1. Introduction

According to the USDA, in 1950, 4 out of every 10 rural people (40%) lived on a farm or ranch, and 33% of the nation’s rural workforce was engaged directly in production agriculture. Today, less than 1 in 10 (10%) of rural Americans live on a farm or ranch, and only 14% of the rural workforce is employed in production agriculture.

This paper briefly looks at some of the forces, over the past 50 years, that have contributed to the decline in the number of people living on farms and ranches as well as the drop in the rural workforce employed in agriculture. In the paper, consideration is also given to an emerging farming paradigm—sustainable agriculture, as a strategy for maintaining and expanding the connection between farms, ranches, communities and the land.

2. Dis-Connecting Farmers, Communities and the Land: Trends in U.S. Agriculture

A. Industrialization

U.S. agriculture has changed dramatically, especially since the end of World War II. Food and fiber productivity has soared due to new technologies, mechanization, increased chemical use, specialization and government policies that have favored maximizing production. Yields and labor productivity have improved dramatically, allowing farmers to specialize in one or a few crops on a much larger scale. The changes have allowed fewer farmers with reduced labor demands to produce the majority of food and fiber in the U.S. The beneficiaries of industrialized agriculture, arguably, have been the consumers who have access to a wide range of cheap food products.

One consequence of the industrialization of U.S. agriculture has been larger farms, fewer farms, and fewer farm families. In addition, new cost reducing technologies have required larger and larger operations to justify their investments, with capital requirements exceeding the credit capacity of all but the largest individual farmers. As a result, increasingly, only large agri-business corporations have been able to meet the capital requirements of industrial agriculture. Finally, the increased use of commercial
fertilizers and pesticides, essential elements of industrial agriculture, has become a primary concern as a source of environmental degradation and food safety.

Industrial agriculture production systems have, in many cases, had negative impacts on rural communities, both economically and socially. Larger, more specialized farms, in their need to minimize costs and maximize price to remain competitive, have tended to bypass their local communities in purchasing production inputs (equipment, machinery, fertilizer, pesticides, etc) and in marketing their products. Larger farms have meant fewer farms and fewer farm families to buy from local businesses leading to the loss of community economic vitality. Fewer farm families also have meant fewer people to support local schools, health clinics, churches and other public institutions and services. Fewer farmers and business people have meant fewer local leaders to lead local government and civic organizations, which are necessary to enhance the quality of community life.

B. Globalization

Historically, U.S. agriculture has been a source of net positive foreign exchange earnings, with agricultural export revenues exceeding import costs, contributing to the reduction in the U.S.’s chronically negative balance of payment. Given its importance in strengthening U.S. global competitiveness, U.S. government farm policy has encouraged and supported the expansion of U.S. agricultural exports, particularly those of the large scale commodity producers.

C. Urbanization

Today, approximately 79 percent of the U.S. population resides in urban places and the spread of residential and commercial development from urban centers is consuming more and more agricultural land in the urban-rural fringe each year. Growing demand for urban-rural land for future residential, commercial and industrial uses is driving land values above their value in farm and ranch use. Farmers and ranchers are being pushed out of agriculture.

According to the USDA, farms and ranches closest to our cities, and directly in the path of development, produce much of our fresh food- 63 percent of our dairy products and 86 percent of fruits and vegetables. And for many Americans, compelling reasons for saving farmland have to do with protecting the quality of life in their communities- scenic and cultural landscapes, farmers markets, recreational opportunities, local jobs and community businesses. In addition, there are environmental benefits that well-managed agricultural land provides. Farm and ranch lands provide food and cover for wildlife, help control flooding, protect wetlands and watersheds and maintain groundwater recharge.
A. New Paradigm

In recent years, a new farming paradigm has emerged in response to growing concerns over the negative ecological and social impacts of large-scale, industrial agriculture. Increasingly, a new breed of farmers committed to caring for the land and protecting the natural environment are turning to sustainable agriculture systems of production. Their farming operations are smaller and tend to be more diversified than are conventional farms. Diversity may mean a variety of crop and animal enterprises, crop rotations and crop covers, or managed livestock grazing systems, depending on the farm type. These new farmers are able to reduce their dependence on commercial fertilizers, pesticides, and other inputs that squeeze farm profits and threaten the environment. Organic production of vegetables, grains and meat is increasingly common. These new farmers also build relationships. They tend to have more direct contact with their customers than do conventional farmers through direct marketing to their customers via on-farm u-pick opportunities, roadside stands, farmers markets, farm to school sales, farm to institutions sales, and community supported agriculture (CSA) projects. In many cases, these new farmers are helping to revitalize rural communities by buying locally and selling locally. They bring people together in positive, productive relationships that contribute to the community’s economic, ecological, and social well-being.

These new farmers, many argue, are on the frontier of a new and different kind of agriculture, an agriculture capable of meeting the needs of the present while leaving equal or better opportunities for those of the future through the practice of sustainable agriculture.

B. Sustainable Agriculture

Sustainable agriculture can be defined in many ways, but ultimately it seeks to sustain farmers and ranchers, resources and communities by promoting farming and ranching practices and methods that are profitable, environmentally sound and good for communities.

According to John E. Ikerd, Extension Professor at the University of Missouri, and sustainable agriculture advocate:

- Agriculture that uses up or degrades its natural resource base, or pollutes the natural environment, eventually will lose its ability to produce. **It’s not sustainable.**

- Agriculture that isn’t profitable, at least over time, will not allow its farmers/ranchers to stay in business. **It’s not sustainable.**
• Agriculture that fails to meet the needs of society, as producers and consumers as well as citizens, will not be sustained by society. It’s not sustainable.

Sustainable agriculture can be viewed as an eco-system of complex interactions among soil, water, plants, animals, climate, and people. The goal is to integrate and manage all these factors into a production-distribution-marketing-consumption system that is appropriate for the environment, the people, and the economic conditions where the farm or ranch is located.

Environmentally sustainable agriculture builds soil structure and fertility; protects water quality on and beyond the farm and ranch; manages pests ecologically using minimal pesticides; and, maximizes biological and enterprise diversity on the farm and ranch.

Economically sustainable agriculture depends on selecting profitable enterprises, sound financial planning, proactive marketing, risk management, and good overall management. Integrated plant and animal agriculture centered on “core” enterprises to which can be added “complimentary” enterprises distribute overhead costs and risk among across several enterprises. Every agriculture enterprise needs a marketing plan. Marketing can take many forms, ranging from passive marketing in the commodity chain to marketing a retail product directly to consumers via “green” markets such as roadside stands, farmers markets, community supported agriculture (CSA) programs, farm to school, farm to institution, and farm to restaurant contracts, on-farm u-pick days, catalog sales, and e-farm sales. Farmers and ranchers producing for local markets, however, often have to overcome significant barriers in getting products to market, including a lack of processing plants, warehouses, brokers, and affordable transportation options.

Socially sustainable agriculture results from farm and ranch decisions that affect the local community. For example, buying supplies locally rather than purchasing from outside the community and connecting and selling to local consumers through farmer’s markets, CSA, farm to local schools, and farm to local institutions programs increase local awareness of the positive role local farms and ranchers play in the local economy. Local processing of agricultural products also can have positive multiplier effects throughout the local economy.

C. Saving America’s Farm and Ranch Land

Sustainable agriculture as well as conventional agriculture requires land.

According to the American Farmland Trust (AFT), approximately half of the two billion acres of land in America is working agricultural land. This productive farm and ranch land is a finite resource as fertile soils take thousands of years to develop and are irreplaceable. The AFT estimates that each minute of every day, we lose two acres of agricultural land to residential, commercial and industrial development.
States and communities across the United States are taking steps to protect farmlands through agricultural easements and other land use restrictions. Agricultural easement programs allow a farm or ranch owner to permanently protect the land from nonfarm development without giving up ownership. This is usually accomplished through an agreement between the landowner and the local, state, or federal governments in terms that are binding on present and future landowners. The landowner retains most rights to the land and can sell it or pass it on to heirs. However, the donated land cannot legally be used for anything other than agriculture. Agricultural easement programs protect farmland, forestland, and open space by taxing land according to its value in use rather than its market value. Tax savings provide an incentive to landowners to preserve farmland.

Among advocates of farm and ranch land protection efforts, agricultural easements are now regarded as the most promising tool for dealing with urban conversation needs. AFT estimates that about 1.1 million land acres nationwide have been put under agricultural easements. All 50 States have right-to-farm laws. All 50 States have some form of use-value assessment or preferential taxation favoring farmland. Conservation easements can be purchased in 20 States, 16 States have agricultural district laws, and 24 States allow agricultural protection zoning.

In New Mexico, the New Mexico Land Conservancy (NMLC), a state-wide, non-profit land trust organization established in 2002, helps preserve New Mexico’s land heritage. The NMLC works to protect significant wildlife habitat, productive agricultural land and scenic open space throughout the state. To date the NMLC has completed conservation easements projects, involving 50,000 acres, with 17 New Mexico communities. The Conservancy has set a ten-year goal of conserving 250,000 acres of high conservation value lands, directly or in partnering with others, by 2014.

Albuquerque, the largest city in the State of New Mexico, is one of a few cities in the U.S. that have chosen to preserve farmland by purchasing individual farms outright. The City of Albuquerque’s “Major Public Open Space (MPOS)” ordinance provides for the purchase, protection, and management of farmland as part of its urban protected areas plan. Land obtained under the program is maintained in its natural state providing opportunities for outdoor recreation and preservation of farmland for agriculture.

D. Connecting Future Farmers and Ranchers with Land

Protecting farm and ranch land is the first step. Connecting the land with future farmers and ranchers is the second step. Two programs, Land Link Vermont and the Glywood Center’s “Keep Farming: Connecting Communities, Farmers and Food” in upstate New York, provide examples of successful community efforts to maintain farm and ranch land in production by connecting farmers and ranchers with protected agricultural land.
Land Link Vermont connects farm seekers with farmland and farming opportunities, and provides information and support for farm start-ups and succession by offering a matching service, education, referrals, and outreach. Information is provided on 1) tenure options including buy/sell, lease, joint farming and other arrangements; 2) different farming enterprises including dairy, vegetables, and livestock; and, 3) different market outlets including farmers markets, farm stands, farm to schools, farm to institutions, farm to restaurants, and community supported agriculture programs.

The Glynwood Center (New York) program “Keep Farming: Connecting Communities, Farmers and Food” helps communities identify the ways in which agriculture contributes to their wellbeing, generates broad public support for local farmers, and develops action strategies tailored to local resources and situations.

Through the program’s community building process, community residents begin a dialogue with local farmers and ranchers that results in the creation of an informed constituency prepared to take action in support of local agriculture.

Key program outcomes include:

1. Documenting the contribution that farming and ranching makes to local economy.
2. Identifying opportunities for farmers and ranchers to diversify to meet the demands of local consumers.
3. Enhancing the community understanding of how natural resources are affected and protected by farming and ranching in their region.
4. Community identification of its important scenic viewsheds and understanding of the effects of changing land use patterns on the scenic quality of the area.
5. Community help for farmers and ranchers in developing new markets for local products and increased understanding for the ways small and mid-sized farmers can benefit economically by shortening the food chain and linking more directly to consumers and distributors in their region.
6. Providing case studies and practical examples of strategies that have worked in other communities that are grappling with similar issues.

4. Summary and Conclusions

Sustainable agriculture can be defined in many ways, but ultimately it seeks to sustain farmers and ranchers, resources and communities by promoting farming and ranching practices and methods that are profitable, environmentally sound and good for communities.

Sustainable agriculture should be viewed as an eco-system of complex interactions among soil, water, plants, animals, climate, and people. The goal is to integrate all these factors into a production-marketing-consumption system that is
appropriate for the environment, the people, and the economic conditions where the farm or ranch is located.

A systems perspective is essential to understanding and achieving sustainable agriculture. The system is envisioned in its broadest sense, from the individual farm, to the local ecosystem, and to communities affected by this farming system both locally and globally. An emphasis on the system allows a larger and more thorough view of the consequences of farming and ranching practices on both human communities and the environment.

A systems approach also implies interdisciplinary efforts in research and education. This requires not only the input of researchers from various disciplines, but also farmers, ranchers, farm and ranch workers, consumers, policymakers and others.

Sustainable agriculture also requires a commitment to changing public policies, economic institutions, and social values. Existing federal, state and local government policies often impede the goals of sustainable agriculture. New policies are needed to simultaneously promote environmental health, economic profitability, and social and economic equity.

5. Recommendations

To strengthen and expand sustainable agriculture in New Mexico, it is recommended that consideration be given to establishing a New Mexico Sustainable Agriculture Coalition, co-directed by the New Mexico Food and Agriculture Policy Council and the New Mexico State University (NMSU) College of Agriculture and Home Economics (CAHE), and comprised agriculture, consumer, environmental, and community stakeholders. The coalition would serve as a venue for education, training, policy analysis and advocacy for sustainable agriculture in New Mexico.

NMSU-CAHE has prior research and extension experience in sustainable agriculture through the activities of the Rural Agricultural Improvement and Public Affairs Project (RAIPAP) at its Alcalde Agriculture Science Center and its Las Cruces campus-based CSA (OASIS) project. Building on these past activities in sustainable agriculture, NMSU-CAHE recently established a small farm institute at its Las Cruces campus and increased resources for small farm research and extension at its Los Lunas Agriculture Science Center.