

The Challenge of Global Hunger; Time for a New Agenda for Public Research and Educationⁱ

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Publicly funded research and educational programs obviously are meant to serve public interests – not the interests of individual constituents or corporations. To better serve the public interests through agriculture, Abraham Lincoln established the U.S. Department of Agriculture in 1862. Lincoln called it the “people’s department.” Most of the people in America lived on farms at the time and farming was a “way of life,” not just another bottom-line business. The Land Grant University (LGU) system was established by the Morrill Act of 1862 to focus on teaching the “practical arts,” including agriculture, science, and engineering – but not to the exclusion of the liberal arts. LGUs were the working people’s universities, and agriculture was and still is an important part of the work of the nation.

The Hatch Act of 1887 established Agricultural Experiment Stations in each state to carry out agricultural research. Research that would increase food production was deemed to be in the public interests, and farms of those times were too small to carry out their own research. The second Morrill Act of 1890 brought historic black universities in the former confederate states of the South into the LGU system. The Smith-Lever act of 1914 established Cooperative Extension Services in each state in order to disseminate or extend experiment station research results to farmers. Research and extension programs were both administered through the LGU system.

The historic justification for government programs related specifically to agriculture, including agricultural research and education, was to ensure domestic food security. In the U.S., food security has been defined as access to adequate quantities of wholesome foods to support healthy active lifestyles, although the precise terminology has changed from time to time. As most people around the world have learned, or are learning, markets simply will not ensure food security. Market economies provide enough food for those who have enough money to buy enough food, but not necessarily for all who need food. Food security requires that people have enough food, regardless of whether they have enough money. Consequently, virtually every nation has some type of farm policy to address domestic food security.

The historic strategy for food security in the U.S. was to keep enough family farmers on the land to produce enough food for everyone in the nation. Family farmers traditionally were held in high esteem as stewards of the land and the pillars of democratic society.¹ Publicly funded research and education was a means of allowing such family farmers to increase productivity as

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needed to meet the food needs of a growing nation. Contemporary government farm programs in the U.S. have their roots in the Great Depression of the 1920s and 1930s. Early price supports and farm subsidies were as much about supporting the incomes of farm families as supporting agricultural production. Publicly funded agricultural research and extension programs became and have remained components of ongoing U.S. government farm policy.

Changes in American agriculture following World War II led to fundamental changes in U.S. farm policies, including publicly-funded research and education. Farms powered by horses gave way to farms powered by tractors. Cheap nitrogen fertilizers and pesticides encouraged farmers to abandon crop rotations and diversified crop and livestock farming as the means of managing pests and maintaining soil fertility. Many farms were being transformed into factories without roofs and fields and feedlots into biological assembly lines.

The focus of U.S. farm policy shifted from preserving family farms to promoting agricultural productivity, regardless of the consequences for farm families. A more efficient agriculture would lead to lower food prices, making adequate quantities of wholesome and nutritious food affordable for everyone – without regard to who produced it. The farm policies chosen to increase the economic efficiency of agriculture were those that facilitated and promoted agricultural industrialization. The short-run profits associated increasing economic efficiency provided farmers with the necessary motivation for technology adoption. The agricultural research and education programs of LGUs responded by shifting from their pre-war focus on empowering farm families with agricultural education and information to developing and disseminating industrial agricultural technologies.

Many people associate industrialization with the transition from an agrarian to manufacturing economy. However, industrialization is more accurately defined as a mental model or paradigm for organizing and managing resources – land, labor, and capital. Rural-urban migration is a natural consequence of agricultural industrialization. The fundamental strategies of industrial organizations are specialization, standardization, and consolidation of control. Specialization facilitates division of labor – allowing each person to do fewer things better. Specialized functions then must be standardized so that each contributes its part to the production process as a whole. The standardized functions can then be simplified and routinized, allowing control to be consolidated into larger, more efficient production units. Larger farms produced more with fewer farmers. In market economies, profits provide the motivation for industrialization.

The transition from small family farms to large commercial farming enterprises was generally accepted as a logical consequence of government farm policy to ensure food security, even if not an explicit objective. Farmers still made up more than a quarter of the U.S. workforce during the 1920s, and a more efficient agriculture would free more 'unneeded' farmers to work in the factories and offices of the growing industrial economy. Larger farms and fewer farmers would make the nation both more food secure and economically secure. Every major U.S. farm program since the New Deal era, in one way or another, has facilitated, supported, or promoted agricultural industrialization. Prospect for profits provided the primary motivation, but publicly-funded agricultural research and education served a critical role by initiating, facilitating, justifying, and validating the industrialization of American agriculture.

Unfortunately, in the process of promoting this myopic economic agenda, public research and education lost the sense of objectivity, impartiality, and its historic commitment to the public interest that had justified its public funding. I was recently invited to speak at a colloquium of globally prominent scientists at Princeton University. The topic was *systemic risks in global food markets*. I pointed out the obvious failure of agricultural industrialization to provide either domestic or global food security. I was told by a prominent scientist that the responsibility of researchers is to find ways to increase agricultural productivity, which they had done. Food security is someone else's responsibility – beyond the realm of relevance for agricultural research. His comments were supported by the vast majority of these global food experts. A similarly empty claim has been made for the *The Green Revolution*: It succeeded in increasing food production; its failure to reduce global hunger was labeled a failure of public policy.

The failure of industrial agriculture is clear and compelling. The percentage of “food insecure” people in the United States is greater today than during the 1960s – before the latest corporate phase of agricultural industrialization.^{2,3} Furthermore, the industrial food system is linked to a new kind of food insecurity: unhealthy foods. The U.S. is confronted with an epidemic of obesity and diet-related health problems, including diabetes, heart disease, hypertension, and a variety of cancers. A recent global report by 500 scientists from 50 countries suggested that “obesity is [now] a bigger health crisis than hunger.”⁴ There is growing evidence that America's diet-related health problems are not limited to poor consumer food choices or processed “junk foods” but begin with a lack of nutrient density in food crops produced on industrial farms.⁵ Furthermore, retail food prices over the past 20 years have risen faster than overall U.S. inflation rates.⁶ Still, Land Grant Universities continue use public funds to carry out research and education programs that clearly no longer serve the public interest.

A continuing blind faith in the efficiency-focused, profit-driven paradigm of industrial agriculture is the fundamental cause of continuing food insecurity – both domestically and globally. Furthermore, the myopic focus of researchers and educators on the development and dissemination of industrial technologies has lured them into partnerships with agribusiness corporations, further compromising their objectivity and intellectual integrity. As federal and state funds for LGUs have declined, private-public “partnerships” between corporate agribusiness and LGUs have become the accepted way of doing business. The public partner pays the costs, the private partner takes the profits. The only unique benefit of publicly-funded research and education for farmers, consumers, citizens, or agribusiness was the credibility arising from their objectivity – which they are rapidly losing through public-private partnerships. In their quest for economic legitimacy scientists have lost their objectivity and have become obstacles to the provision of domestic food security and the alleviation of global hunger.

I can speak with some authority on these issues because I have lived and worked through the transition in the LGU system. I grew up on a small farm in Missouri and have spent my entire life working with farmers and people in rural communities. After graduating from the University of Missouri (MU) in 1961, which is a LGU, I worked for a large meat packing company for three years before returning to MU for graduate school. After completing my PhD in Agricultural Economics in 1970, I spent 30 years in various research, teaching, and extension positions at four different Land Grant Universities. I worked at North Carolina State University (NCSU), Oklahoma State University (OSU), and the University of Georgia (UG) before returning to MU.

I was awarded Professor Emeritus status when I retired from MU in 2000. So, I have been affiliated with the LGU system virtually my entire adult life.

For the first half of my 30-year academic career I was an advocate of industrial agriculture. I believed what I had been taught: by increasing the economic efficiency of agriculture we would help make good, wholesome food affordable to everyone. I first began to have doubts during the farm financial crisis of the 1980s. The 1970s had been a rare time of prosperity in farming. We so-called experts had been advising farmers to take this opportunity to expand their operations – to “get big rather than get out.” Many followed our advice and borrowed a lot of money at record high interest rates to finance their expansion. During the early 1980s, the strong export markets that had fueled the farm profitability of the 1970s unexpectedly collapsed under the weight of the global economic recession. Many farmers were caught with large debts that they couldn't repay because of depressed commodity prices. Farm bankruptcies and foreclosures were regular fare on evening network news programs. Stories of farmers committing suicide were not uncommon. American agriculture was in crisis.

I was the head of the Department of Extension Agricultural Economics at the University of Georgia at the time. My department was responsible for helping farmers survive the crisis – or at least convincing them not to commit suicide. During our counseling with dozens of farm families, I was forced to conclude that the crisis was not really the fault of farmers who had made bad management decisions, although some obviously had. The farm crisis of the 1980s was an inherent consequence of the profit-driven, industrial system of farming that I and other so-called agricultural experts had been promoting. The only way for some farmers to “get big” was for others to “get out.” This meant some farmers had to fail so others could survive – but only until the next time when it might be survivors' turn to “get out” rather than “get big.”

It became obvious to me that agricultural industrialization most certainly is not good for farmers. Even the survivors of each round must struggle continuously to stay competitive. As I drove through rural communities suffering from economic depression and social decay I could see it wasn't good for rural people in general. It takes people, not just production, to support viable rural communities. Industrial farmers typically bypassed local communities when purchasing machinery, fertilizers, and pesticides. With fewer farm families, there were also fewer people to shop on Main Street, sustain local churches, volunteer for fire departments, and serve on town councils and fewer children to keep local schools open. I concluded that our LGU research and education programs were helping to destroy our rural communities.

Only later would I become concerned about the environmental consequences of agricultural industrialization. We had encouraged farmers to farm fencerow-to-fencerow and tear out fencerows to accommodate larger equipment, resulting in rampant soil erosion. Streams and groundwater in rural areas also were polluted with agrochemicals from large monocropping operations. Biological wastes from concentrated animal feeding operations or factories farms threatened public health with both air and water pollution. Our LGU research and education programs were encouraging farmers to destroy the rural environment.

Contrary to claims of agricultural economists, there is no economic upside to industrial agriculture for farmers or rural communities. The primary economic advantage of

industrialization comes from the ability of industrial operations to produce more output with fewer, less-skilled workers and managers. Fewer farmers and farm workers means diminished employment opportunities in farming. Any economic benefits were being extracted from rural economies by corporate agribusinesses that controlled agricultural processing and distribution. Our publicly-funded research and educational programs were promoting the demise of small and mid-sized family farms and the ecological, social, and economic decay of rural communities.

I couldn't continue doing what I had been doing. There had to be a better way to farm and a better way to provide food security for the nation. Luckily, the sustainable agriculture movement was emerging by the late 1980s. The more I learned about sustainable agriculture, the more I understood it as a viable alternative to industrial agriculture. Sustainable agriculture was about meeting the needs of all in the present without diminishing opportunities for the future. It was about balancing the need to make a decent economic living on the farm while meeting the food needs of society and taking care of the land for the benefit of future generations. I was able to secure one of the first sustainable agriculture grants from USDA. The grant allowed me to return to MU on a leave of absence from UG. I was able to parlay the leave into a position as Co-coordinator of Sustainable Agriculture at MU, which I was able to extend through additional grants and contracts for the remainder of my academic career.

My awakening to the lack of sustainability of American agriculture also brought about dramatic changes in my perceptions of the LGU system. When I began to question the industrialization of agriculture as an appropriate mission for publicly-funded research and education institutions, my standing in the academic community plummeted. At the time, I was not only a Department Head at major Land Grant University, I was president of the Southern Agricultural Economics Association and had headed the Extension Committee of the American Agricultural Economics Association. I was routinely asked to represent the university on prestigious occasions and assignments and to serve on high-level university advisory committees and search committees. I was a highly respected, or at least nationally recognized, as a member of the Agricultural Economics profession. All of this changed when I began challenging the dominant paradigm of public research and education.

I was suddenly viewed with suspicion by university administrators. I was no longer asked to represent the university or serve on advisory committees and search committees. I knew almost immediately that my previously promising administrative career had come to an end. I could see the LGU system was not going to support sustainable agriculture with public funds, so I decided to focus on securing grants and contracts. I eventually learned that universities will allow faculty to do about anything they want to do, as long as they can bring in grant money to do it – particularly grants that pay “overhead” to the university. In spite of my disappointments, I firmly believed when I returned to MU that LGUs were still places where “good people could do good work,” regardless of whether the work is fully appreciated by higher level administration.

As it turned out, the challenge of working for the public interests within publicly-funded universities had become much more difficult than I previously could have believed. By the time I returned to MU, I had spent nearly 20 years within the LGU system, and I was confident that I knew how to develop and carry out an effective research and extension program “within the system” – particularly if I could secure outside funding to support my programs. I was successful

in securing the funding. However, whenever I attempted to do anything that challenged the dominant research and educational paradigm I had to fight university administration, at all levels.

Even in cases where the administration claimed to support me, they often worked behind the scenes to undermine my programs. After five years of trying to work within the system, I eventually decided to adopt a “guerrilla warfare” strategy for sustainable agriculture programming. I recruited a small core group of like-minded research and extension faculty. I found others who shared my concerns about the negative impacts of existing LGU programs and were willing to take the professional risks of defying the prevailing paradigm. I provided the overall guidance for the program and found grant funding to support their work.

For example, the director of the Small Farms Program at Lincoln University and I formed a partnership to support sustainable agriculture. Lincoln University (LU) is the 1890 LGU in Missouri, and the LU Small Farms Program was encountering similar problems in gaining administrative support. We could then frame attacks on sustainable agriculture programs as attacks on an 1890 LGU program, which raised civil rights questions. The partnership with the MU gave the LU small farms program the added academic credibility it needed for support.

Eventually, I secured a major three-state grant from the W. K. Kellogg Foundation that secured the long-term funding I needed to secure my position through my retirement. I spent the last five years of my academic career conducting research and education programs that I thought truly served the public interest, in spite of relentless obstruction and opposition.

At the beginning of my 30-year career, LGU teachers, researchers, and extension workers had a great deal of academic autonomy. Administrators tried to hire people who were committed to working for the public good and then supported them in virtually anything they choose to do. “Academic freedom” had meaning, and it helped ensure the public good as well as the tenure of faculty members. By the time I retired, all of that had changed. Anyone who challenged the dominant industrial economic paradigm of simply was not granted “tenure.” In essence faculty members have to prove they will never use their tenure to challenge the economic/agro-industrial status quo before they are granted the right to do so. When I retired from the University of Missouri, there were only two people in university administration I could trust to support my “academic freedom” to serve the public interest, regardless of the political consequences. Thirty years earlier, there might have been two administrators who would not have done so.ⁱⁱⁱ

These are not just the ramblings of a disgruntled retired LGU professor. In 1986, the President of the American Agricultural Economics Association, Ed Schuh, boldly stated “The Land Grant Universities have lost their way.”⁷ He observed that publishing in the highest-prestige professional journals and consulting for the highest-paying corporation or government agency had become the highest priority of researchers in the LGUs. In a widely-distributed 1992 review of university extension programs, George McDowell concluded: The USDA/land-grant extension system has “been taken hostage to such an extent that it can no longer function

ⁱⁱⁱ For more complete story of my academic experiences, see my 2008 book: *A Return To Common Sense*, in paperback by R.T. Edwards Publishers and on Kindle by Legacy Publishing, http://www.amazon.com/Return-Common-Sense-John-Ikerd-ebook/dp/B00R3ABYM8/ref=asap_bc?ie=UTF8 .

effectively to inform agricultural audiences of some of the most important issues facing them.”⁸ He blamed constant administrative pressure on extension workers to maintain political support for the institution of extension – which meant support from the corporate industrial agricultural establishment. “Once the specialist or agent has sold his soul, the extension organization gets taken hostage with him”⁹

More recently, a prominent anthropologist, Paul Durrenberger, on the occasion of presenting the prestigious Malinowski Award Lecture, described the nature of public-private partnership in research and education more personally: “I’ve been institutionalized for most of my life. I’ve recently finished 15 years at Penn State, Pennsylvania’s Land-Grant college, another branch of Monsanto University, created to serve the people, but hijacked to become the research and development arm of agribusiness. Before that I was 25 years at the University of Iowa, that state’s liberal arts university whose chief role is to serve the pharmaceutical industry.”¹⁰

Robert P. Martin, Executive Director, of the prestigious “Pew Commission on Industrial Farm Animal Production,” wrote in their 2008 report, *Putting Meat on the Table*: “While some industrial agriculture representatives were recommending potential authors for the technical reports to Commission staff, other industrial agriculture representatives were discouraging those same authors from assisting us by threatening to withhold research funding for their college or university. We found significant influence by the industry at every turn: in academic research, agriculture policy development, government regulation, and enforcement. The agro-industrial complex—an alliance of agriculture commodity groups, scientists at academic institutions who are paid by the industry, and their friends on Capitol Hill—is a concern in animal food production in the 21st century.”¹¹

In his 2014 book, *Altered Genes and Twisted Truth*, Steven Druker presents of scathing indictment of the scientific community, including the National Academy of Science and the American Association for the Advancement of Science. Regarding their official public positions on controversies related to genetically engineering or GMOs, he writes: “Besides enabling the imposition of great potential harm on consumers and the environment, the delinquencies of the scientific establishment have inflicted concrete harm on science – and the harm has been major. In striving to manage (and censor) the flow of information to the public, they’ve suppressed the free flow of ideas within the scientific community, which is the life-blood of scientific progress.”¹²

I could continue with additional references, but the message is clear. A growing number of people are increasingly concerned about the corruption and intentional misdirection of publicly funded resource and education to serve private interests – increasingly the interests of giant multinational agribusiness corporations. Given this situation, the compelling question is what can be done to redirect public research and education funds to serve the public interests – specifically the public interest in alleviation of global hunger and ensuring global food security.

First, those who are committed to redirecting publicly-funded research to serving the public interests must be willing to challenge the dominant profit-driven, industrial agriculture paradigm. They must reject the dominant dogma that an industrial agriculture driven by a myopic fixation of agricultural productivity and economic efficiency is capable of providing either domestic or

global food security. It is no longer capable of even keeping down the average cost of food. A preoccupation with short-run profits and economic efficiency is destroying the long-run economic viability of agriculture, which depends on its ecological and social integrity.

Second, publicly-funded research and education will not return to serving public interest until there is a fundamental change in U.S. farm policy. The current LGU research and extension strategies of technology development and transfer were designed to facilitate the specialization, standardization, and consolidation of industrial agriculture. Agricultural sustainability will require farming systems to be diverse, individualistic, and decentralized. Production decisions must be made by individual farmers with consideration for the well-being of others in their local communities. In facilitating the development of sustainable farms and food systems of the future, public research and educational must be an integral aspect of farm policies that are guided by a quest for food security within the broader framework of “food sovereignty.”

A global *Forum for Food Sovereignty* in Sélingué, Mali in 2007, define food sovereignty as “the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems.”¹³ Food sovereignty ensures food security by putting the aspirations and needs of those who produce, distribute, and consume food at the heart or central focus of farm policies, rather than submitting to current policy demands for economic efficiency, free markets, and corporate control of the food system.

The principles of food sovereignty obviously need to be interpreted differently in different countries, but the basic concepts are just as valid in the U.S. as anywhere else. The right to food must be recognized as a basic human right, not left to the vagaries of charity or the indifference of the marketplace. *Markets have never provided food security and never will.* This reality must be respected and reflected in farm policies for long-run food security.

Food sovereignty “guarantees just incomes to all peoples as well as the rights of consumers to control their food and nutrition. It ensures that the rights to use and manage lands, territories, waters, seeds, livestock and biodiversity are in the hands of those who produce food.” It promotes transparent trade and prioritizes local markets and community-based food systems over national and global markets. Food sovereignty also calls for “new social relations, free of oppression and inequality between men and women, peoples, racial groups, social and economic classes and generations.” “It defends the interests and inclusion of the next generation.” Food sovereignty is a logical public policy mandate to support agricultural sustainability, which not only would ensure global food security but also the future for humanity.

Third, the guiding principles of food sovereignty must be translated into sustainable systems of farming and food production. Again, sustainable farms and food systems must be diverse, individualistic or site-specific, and decentralized in control. This means that farms of the future will be management intensive and thus smaller than the industrial farms that dominate U.S. agriculture today. Elsewhere in the world, small, diversified farms already provide food for least 70% of the global population and could double or triple yields without resorting to industrial production methods.¹⁴ Several recent global food studies sponsored by the United Nations have identified sustainable farming systems, such as organic farming and agroecology, as the best hope for global food security.^{15, 16}

Some question whether sustainable approaches to farming, such organic farming, can meet the food needs of a growing global population. A comprehensive review, in the journal *Nature*, compared organic and conventional crop yields in “developed” countries, concluding: “Under certain conditions—that is, with good management practices, particular crop types and growing conditions—organic systems can ... nearly match conventional yields.”¹⁷ In the U.S. and the “developed” world, the challenge in farming is ecological and social sustainability, not further increases in yields.¹⁸

Agroecology is an approach to sustainable farming that tends to be more popular in the so-called developing nations. Agroecology may be defined as “the application of ecology to the design and management of sustainable agroecosystems.” Unlike industrial agriculture, it is “a whole-systems approach to agriculture and food systems development based on traditional knowledge, alternative agriculture, and local food system experiences.” Agroecology, links the academic disciplines of “ecology, culture, economics, and society to sustainable agricultural production, healthy environments, and viable food and farming communities.”¹⁹

Another popular approach to sustainable farming that originated in Australia and is popular outside the U.S. is *permaculture*. A long-time advocate, Graham Bell, defines permaculture as “the conscious design and maintenance of agriculturally productive systems which have the diversity, stability, and resilience of natural ecosystems. It is the harmonious integration of the landscape with people providing their food, energy, shelter and other material and non-material needs in a sustainable way.”²⁰

A popular approach to sustainable agriculture in the Asian-Pacific region is *nature farming*. First advocated by the Japanese philosopher Mokichi Okada in 1935, nature farming is a “system that promotes a holistic and sustainable approach to agriculture, with the aim of protecting life and the integrity of the natural world. The basic principles of Nature Farming are akin to those advocated by Rudolf Steiner in 1924 when he laid the foundations of biodynamic agriculture. Both systems of thought arose in response to problems that were, even then, associated with industrial agriculture, inorganic fertilizer use and monocultures.”²¹

My basic point here is that numerous approaches to sustainable agriculture have evolved over the years in direct defiance of the industrialization of agriculture. Some of these approaches fit better in specific regions, within specific cultures, and with specific farmers than do others. All are diverse, individualistic, and decentralized in control. All are multifunctional approaches to farming in that farms are managed for ecological, social, and economic integrity rather the mono-functional approach to maximizing economic efficiency.

Finally, the LGU/ago-industrial juggernaut will not likely be recaptured and redirected to serve public interests without a major consumer-taxpayer revolt. The highest priority in bringing about this revolution is for people to “be told the truth” about the absolute failures of industrial agriculture – both domestically and globally. Fundamental change in the LGU system will take time – at a time when time is of the essence. The good news is that the research and education programs needed to support sustainable farming and global food sovereignty do not require major public institutions or billions of public dollars for technology development and transfer. The LGUs no longer have a monopoly on valuable and useful agricultural information. Not only

is little of the information they have of real use to farmers, but sustainable farmers now have access to a multitude of other sources of useful information.

Many of today's sustainable farmers are highly educated, well informed, and capable of designing and carrying out applied research on their own farms. Virtually all are fully capable of observing and learning from their own experiences, and most are willing to freely share what they have learned with others. At least eight annual "sustainable agriculture" conferences in the U.S. routinely draw more than 2,000 people per year, the vast majority of which are farmers. There are dozens of smaller conferences. The programs at such conferences are made up mostly of panels and workshops where farmers share information with each other, rather than listen to the so-called experts. Progressive farm magazines, such as *Acres USA*²² and the *Stockman Grass Farmer*²³, provide farmers with opportunities to share their experiences with thousands of farmers around the world. The Internet has created a whole new world of opportunities for virtually everyone to share whatever they choose to share with virtually everyone everywhere. Many of the young people who want to farm sustainably have a good liberal arts education and are capable of learning on their own, and from other farmers, with little help from LGUs.

The new public research and education agenda for the future is perhaps best exemplified by *Farming Systems Research*, which to date has been limited in use primarily to the so-called developing countries. Regardless, farming systems research and extension methods have now been tested and applied for more than three decades in a range of ecological and economic circumstances. "Client participatory and location specific in nature, this approach has extended the methodological resources available to administrators in public institutions who are concerned with the application and credibility of recommendations from research. Holistic and interdisciplinary in its focus on total systems, FSR/E takes into account the multiple goals of the farm family as well as the economic and resource situation in which the farm operates."²⁴

In the mid-1990s I served as a member of a national USDA task force assembled to develop a strategic plan for USDA-LGU extension programs in agriculture and natural resources. After many months of struggling with the challenge, our task force came up with the slogan "No More Business as Usual."²⁵ We called for a radical redirection of USDA-LGU extension programming. We pointed out that LGU research was no longer the only credible source of good information, and that other sources were often more useful, if not better. We urged extension to facilitate the sharing of useful information from all sources rather than to be the "gatekeepers" who simply transferred technology from LGU researchers to farmers. Our proposed mission was for extension workers to become "people who empowered other people through science and information" – the PEPSI generation of extension. Our report was finally published, after much internal controversy – and promptly *buried* by state agricultural extension program leaders.

In summary, the LGU system of public research and education has been captured and corrupted by private-corporate interests. The system cannot be freed to pursue public interest without challenging its current preoccupation with economic efficiency and productivity, which will require a fundamental change in government farm policy. Food sovereignty must replace food security as the mission of farm policy. Many people have been working for many years developing viability alternatives to industrial agriculture and viable alternatives to past and current LGU research and educational programs. Now is the time to focus the limited public

research and educational funding available for sustainable agriculture programs on empowering people to develop and share the information that is needed to ensure domestic food security through global food sovereignty. *Business as usual* is no longer acceptable or excusable.

End Notes

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