, education and advocacy, and by bringing grassroots knowledge of the food system to the policy arena at local, state, and federal levels.

Unlike traditional policy advocacy for sustainable agriculture, which has focused largely on production practices, NYSAWG concentrates on community food security, and economic and community development. Hank Herrera, NYSAWG's managing director, feels that although the traditional advocacy approach has been useful, it has often been "abstract and distant from real problems." Instead of using an agro-ecological perspective of sustainable agriculture, NYSAWG relates food production to the "ecology of humans," implying that food must be made

available for all people through low input farming that sustains itself by strengthening ecological integrity. In this sense, sustainable agriculture becomes a means to address the real and prevalent problem of food insecurity in NYS.

The NYSAWG Board of Directors, a cohesive group of 5 highly motivated individuals, is inspired by a vision for a future food system based on restoring indigenous connections between the production, processing, and consumption of food on a territorial level. Ultimately, the Board hopes to establish profitable networks of small-scale growers, processors, and retailers in every region of the state. Over the past 6 years, NYSAWG has worked to reach this goal through several related projects: it has fostered the formation of the Small-Scale Food Processors Association of New York State; convened several statewide Sustainable Agriculture and Food Systems Summits; provided research and staff support for a statewide study about the economic development potential of local and regional food systems; developed several proposals for federal legislation; and initiated the formation of the Growing Home Partnership – a framework for regional food systems development that is supported by over 20 partner organizations.

While it is difficult to assess NYSAWG's impact on sustainable agriculture in New York, increased public awareness about the importance of farming and buying locally produced food as well as the development of new infrastructure to support regional food systems indicates that NYSAWG's objectives are slowly being realized. In addition, NYSAWG has fostered collaboration between many groups and individuals from the local to national levels including NYFarms!, the Hunger Action Network of New York State, the New York City Nutrition Education Network, and various Cornell University constituents including Cooperative Extension, the Farming Alternatives Program (CFAP), and the Small Farms Program. Therefore, it has supported new forms of collective action that enhance the institutional capabilities of any

one group alone. Furthermore, by positioning sustainable agriculture as a federally mandated public good to "ensure a safe nutritious and affordable supply of food for all Americans," NYSAWG has brought the issue to a wide range of audiences, many of whom had not considered sustainable agriculture as a relevant tool to mitigate food insecurity in New York. In this sense, NYSAWG has transcended the traditional boundary of sustainable agriculture as an issue that only pertains to environmentalists.

Despite the fact that NYSAWG is not a membership-based organization and currently has no employees, it has accomplished impressive feats over the past few years. This is largely due to its small, cohesive Board of Directors. According to Herrera, the group is directed by several capable, committed partners, and this has enabled it to "focus and get things done." Herrera also noted that NYSAWG tries to be participatory and democratic by reaching many constituents as often as possible in order to disseminate information and collect their input. In this sense, the group tries to "fairly represent all constituents without getting caught up in the inertia of large groups who can't make decisions."

Although NYSAWG's major challenge to date has been lack of capital, NYSAWG was recently appointed New York's 'Buy Fresh Buy Local' representative, a national campaign to help organizations promote locally produced food in their regions. By charging local and regional groups a fee to use the logo and develop advertising materials, NYSAWG will generate revenue to support its own programs and resources. At the same time, managing New York's Buy Fresh Buy Local campaign will further NYSAWG's mission to foster more sustainable food systems in the state.

Discussion and Policy Recommendations

Current policies to promote sustainable agriculture in New York focus largely on production practices and aim to enhance the long-term profitability of farms. Both AEM and SARE encourage environmentally sound agriculture and offer financial support to farmers who adopt sustainable practices. On the other hand, NYSAWG approaches sustainable agriculture from a food systems perspective and uses grassroots knowledge to rebuild regional infrastructure that ensures the profitability of small-scale agro-food businesses. This analysis reveals major problems associated with each approach: AEM lacks effective monitoring schemes and may create subsidy dependence; SARE lacks immediate results, which contributes to its under-funding and inability to support more research and education; NYSAWG lacks political support and access to capital. In order to more effectively promote sustainable agriculture in New York, there is a need to blend the strengths of these three approaches.

Public resources allocated to promote sustainable agriculture should combine elements of education, research, and direct farm payments while addressing the real needs and demands of New York communities. Policies must take into account the increasing public interest in re-localized food systems and support grassroots efforts by offering capital for collaborative inter-sectoral initiatives. While production practices are important, it is also necessary to allocate funds to programs that address the interconnected problems of farm viability, community wellbeing, personal health, food security, and environmental quality. AEM spends roughly 10 million dollars a year; if some of this money is directed toward education, research and the development of regional distribution, processing and storage infrastructure, New York's institutional capacity for sustainable agriculture will be enhanced.

Works Cited

"2004-05 Annual Report." New York State Department of Agriculture and Markets. April 16, 2006. <http://www.agmkt.state.ny.us/SoilWater/AEM/AEM2005AnnualReport.pdf>.

Herrera, Henry R. and Katherine Mendenhall. Recommendations on New York State Food and Nutrition Policies. May 16, 2005.

Herrera, Henry R. Managing Director, NYSAWG. Personal Interview. April 20, 2006.

Holm, David. Program manager at SARE Northeast. Personal Interview. April 17, 2006.

Mellon, Margaret. May 14, 1996. Union of Concerned Scientists. Testimony before the subcommittee on resource conservation, research and forestry, US House of Representatives Committee on Agriculture. http://www.uvm.edu/%7Enesare/what_is.html.

Sustainable Agriculture Research and Education – Northeast region (SARENE). (Date of Access April, 2006). SARE Northeast website/about. http://www.uvm.edu/~nesare/what_is.html

Zimmerman, Rick Deputy Director, NYS Department of Agriculture and Markets. Personal Interview. April 18, 2006.