A thesis presented to
the faculty of
the College of Arts and Sciences of Ohio University

In partial fulfillment
of the requirements for the degree
Masters of Arts

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March 2012

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This thesis titled
4-H and Civic Engagement: The Evolution of 4-H in the United States, 1980- Present

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ABSTRACT

PANGBURN, BRITTANY N., M.A., March 2012, History

4-H and Civic Engagement: The Evolution of 4-H in the United States, 1980- Present

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This thesis will acknowledge and explore how, since the 1980s, both state and nation-wide 4-H programs have worked with each other, utilized the others’ ideas, and revolutionized how 4-H has changed to reach youth from all areas of the country. In a survey of historical research, and by utilizing primary source materials from the 1980s and 1990s, I will explain how 4-H shifted to a scientific and technological focus that would promote its organization to a plethora of youth. By covering this topic, this thesis will thoroughly explain how 4-H personnel reached out to new demographics through innovative programming and adapted to growing change.

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INTRODUCTION

Despite its beginnings as a farming nation, the United States has seen a fundamental shift in the focus of American life. Most Americans no longer depend on the land for their livelihood, with less than one percent of Americans identifying with farming as their occupation.¹ Cities and suburbs have grown exponentially since housing developments, growing economic opportunities, and financial affluence spread across the country after World War II. However, the United States cannot rid itself entirely of its agricultural roots, because they are fundamentally engrained in the psyche of the country. According to David B. Danbom, author of *Born in the Country: A History of Rural America*, the agrarian ideal, or myth, dates back to Jeffersonian America, when people maintained that agriculture was the most profitable and valid occupation of any citizen. Agrarians believed that a balanced society would contain a large number of small farm owners, all working to support an agricultural surplus and connection to the land for Americans.² Since the United States' conception, people have paid homage to this ideal and it provides a rationale for government's continual funding, organization of, and interest in American agriculture. From the original farming initiatives of the Homestead Act and other land handouts that promoted individual agricultural enterprise, to modern urban community gardens which encourage children and adults to learn gardening practices, America has adopted methods to adapt to an ever more urbanized and busy

As a result, the United States' government has had to adjust its legislative approach to farmers and their assets throughout American history; from limited control to the current micro-management of agricultural practices, the federal government has enacted many techniques to both supervise and maintain the United States' status as a farming nation.

Farming mainly existed outside of government control and expertise for the majority of American history until the mid-19th century, but, with the advent of land-grant colleges in 1862, the federal government took the initiative to educate farmers on the most recent technological advances. Recognizing youths' ever growing desire to move to cities, the government invested in inventive programming that encouraged youth to compete in state-wide corn competitions, invest in their own land, and attend college for agricultural education. Because many of the teachers in rural schools often came from urban areas, they frequently persuaded their students to believe that life would be better if they lived in a more industrially-driven area of the country. As a result, the United States Department of Agriculture (USDA) advocated for placement of teachers in each state and county that had extensive background in rural matters. The goal of this initiative was to prove to rural youth their agricultural lives were pivotal to the nation and could be exciting and rewarding, with encouragement from staff that came from similar areas of

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the country. Because of these initiatives, youth became more interested in their future as farmers. Policies engineered in the aforementioned land-grant colleges encouraged youth on the farms to become increasingly up-to-date with the newest farming techniques, and many of these youth became advocates for change in Washington, D.C., and future educators for youth clubs. However, children on farms were not the only ones affected by the new legislation; with a growing focus on how suburban children could connect with their rural peers, the United States government experimented with activities that attempted to appeal to all youth in the country. A major mechanism for achieving this goal was the creation of 4-H clubs.

One of the main forefathers of 4-H was Albert Belmont Graham, of Clark County, Ohio, who created a “Boys and Girls Agricultural Club” in 1902 that later grew into a statewide club through the Ohio State University’s extension work program. This man not only started Ohio 4-H, he initiated a movement that would become the nationwide 4-H organization. Once he became Superintendent of Extension for Ohio in 1905, Graham listed a few of the goals of the program: “To elevate the standard of living in Ohio; To give the boys who shall become interested in farm work an elementary knowledge of agriculture and farm practices and to give girls the essential facts of domestic economy; and to educate adults in the elementary science of agriculture and in the most-up-to-date farm practices.”

Although Graham originally separated boys and girls based on gendered ideas of work, 4-H grew into an equal environment for leadership development for both genders and children from all socioeconomic backgrounds, particularly from the 1980s

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onward. Graham’s other goals still apply to Ohio 4-H today; extension work is still essential to teach agriculture to adults, through programs such as Quality Assurance, which teaches 4-H members and their parents how to safely raise livestock. In addition, Graham’s central principle of creating a higher quality of life in Ohio would later become national 4-H’s current motto- “To Make the Best Better,” which extended into suburban, small town, and urban areas. Programs like 4-H, corn clubs, tomato clubs, homemaking clubs, and Future Farmers of America emerged out of legislation like the Smith-Lever Act in 1914, which established the Extension Service, and the original boys and girls clubs that Graham established. This organization took technology and knowledge from land-grant colleges to youth and adults outside of formal education, and it developed an immense grassroots system that catered to the needs and development of local, rural communities through hands-on projects and educational programs.

After the Smith-Lever Act of 1914 formed the Extension Service, it charged extension agents with improving rural life through demonstrations, education, and, in general, making farmers receptive to government intervention in agriculture. The Extension Service was just as its name suggests; it was an extension of both government and land-grant universities into agricultural affairs and youth education through 4-H. Much like the national and state governments, national and state branches of extension share ideas, but allow autonomy of state decision making. Because of its grassroots

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9 Danbom, 174.
nature, the Extension Service represents perhaps the greatest effort made by the government, and the most successful, in achieving a union between government intervention and local farmers, and, later, a connection among suburban, city, and rural youth. One important method that the Service used in spreading its influence was the 4-H organization, whose name originated with the statewide branch in Ohio and stands for the four “H”s in this movement's pledge.\textsuperscript{10} Members of 4-H recite their pledge at every meeting, stating, “I pledge my head to clearer thinking, my heart to greater loyalty, my hands to greater service, and my health to better living, for my club, my community, my country, and my world.”\textsuperscript{11} This group arose out of a localized effort in small towns throughout the United States, mainly in the South and Midwest, to improve seed quality of corn, and it eventually spread to other areas of production through state-wide contests and the eventual existence of the Extension Service.\textsuperscript{12} 4-H is one example of the ability of Americans to keep their focus on the importance of agricultural heritage, while adapting to the reality that most children no longer live in rural areas. This pivotal movement educated youth in agricultural areas on how to use technology, taught modern civic values, and enabled urban, small town, and rural youth to stay connected to the United States’ rich agricultural past.\textsuperscript{13} Even if farming in the United States was no longer a powerful source of income for a majority of families, it was important to the psyche of

\begin{footnotes}
\footnote{\textsuperscript{10} Erin Shea Deel, \textit{Ohio 4-H: Celebrating 100 Years of Youth Development, 1902-2002} (Virginia Beach: The Donning Company Publishers, 2002), 5.}
\footnote{\textsuperscript{11} 4-H Website, \textit{The 4-H Story}, http://4-h.org/4hstory.html (accessed 15 February 2011).}
\footnote{\textsuperscript{12} R. Douglas Hurt, \textit{American Agriculture: A Brief History} (West Lafayette: Purdue University Press, 2002), 258-59.}
\footnote{\textsuperscript{13} Reck, 16.}
\end{footnotes}
America that people, particularly youth who were streaming into the nation’s cities, would still appreciate their natural surroundings.

Although the idea for 4-H did not originate with the United States Department of Agriculture (USDA), the Department took the idea and turned it into an organized program for children ages 9-19. At the heart of 4-H is its desire to motivate and teach youth, which extension agents and 4-H members express through their implementation of innovative programming. Drawing from the vast array of state projects, camps, and after-school programs, national 4-H strives to unite ideas from throughout the country in one central curriculum that encourages youth to succeed in both personal and professional realms. This thesis will address how 4-H has adapted to cultural and demographic shifts in the American population, in addition to updating historical research of 4-H, since little has been written on it since the 1980s. It is essential to document and analyze both the contemporary history of 4-H and its effects on urban/suburban children, in particular, because it is an organization that has prided itself on pushing youth to become more engaged citizens, connect with their peers in healthy after-school projects, and better themselves through friendly competition in a learning environment. As such, 4-H has affected millions of children's lives since its scattered beginnings in the early part of the 20th century, and it continues to connect young people and multiple generations within families in productive relationships with one another. In a time when there are rising problems with youth engaging in risky behaviors, such as drug use, sexual promiscuity, and juvenile delinquency as a whole, 4-H endeavors to keep youth excelling in projects and after-school programs that will encourage them to succeed in elementary, secondary,
and higher education. This thesis is important and needed because it will explain why and how 4-H is an American success that, in the words of 4-H's motto, tries to “make the best better” in American youth and their surrounding communities.

Both the Cooperative Extension Service and 4-H will be subjects of this thesis, specifically their effect on nation-wide youth initiatives and youth in Ohio, in particular. Ohio is an excellent state to examine, because it was the state that guided 4-H with its original pledge and it has produced some of the nation-wide programs that this thesis will explore in the first section. In addition, 4-H has always had its strongest influence in the Midwest, and Ohio is a microcosm of Midwestern culture and beliefs, due to its roughly equal distribution of urban and rural communities and its network of colleges and universities that maintain an interest in rural affairs. Many of the recent beneficiaries of schools that were formally land-grant colleges, such as the Ohio State University, became teachers in high school Future Farmer of America programs, 4-H advisors, and residents in suburbs and cities. Some of the interviewees for this thesis are such people, and they provide an account of how 4-H appealed to urban/suburban youth as a useful and interactive program that allowed them to develop friendships with rural youth. This interaction between rural and non-rural children is essential in promoting and sustaining the agrarian ideal of American culture, and also connecting many youth to practical agricultural knowledge that was lost as their parents and extended relatives moved to the cities and suburbs of America.

Because of the unique culture that is 4-H and extension work, it is important to establish definitions for terms used often in this thesis. First, projects are books that 4-H
youth complete to document their work on a designated theme, such as cake decorating or veterinary science. After they complete the project, they go to a county judging to compete for state qualification. Projects are typically individually completed, and they result in recognition in the form of ribbons, awards, and certificates. *Manuals*, or *instruction manuals*, for the purpose of this thesis, are after-school and in-school enrichment guides that demonstrate to extension agents and teachers how 4-H curriculum should be taught in the classroom environment. Extension personnel write these manuals in order to express themes and related activities, and there is no official award ceremony or state competition to coincide with the material. However, 4-H advisors for clubs can also utilize these manuals to supplement the projects the children in their clubs are completing. In addition, *program* refers to a unit that 4-H professionals present at a one-time gathering that can be repeated, like a food safety training, where the content will always stay the same each time that they present the training or event. Finally, *curriculum* refers to educational concepts that 4-H personnel believed were important at the time they constructed these projects and manuals. Curriculum is also the actual content within the projects and manuals. By knowing these terms, the reader of this thesis can understand the overall intent of this research and better understand the large organizations that are 4-H and the Extension Service.

In the chapter dealing with the national 4-H organization, this thesis will explore several key federal initiatives that arose from various states’ ideas on how 4-H should reach out to youth in America. After the 1970s, 4-H became a program that sought to change gender barriers that existed within its agricultural projects. For the first time,
leaders and extension agents encouraged girls to participate in large livestock activities, branch out into science projects, and attend camps where they did all the same activities as boys in 4-H. In addition to examining how 4-H became more equal between the sexes, this thesis will look at how projects and programs switched to a math and science focus in a time of scientific progress during the Cold War. Because of the national trend to increase science and technology programs, which coincided with President Ronald Reagan’s belief that American youth had to be ahead of the rest of the world in technology, 4-H adapted its approach to do more than just farm topics, like livestock, cooking, and home economics. Its new focus would then reach children outside of rural areas; because 4-H youth no longer needed to live in the country to complete projects, 4-H could extend its influence into suburban and urban communities. Because of its new direction, the national 4-H organization had to implement programming that would address societal ills in urban and suburban areas, and national 4-H officials constructed programming that would prove effective with these groups.

Second, in the chapter dealing with state 4-H activities, this thesis will focus on how all of these nation-wide initiatives affected Ohio, in particular. In addition, it will demonstrate how state policies had a symbiotic relationship with its federal counterpart in 4-H. Ohio has pioneered many programs that in turn became nationally known and implemented. For instance, in 1990, Ohio created a genealogy project that asked children to investigate their family heritage, learn methods of documenting family trees, and understand how to utilize technology and archives in family research. This project met

the objectives of engaging youths’ minds and learning new methods of technology, and it also placed Ohio in the forefront of national projects that had originated as outstanding state-level projects. Later, in the 1990s, Ohio would also introduce the 4-H Alpaca Manual, to meet the growing market for alpaca wool in both the nation and world.\(^\text{15}\)

Through innovative projects found in these two instruction manuals, Ohio helped national 4-H develop into a program that would extend beyond the confines of rural America and reach the needs of children who could not necessarily engage in agricultural production. Although Ohio initiated its own projects and goals, however, it never lost sight of the need for a centralized organization on a national level. Thus, this thesis will acknowledge and explore how, since the 1980s, both state and nation-wide 4-H programs have worked with each other, utilized the others’ ideas, and revolutionized how 4-H has changed to reach youth from all areas of the country.

CHAPTER ONE: NATIONAL 4-H

The American government has had to adapt its approach to agriculture and its youth throughout the history of the United States. During the 1970s, in particular, the Cooperative Extension Service started its shift toward its aim of “building a better tomorrow” through general civic programming to address social problems. This new emphasis encouraged 4-H youth to clean up trash in their neighborhoods, participate in historical restoration, and teach agricultural programs to urban youth.¹ However, 4-H still had its focus solely in agriculture and its benefits for youth; in the 1980s, the nation witnessed a fundamental shift in 4-H programming that took into consideration variations in youths' cultural and socioeconomic statuses. A key moment in 4-H history that contributed to this paradigm shift was California Congressman George Brown’s oversight hearings in 1982. These hearings addressed how 4-H had to change to meet the growing socioeconomic differences among American youth, a complaint raised by evaluations of the Cooperative Extension Service from 1977 to 1979.² Members of this review committee concluded that “socioeconomic change across the country, while with us since the Nation began, has been occurring even more rapidly in the past decade. To remain a vital force during such rapid change, both now and in the future, the Cooperative Extension system must be prepared to modify its organization, focus, and use of resources.”³ This finding enforced earlier research from the 1970s and pushed 4-H to

³ Ibid., 6.
come up with new goals for how it would reach growing urban and suburban youth populations.

Beginning in the 1980s, officials of the national 4-H organization met to discuss how it, too, would respond to a world characterized by commercial farming, growing urbanization, and an increased dependence on technology and scientific progress. These scientific endeavors were also a response to an increased globalization of agriculture in the 1980s, a growing number of mass production commercial farms, and a decrease in youth participating in agriculture. Although farmers had seen a huge boom in profits during the 1970s, the decade ended in a devastating crash for farmers and many of them experienced foreclosure during the 1980s. Nonetheless, as the 1980s went on, many large-scale farming operations were able, and needed, to invest in innovative machinery to keep up with agricultural progress.4 Daniel Weigel, who studied the role of stress in two generation family farms, stated, “There has been rapid technological progress in crop and livestock production through chemical, organic, and genetic advances. Farming now takes place in an international arena, with many countries trading and competing on a global scale.”5 Because of this shift to large-scale production, many youth lost touch with farms and the feeling of pride associated with growing and raising their own products. National initiatives from the 1980s would drastically change how 4-H tried to address its youth, programming, and projects. While the organization would have many success stories, its professionals also were limited in time and resources, and many programs

4Danbom., 253.
reached only a very specific clientele. However, from science and math programming, to growing civic responsibility in youth, to encouraging enrollment and retention through national incentives, 4-H responded to an ever-changing world in unique and advantageous ways.

**Science and Math**

What could 4-H do in response to a growing need for science in all areas, not just agriculture? Leaders not only changed their ideas of agricultural technology, but they also introduced computer, radio, and other media. Because of organizations like the national Extension Service and 4-H, Americans could partner technology with agriculture to compete with other countries. Farms and families that could afford it invested in biotechnology and mass fertilization in the 1980s, as a way to promote their agriculture abroad. However, because of other countries' growing ability to ship goods without them spoiling, and at lower cost, American farmers faced the farming crisis of the 1980s. The 4-H organization had to decide where to allocate its resources. Should it continue to emphasize only agriculture and rural children, in a time when it seemed like the American farmer's way of life was permanently threatened? Or should it look for other areas of technology to teach its youth as a way of balancing its resources among a variety of children who would, in turn, hopefully attend the established land-grant colleges to continue their education? Because the Extension Service had another branch already dedicated strictly to agriculture, extension personnel were able to shift the focus of 4-H to an abundance of topic areas in which youth in the 1980s and 1990s were interested, while

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also reaching new demographics of urban and suburban youth. As Extension split into three categories, agriculture, 4-H, and food and consumer sciences, extension educators were able to focus strictly on the youth leadership educational component in 4-H. However, extension personnel did not completely abandon 4-H's emphasis on agriculture; instead, the Extension Service found ways to adapt existing programming and projects for urban, suburban, and rural children. By participating in indoor gardening projects, for instance, urban youth learned the thrill of growing plants, just as farmers do. By balancing a budget sheet in a finance project, both rural and urban youth experienced what businessmen and farmers have to do as a daily task to keep their businesses and farms running. The author of an Extension Review article on the topic explained, “Agriculture offers a variety of fields to match the interest of those who wish to work outdoors or indoors; those who prefer to work with either plants or animals or people or machines.” 7 4-H and the Extension Service successfully made agriculture approachable, while also introducing children to promising scientific and economic careers that were booming in the 1980s.

The national 4-H organization also quickly recognized the need for adjusting agricultural practices in response to new findings on the hazards of farming techniques. American scientists had increasingly studied the effects of soil erosion, chemical usage on crops, and the sustainability of agricultural yield, and in the 1980s it became imperative that 4-H start addressing these issues with children and adults. In 1989, an entire issue of the Extension Review focused on this movement; the author of one article

in the issue stated, “Innovation, diversification, and adapting to change are not new ideas in agriculture; but today, there is renewed interest in farming alternatives-- nontraditional crops and livestock, new marketing strategies, innovative production systems, and a variety of farm-based small business options.” Continuing into the 1990s, green agriculture became a permanent trend; even if a farmer did not switch to organic products, he/she at least adopted more environmentally friendly strategies. The Organic Foods Production Act of 1990 stimulated the trade so much that it doubled by 2002, from under one million acres of organic land in 1990 to over two million acres a dozen years later. Farmers joined their land holdings together to ensure that their farmland had no contact with chemicals from nearby watershed and marketed their products to consumers as organic and chemical-free. As a result, most agriculture producers found that they saved money from not having to buy chemical sprays. Farmers also reached out to then previously limited crops and livestock, such as soybeans, alpacas, and other products that had previously been raised as hobbies, not livelihoods. Nancy Cann, a researcher for the Extension Review, noted, “As consumer preferences continue to change, farm families will continue to explore alternative enterprises to satisfy the demand.” National 4-H adapted once again, by creating environmental projects aimed at addressing some of these concerns and educating youth from all areas about the dangers agricultural America

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faced and how that affected everyone, not just farmers. With this new interest in being environmentally friendly came new projects for 4-H members to reflect the growing trend of organics and alternative agriculture.

Technology was not only important to the agricultural half of the Extension Service; extension staff knew that they had to change their own use of technology and communication tools, in order to become more efficient and have their agents come up with ways to introduce more technology into projects for youth. If they were going to require youth to adapt to a changing technological world, then staff had to be in the forefront of this change. In a United States Department of Agriculture pamphlet published in 1984 to outline their staff's new focus, they stated, “The rapid explosion of technology, the proliferation of new communications media, the diversity of clientele, and the uneven economic environment-- these forces have also challenged and strained the system.”

The question for the Extension Service was how to get updates on computers and technology to impoverished urban and rural youth alike. Both demographic sets posed challenges in terms of limited 4-H budgets and the inability of these youth to access vital resources. In June 1983, the national 4-H organization created an Electronic Technology Task Force designed to review and update extension agents' utilization of computers in their everyday office work. As a result, the electronic mail system began sending out mailings via online databases to agents and members alike, which saved money for the office staff and made it easier to access information. Another adaptation of the daily

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13 Ibid., 14.
routine was the use of an online collection service that connected all the work local and state extension agents did into one useful, accessible database. Both of these technology updates served to spread uniform and precise information to agents from any county and state with one other; one type of publication that particularly benefited was the *Extension Review*, which provided agents with up-to-date project, agricultural, and economic news to give to its members and leaders in the 4-H program. Copies of the *Extension Review* served, and continue to serve, as a way to update staff on the continuing changes of their program. In addition, it was a way to archive information and outline national initiatives so that both 4-H members and staff could know the goals of Extension for a particular time of year.

4-H personnel were determined not only to rely on print for an Extension Service update; rather, agents also started utilizing video and audio technological advances. One such advantage was helping farms and other local businesses set up computer assessment programming, in order to evaluate effectively and efficiently their progress. These systems would crunch numbers and information that usually took weeks to sort, freeing the business owners for more time to evaluate the economic impact report. Likewise, Extension switched to a four year evaluation system in 1984, “coupled with more comprehensive accountability and evaluation designed to stress 'results accomplished.'” This assessment enabled Extension staff to evaluate regularly their training and communication. The national Extension Service also decided to utilize video, because of

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14 Ibid., 16.
16 Greenwood, 4.
its versatility for all members of various socioeconomic backgrounds. 4-H also started recording its educational messages for its local extension agents and volunteer 4-H advisors on video tapes and interactive media.\(^\text{17}\) Because of the national Extension Service's commitment to this medium, local extension agents could also hold mandatory trainings accessible to people from all over their county from within their office.\(^\text{18}\) Thus, people who could not appear in person to hear updates about agriculture or the 4-H program were still able to hear valuable information. New training and office meeting formats and informational videos all resulted from the idea that video could spread information faster than trying to hold one meeting with many people. Any organization that wanted to survive into the late 20\(^{\text{th}}\) century had to adapt to this technological change or miss out on an abundance of learning and monetary opportunities from the government and other nationally sponsored initiatives.

Despite 4-H agents' universal access to internet and online materials, many of the youth these educators served did not have an easy way to utilize online materials and information. According to a report on the history of instructional technology, almost every student in the 1990s had access to computers and information sent out via the internet while in school.\(^\text{19}\) However, when children went home many of them faced an environment that had little to no computer technology. Due to the overwhelming gap between rich and poor that began to broaden in the 1980s, a technology gap developed


\(^{18}\) *A Catalyst for Change-- The Extension Service* (United States Department of Agriculture, 1984), 18.

between people on either end of the class spectrum.\textsuperscript{20} These demographic facts revolutionized how extension personnel related updates and other information to 4-H members; they could not ignore the need to reach youth through the internet and published materials online, but they also did not want to discourage children who came from poorer backgrounds. Thus, Extension began to look for ways to publish the same materials both online and in print, so that there was unilateral access to information. Despite this mission, there were still many cases in which 4-H parents had to drive to the local Extension Office to pick up program materials; because of this inconvenience, youth in some households continued to lack the information or registration forms that they needed.

Even if they could not ensure 4-H youths' access to internet and other technology at home, national 4-H agents could create programming to get knowledge to children who might not otherwise hear it. This goal originated from an acknowledgment of youths' “inquiring minds, an eagerness to learn, and the ability to apply science, technology, and economic principles.”\textsuperscript{21} Within programs built around a plethora of topics, 4-H agents could demonstrate technology while talking about other ideas. A perfect example of this marriage of scientific technology and youth initiatives was the 4-H nutrition program. 4-H focused on a few key points in its goals for impoverished youth, outlined in a study on children and adolescents, which included child health and nutrition, parent mental health and affective interactions, provision of a stimulating home environment, school and child

\begin{itemize}
\item \textsuperscript{21} 4-H Youth Development Program, 4-H SET Science, Engineering, and Technology: University of California, http://www.ca4h.org/SET/history.asp, (February 2010).
\end{itemize}
care quality, and neighborhood conditions. By creating nutrition and after-school programs, cultivating civic responsibility for neighborhoods, and instigating betterment projects, 4-H tended to all of these initiatives while also adapting them to be science-oriented. These initiatives provided excellent service for the youth involved, but once again they only served children who attended; unless 4-H professionals presented the program more than once, their outreach was limited.

Beginning in the early 1980s, the Extension Service allocated one million dollars of its funds and merged it with one million from the Food and Nutrition Service to start ten new EFNEP (Expanded Food and Nutrition Education Program) Food Stamp projects. These projects tested and implemented nutrition training for disadvantaged families throughout the nation, provided them with nutrition information, and conducted research on how families could get food with nutritional value while saving money. Another method of sharing environmental information, and improving nutrition for youth, was the establishment of community urban gardens. These gardens served to connect urban youth with agricultural resources, and 4-H sought to participate in the movement. According to the keynote address for the 2002 International Society of Horticultural Science Conference, “[Urban gardening] goals include teaching inner-city children ecological literacy and diverting them from the streets; cleaning up overgrown neighborhood eyesores and pushing out drug dealing.”

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24 H. Patricia Hynes and Genevieve Howe, “Urban Horticulture in the Contemporary United States:
developed in the 1990s to complement these new goals. In order to get its message to the people, 4-H used its new communication technology and came up with new literature for projects such as “Fit It All Together,” a 4-H food project. By uniting its research in mutual databases, marketing through video and written word, and conducting scientific research in cost-cutting nutritional practices, the Extension Service demonstrated the ideal partnership among science, technology, finance, and communication. This program was also an excellent example of how 4-H adapted essential agricultural concepts to youth and families in suburban and urban areas.

Science continued to guide 4-H's new focus on programming in many ways; it was part of an overall national movement to strengthen the country's position during and after the Cold War. The National Commission on Excellence in Education was concerned with the United States being a “nation at risk.” This committee met several times during 1983 to identify problematic areas of United States society, and one of their main foci was a failing educational system. One newspaper, the Bangor Daily News, published the commission’s “Nation at Risk” reports, and one of its installments stated, “Our nation is at risk. Our once unchallenged pre-eminence in commerce, industry, science, and technological innovation is being challenged by competitors throughout the world.”

Because of this national mandate to improve both non-formal and formal education, 4-H professionals could build a case for their new emphasis on scientific innovation.

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President Ronald Reagan himself attended one of the first meetings of the commission in 1983, and told members that “Certainly there are few areas in American life as important to our society, to our people, and to our families as our schools and colleges.” In 1985, President Reagan recognized the 4-H organization’s contribution to quality youth educational programming when he created National 4-H Week to honor 4-H. 4-H professionals took this new honor to heart, and began organizing increased science and education opportunities for youth.

Reagan espoused a wish to see better educational opportunities, and 4-H professionals demonstrated that they, too, emphasized an increased effort to teach science to youth. However, with this new emphasis on technology in the form of computer, electrical, and chemical engineering, the 4-H organization had the great opportunity to extend its expertise into other scientific fields. Just like Reagan's vision for the nation, 4-H had its own specific guidelines for what its science projects should look like. The California 4-H Science, Engineering, and Technology (SET) initiative encouraged children to look at why science was important and relevant to their lives outside the classroom. Its approach mandated that all content had to be centered on the scientific method, established a specific ability check-list for its projects, and created a curriculum that made teachers help students discover science through experimentation, instead of just teaching it. As a result, the 4-H organization provided schools with a method to improve classroom science lessons in a way that could be more engaging and exciting for youth.

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26 Ibid, 16.
28 4-H Youth Development Program, *4-H SET Science, Engineering, and Technology: University of...*
Because not all children in the United States had access to new technology and teachers often continued teaching science straight from the textbook, 4-H agents throughout the nation saw a way to partner in the school system with hands-on activities. However, schools still had a choice in whether or not they wanted to utilize 4-H research and innovative techniques, and many districts continued to employ their old teaching methods well into the 1990s. In a study conducted during the 1990s, researcher Rodger W. Bybee commented, “In short, the inquiry-oriented laboratories are infrequent experiences for students, but they should be a central part of their experience in science education.”

4-H's new after-school programs had the possibility to change the way that students engaged in learning; by making experiments and other subject areas increasingly fun for the majority of youth experiencing the lessons, 4-H reached children interested in the material and gave them the opportunity to experience science in a new way. In addition, these after-school programs addressed the technology and knowledge gap between privileged and underserved student groups. Heather Johnston Nicholson, in her 2004 study of 4-H programs, stated, “Since about 1985, a host of programs to encourage young people to stay in science and technology, mathematics and computers, have been developed and offered in the after-school hours.”

One hugely successful scientific endeavor was the 1985 “Blue Sky Below My Feet-- Adventures in Space Technology”

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multimedia 4-H program that focused on space technology. Youth had to research different elements crucial to space research; the author of a 1989 *Extension Review* article explained, “We wanted educational experiences in the three basic Blue Sky subject matter areas: forces, fibers, and foods for 4-H school enrichment, project clubs, and resident camping. The final product would be a comprehensive, research-based science and technology educational program which county 4-H programs could easily use to address locally identified youth needs and issues.” This program not only taught new technological and economic strategies to children, but it also introduced them to an array of careers, mainly in space exploration, that they may not have known of before. However, as in their other programs, 4-H agents would have to present this program many times before it truly reached a majority of youth; one opportunity that they could have seized would have been to invest in volunteers who could routinely teach youth in the same subject material for several weeks. In addition, youth who had a difficult time finding transportation if they missed the after-school bus would often be excluded.

Science, particularly space exploration, was a major interest in the 1980s, and the government viewed it as a direct connection to “winning” the Cold War. Ronald Reagan’s government proved to be an avid supporter of space exploration, and he actively pursued a relationship with NASA to reflect his vision for the United States. Although his opinions on what was important in the 1980s did not necessarily reflect everyone's views, he did set the national, and thus national 4-H organization's, agenda during his time in

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office. Particularly, Reagan sought to engage youth in space, and he spoke to them in a speech after the tragic *Challenger* accident. Reagan spoke to “the schoolchildren of America,” and told them that he “[knew] it [was] hard to understand, but sometimes painful things like this happen. It's all part of the process of exploration and discovery. It's all part of taking a chance and expanding man's horizons. The future doesn't belong to the fainthearted; it belongs to the brave.” This speech could have been intended to motivate youth both to understand and take part in the nation's space program. These children grew up knowing the dangers and ultimate rewards of going to space, with the idea that humans had gone to the moon, and that perhaps someday anyone could go into, and live in, space. As a result, many groups were trying to find ways of bringing the concept of space travel to homes and schools.

4-H managed this idea in creative ways; in addition to the program mentioned previously, 4-H personnel also introduced several space and rocket projects that exploited the fascination with space travel permeating American culture at the time. One such project was the “4-H Roots in Space,” in which astronaut Jerry Ross went into space with a supply of tree seeds and brought them back to Earth for 4-H youth to plant. In addition, Ross carried a 4-H flag with him into space, highlighting the international appeal of its programming. The author of an article describing this endeavor asked, “What do astronauts Captain Don Williams and Lt. Colonel Ross have in common? Other than the

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obvious, they both prepared space projects as former 4-H members.” Not only did 4-H seize the opportunity to join interest in space with curriculum, it demonstrated to its members how 4-H could also start them in a career in science. National 4-H agents expanded on interest in science and rewarded youth with an annual Space Camp that supplemented academic concepts in a fun, camping environment. Again, 4-H demonstrated its willingness to spread its message to youth from all backgrounds, whether urban or rural, and find targeted interest areas that appealed to a large number of children, while at the same time maintaining a scientific focus.

The national 4-H organization did not just use space to justify its endeavors in after-school programming. In 1991, national 4-H personnel introduced the Youth at Risk initiative, out of growing national concern about children's after-school hours, and the National Commission on Excellence in Education’s findings. According to the Surgeon General’s office, the peak of juvenile violence occurred in 1993, and the nation started to panic as rates of violence and homicide increased as well. As a result, national 4-H agents developed over thirty new sites in at-risk youth areas, and they created a variety of programming. The after-school programs in these areas focused on building 4-H membership and knowledge in its participants, in addition to broadening cultural understanding between 4-H personnel and youth and working through 4-H projects together. Because many of these areas were urban, 4-H had to teach about projects that

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35 Ibid., p. 27.
could easily be completed in a city environment, such as science, cooking, and art projects. One feature common to both urban and rural environments was electricity; 4-H tapped into this common denominator, and made several projects about how to harness and conserve energy properly.

As a reward to youth who participated and did well in these electrical projects, states like Alabama came up with a 4-H Amp Camp. Here, students could engage in additional electrical experimentation, but in an enjoyable camp setting. This camp, which began in 1982, was an example of 4-H's growing technological science focus and it continues to entertain youth, who found science compelling and interesting when presented in a camp setting. Although it still featured traditional camp activities, children learned about various techniques in dealing with electricity that applied to their everyday lives. This camp did not feature agriculture; rather, it focused on a growing trend in the nation to master technology and attempted to teach its youth how to use scientific concepts in new and engaging ways. This kind of camp also highlighted another national goal of 4-H from the 1980s onward; the ability to partner with other groups to get better funding. An article in the Journal of Extension describes Amp Camp's financial situation: “In South Carolina, Amp Camp is well supported with money and personnel from the 3 power companies who are donors for the total 4-H Electric Energy Program.”

Rewards, such as the opportunity to attend Amp Camp, encouraged youth to do well in projects,

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39 Ibid., p. 1.
because they knew that their work had greater significance and potential benefit than just one 4-H demonstration competition.

Although national 4-H personnel originally intended for the SET initiative to extend simply into facilitation and content to promote club growth, it affected attendance in its after-school programs, as well. By 1995, over three million children had some sort of connection to a 4-H school enrichment program. 40 4-H influence in a classroom affected student experience in a number of ways. First, it initiated experimental teaching; by encouraging teachers to facilitate by asking questions, utilizing demonstrations, and focusing on experiments, 4-H science provided children a method to discover science in a classroom setting and not just read about it. 41 Second, it provided teachers with the necessary materials, so that they could fully conduct experimental learning without worrying about budgeting costs. Finally, 4-H science programming built school and community partners that increased children's interaction with 4-H and their view of its relevance in communities that were not as rural as its original target base. 42 In other words, youth and the nation began to see new purposes from a long established program like 4-H, and they could appreciate its usage both inside and outside of the school classroom.

Civic Responsibility for 4-H Members

Reagan's call for training responsible and well-educated citizens did not just extend to training them in science; rather, he also wanted a generation of youth who cared

41 Ibid., p. 2.
42 Ibid., p. 3.
about their society and knew how to converse in a world that was continuously building communication between countries. Because of globalization, American children and teens needed to find ways to understand other cultures and their place within their communities and larger world. 4-H demonstrated its commitment to civic responsibility in a number of ways; first, it created forums and environments for children of multicultural backgrounds to interact and communicate. Its after-school programs, integrated clubs, and unique projects, which created environments that were potentially welcoming for a child of any socioeconomic status, all served to bring diverse groups of youth together. As part of its creation of a culturally diverse environment, 4-H focused on communication on many levels, including speech, drama, and leadership competitions that would be fitting for a variety of children. Second, the national 4-H organization recognized the need to teach leadership skills in terms of the business world, so it instituted programs that aimed to inspire youth to learn entrepreneurial skills while investigating career opportunities. Finally, 4-H attended to all of these ideals of civic engagement by figuring out how it would motivate children from the suburbs and urban areas to desire a membership in 4-H. Thus, the final focus of national 4-H was to organize motivational tools, such as camps and award trips, to encourage youth from non-agricultural areas to join. As a result of its new programming and motivational tools, 4-H fundamentally transformed into an organization that had membership from an assortment of suburban, agricultural, and urban regions of the country.

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Focus on Career Development

The idea of preparing for a career was vitally important during the 1980s and 1990s; the author of one Extension Review article stated, “The youth in school today are the entrepreneurs and employees of the future. They will determine national productivity, competitiveness, and quality of life.” 44 4-H personnel saw several ways that they could promote career awareness, both inside and outside of the classroom. A Department of Health, Education, and Welfare spokesperson noted, “Those of us associated with the formal education system should recognize 4-H as a valuable community resource which can help in-school youth bridge the gap between the classroom and the real world.” 45

Because a dominant focus for the national government in the 1980s was career development and education, particularly under the Reagan administration, 4-H projects and structured programming naturally changed to reflect these interests. While those interests may not necessarily have represented the entire nation, they did reflect the pursuits of an elected national body that the majority of the American people chose to represent them in political office.

In order to produce civic minded individuals from the new assortment of youth who were now involved in 4-H, the Cooperative Extension Service understood that it had to maintain a clear focus on careers; if youth developed a strong interest in their life's work, it was believed they would continue with that passion and positively affect the world around them. It began a campaign titled “Building Human Capital,” and, much like

the late 1970s campaign of “Building a Better Tomorrow,” it centered on the need to shape youth to address the needs of a changing nation. Many initiatives, projects, and school programs came from this over-arching schema, including building career awareness, decreasing perceived social ills of teenage pregnancy, drug use, and dropout rates, and instilling a sense of pride in youth toward their country. 4-H provided a practical outlet for the theoretical learning of the classroom, with the mission of creating a group of well-educated, but also well-rounded, youth. First, it provided instructional materials that contained hands-on activities to enrich scientific and economic topics the teacher had already taught. The goal of providing these activities was to give children a chance to be more relaxed and able to focus on careers about which they truly cared. From the classroom, youth were then encouraged to join a 4-H club, which had many projects that focused on financial development, veterinary science, photography, and even a specific CareerSmarts 4-H Club. By providing a number of projects, children in both urban and rural settings were given the opportunity to develop knowledge and interest in a variety of employment opportunities. While this approach was very effective, unfortunately the majority of counties still relied mostly on community clubs that did not meet after-school. By teaching in-school enrichment more broadly and often, 4-H professionals could have reached thousands more children. Still, by doing this programming, they still advertised the name of 4-H to youth who may not have heard of the organization otherwise.

During the 1980s, the Extension Service decided that one of the most pressing issues in the nation was the fact that youth were not being properly prepared for life after high school. The author of a 1982 monograph on career education published by the U.S. Department of Health, Education, and Welfare stated, “Because of its very nature in providing 'hands-on' learning experiences for youth, 4-H has always been involved in career education on a non-formal basis. However, in terms of its potential for formal involvement in career education, 4-H has to date, barely begun to move.”\textsuperscript{48} Although 4-H personnel could set goals to improve life for American youth, it had a long road before it could demonstrate its effectiveness. Because of an arduous process of changing curriculum and methods, 4-H programming did not truly become effective until the early 1990s, when more schools adopted its program material. In addition, drop-out and teen pregnancy rates had started to rise, and interest in careers that children had not directly had contact with were on a decline. The National Collaboration for Youth (NCY) put out a National Report Card in the 1980s that had the following grades for America: “Functional Illiteracy (F); Juvenile Crime (F+); School Dropouts (F+); Substance Abuse (D-); Teenage Pregnancy (D-); Youth Unemployment (D+).”\textsuperscript{49} Another motivating factor in Cooperative Extension's new focus was the interest 4-H youth were showing in career and life improvement projects; in 1977 over 2.3 million youth participated in projects that covered family/consumer sciences, career/job development, understanding cultural

differences, and health and personal development.\textsuperscript{50} Thus, 4-H made a concentrated effort on teaching family planning and leadership training from the 1980s onwards.

From this focus on careers and life management skills, 4-H agents encouraged children from all areas to pursue higher education in agricultural and technological research. By the 1970s, farm parents had started to recognize the importance of agricultural youth balancing their studies, extracurricular activities, and chores on the farm. As historian David Danbom noted, “The farm today is mainly a place where people grow up.”\textsuperscript{51} Despite critics' belief that agriculture and farm life were dying trends in modern America, 4-H supporters argued that critics should realize that farms still provided an excellent location to learn responsibility, even if children did not eventually turn to farm vocations for their livelihood. Thus, the 4-H organization viewed it as pivotal for children to gain agricultural and other job knowledge both at home and at higher education institutions. Already established land-grant colleges served as an excellent location toward which to push youth graduating high school. The national 4-H organization was not the only institution encouraging children to look toward achieving degrees; there was a nation-wide campaign for high school graduates to progress with their education as part of Reagan's vision for Cold War America. As the author of an article in one Extension journal noted, “growing pressures during the 1980s for youth in the public schools to pursue rigorous academic tracks to meet increasing college entrance requirements has reduced the pool of secondary age youth who study agriculture and

\textsuperscript{50} Hoyt, 9-10.
\textsuperscript{51} Danbom, 251.
have interest in studying agriculture in college.” As the author mentioned, because of stricter guidelines for college entry, high schoolers began disappearing from agriculture courses in the high school classroom. However, programs such as 4-H had a mission of enabling students to meet entry requirements by taking mainstream coursework while also studying science and agriculture through their 4-H projects. It was this balance, in addition to school enrichment programs that 4-H sponsored, which helped to introduce students to the idea of attending land-grant colleges for their university experience.

From their projects in 4-H to land-grant education, the majority of 4-H alumni state that their knowledge from their club experiences has helped shape the adults that they became. In one study, extension researcher Earl B. Russell found that, “4-H alumni responded positively when asked how helpful the overall 4-H activities were in preparing them for specific roles in adulthood.” The study went on to find that the qualities people associated with their 4-H learning were leadership, civic responsibility, and organization, among many others. Because of children's accountability for finishing their own projects, they learned at a young age that they had to time manage and organize their materials. These skills assisted them in their college careers, and these alumni look back on those times as some of the fundamental building blocks of their personalities. Although these land-grant colleges had existed for a century, a greater number of youth outside of farming backgrounds now flocked to these universities during the 1980s and there was an emphasis on equal education, despite gender or class background. Previously, farm men

had attended land-grant colleges to take the knowledge back to their farms, and while
some were still going for that reason, an even greater number of youths went to these
universities to continue an education launched with 4-H.

Knowing that many of their attendees were former 4-Hers, these universities
began offering more collegiate 4-H opportunities so that youth could continue to create
memories and enjoy their organization without necessarily having to major in agriculture.
Even though the majority of scholarships offered through 4-H were still for students
majoring in agriculture, there was still an effort to gain youth attendance from people
who wanted to focus in a variety of topics. Again, fitting with the 4-H ideal, college
students had to be the ones to create these collegiate 4-H clubs, and they led the activities,
civic involvement, and socials associated with their clubs. Collegiate 4-H served, and
continues to serve today, youth from all backgrounds, as they do not need previous 4-H
experience to join. It is an all-inclusive community dedicated to continuing both young
adults' involvement in 4-H and their ability to pass on their knowledge to younger 4-H
members, even though it is sometimes limited in the scope of its advertising to youth,
which in turn limits its numbers. There is also a limit to this inclusivity; only members of
a given college or university can join collegiate 4-H, so 4-H alumni who do not attend
college are prohibited from continued 4-H membership, although they can still remain
connected to the organization as club advisors to younger 4-Hers.

In addition, since the 1980s, land grant universities have made great strides in
accepting high school graduates who do not fit the traditional 4-H mold of a farm youth

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54 Ohio Collegiate 4-H, “The History of Collegiate 4-H,” http://hostedweb.cfaes.ohio-
state.edu/college4h/meetingminutes/history.pdf (September 2011): 1.
with a future in agriculture. Cooperative Extension not only viewed these land-grant colleges as an investment in youth, it also saw them as a way to invest in the future of American agriculture. An extension service missive from 1984 stated, “The land-grant system and other agricultural colleges and universities of the United States possess the Nation's most numerous and most appropriately experienced personnel to contribute to progress in technology, whether considered from a research, teaching, or extension perspective.” The goal for these college-educated youth was that they would either return to agriculture or serve as investigators in researching better methods for national and international agriculture policies.

The 4-H motto, “To Make the Best Better,” extends to 4-H's overall goal of “assisting youth in acquiring knowledge, developing life skills, and forming attitudes that will enable them to become self-directing, productive, and contributing members of society.” This goal did not just manifest itself in enabling children to go to college; rather the Cooperative Extension Service recognized that it could begin leadership and career training while youth still attended high school. Through its Junior Leader program, State 4-H Ambassador training, and National 4-H Conference, thousands of youth got the chance to increase their leadership expertise. However, one main issue with these programs was that only a few 4-H members in each county in the state got the chance to participate, once again limiting the scope of effectiveness for 4-H. One program 4-H

Highlights of the 50th Anniversary Conference (United States Department of Agriculture, Science and Education Administration, 1980).
introduced was called “I'll Take Charge,” and it centered its activities around five topics: Dreams and Expectations, Family and Sex Roles, Education, Work, and Lifestyle. Its purpose was to “promote personal responsibility and economic self-sufficiency for young women and men.”

Youth, ages 13-18, got the opportunity to learn how to plan for a future, from dreaming about their ideal job to budgeting expenses. From this program centered on planning for the future came the national 4-H organization's next initiative to help youth with their home and family lives.

Building Better Families

Understanding that it had more responsibilities to youth than just college preparation, 4-H agents also began, in the late 1980s, to look at issues such as child abuse, nutrition, and other pressing needs of younger 4-H'ers, so that the organization could better meet national 4-H members' needs. As part of the need for responsible citizens and developing career knowledge, the Cooperative Extension Service decided to address the long-existing gap between boys and girls in leadership areas. They accomplished this goal in a number of ways, including targeting teenage pregnancy, educating girls about the dangers of domestic abuse, and building leadership opportunities for them. As of 1982, 55% of 4-H members were girls, and they needed to feel that they both belonged and had a role in the future of leadership for 4-H. One growing problem in the 1980s for teen girls was the increasing pregnancy rate. According to statistics gathered by the Center for Disease Control, in the six years before 1980,

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59 Ibid., p. 1.  
60 Hoyt, 5.
teenage pregnancy rates increased by 8.2%\textsuperscript{61} By 1990, the teenage pregnancy rate in the United States reached its all-time high, and with this quickly accelerating birth rate for American teenagers, 4-H and the nation both knew that they had to address girls in leadership, youth development, and self-esteem.

One extension agent from Arkansas mentioned several statistics in a scholarly journal: Irene Lee stated that teenage pregnancy increased risks for death to the mother, cut youth education much shorter than usual, put financial burden on both the mother and father, limited employment opportunities, and added unhealthy amounts of emotional stress.\textsuperscript{62} As a result, a vicious poverty cycle started from the conception, to birth, to raising the unplanned for infant. In Lee's state, Cooperative Extension began a statewide program that included a three year parenting course, a supplement course for the first year of pregnancy, and a newsletter titled *Teens on the Go*. Lee's article, “It Can't Happen to Me!,” mentions the results of this initiative: “Sixty-one percent of the students were communicating more with their parents, more than 80 percent have improved self-images... [and] sixty-eight percent indicated they were practicing more self-control.”\textsuperscript{63} By focusing on a particular need in the community, rather than just agriculture programming, 4-H had the potential to meet and address a growing problem among youth in the 1980s and 1990s. Obviously, the 4-H organization alone could not combat this problem, but it added to a growing list of resources for pregnant teens.

\textsuperscript{63} Ibid., 15.
A 1989 *Extension Review* article highlighted how young mothers were also more apt to abuse their children, due to the tiring and stressful situation of being a single, teenage mother. This same article focused on a program in Oklahoma, which promoted home visits and educational sessions for teenage mothers; the program's goal was to “neutralize high-risk situations and increase families' ability to trust and to establish support systems within the community.”64 Because there was an issue in the nation not being met by the government, 4-H saw an opportunity to further its educational mission and supplement already existing programs. 4-H programs throughout the nation not only wanted to help teens after pregnancy, but they also wanted to help prevent it. One case study in California on the teenage pregnancy rate of Latina girls stated that 4-H saw the growing problem in the late 1990s and “created the Latina Teen Pregnancy Prevention Project [which] was designed by 4-H youth-development advisors and collaborators in the San Francisco Bay Area to develop 'best practices' for professionals who worked to prevent teen pregnancy among Latino teens.”65 By providing educational materials and research, 4-H assisted this community of young mothers, with the goal of training a new generation of responsible adults who would eventually have greater self-esteem through pregnancy awareness projects. These programs increased the participating girls' self-esteem, career awareness, and interest in different project areas; as a result, girls and boys joined, for the first time, in a much more unified learning environment. One limitation to these scattered programs was their limited reach, as counties throughout the nation

initiated separate programs without relying on a national directive. Still, for the few communities who adopted these measures, pregnancy programming provided an excellent way to reach at-risk youth.

Finally, 4-H began in the late 1980s to offer overall life development in its projects for both girls and boys, instead of teaching just traditional home economics or life skills through projects. The organization's National Summary for 1984-1987 stated, “A major goal of 4-H is and will continue to be achieved by creating healthy environments that stimulate the development of life skills-- those skills which enable youth to cope with stress, develop competencies in various skills and knowledge areas, and help overcome situational constraints.” By equalizing their programming, 4-H agents continued to push youth toward progress and overcoming societal constraints in the 1980s and 1990s and giving participating youth the chance to gain critical life skills that were directed toward out-of-the-home ambitions. One such program in Virginia, called Youth Experiencing Success (Y.E.S.), was designed to encourage at-risk girls to become more confident and build self-esteem. Virginia extension employee Valya Vincell stated in 1990, “Pre-test scores indicate these girls have very low self-esteem... As participants have become more and more involved in the Y.E.S. Program, they value the fact that the program allows them to speak their minds without repercussion.” This group was part of the overall vision of 4-H in the 1990s to build peer groups to which youth would be accountable. In this particular organization, girls went to sessions that

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had team-building activities and ambition building talks, and all of their experiences counted toward their probation records, if they had previous criminal records. Again, it is important to keep in mind the limited reach some of these programs had because of their grassroots beginnings, but all of these separate programs still contributed greatly to the overall mission of national 4-H to improve life for youth in America. Because of groups such as these, 4-H could proceed toward its massive initiative in the 1990s, titled Youth at Risk!.

Addressing the Differences among All the “Youth at Risk!”

The national 4-H organization firmly believed that its personnel could reach children, no matter their socioeconomic or geographic status. As author Kenneth Hoyt stated, in his 1982 study of 4-H, “The major objective of 4-H is to... help youth, wherever they live, become self-directing, productive, and contributing members of society.”

Because of this belief, 4-H personnel pushed an important new initiative that would revolutionize how they perceived their audience. In 1990, an Extension Review edition came out that highlighted this new concept; it was titled “Youth at Risk!” In this issue, Marian Wright Edelman, President and Founder of the Children's Defense Fund, stated that “Every 16 seconds of the school day an American child drops out. Every 26 seconds, an American child runs away from home. Every 47 seconds an American child is abused. Every 67 seconds, an American teenager has a baby. Every 53 minutes, an American child dies because of poverty.”

All of these factors contributed to 4-H agents' desire to

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68 Hoyt, 5.
build and manage an already existing 4-H member base, work in increased numbers in
the schools, recruit quality volunteers, establish critical youth peer groups, and work with
local community organizations to create valuable partnerships. But how would 4-H
manage and create these youth peer groups that would be applicable to children from
different socioeconomic backgrounds? Agents came up with creative ways to make sure
their programming served as an incentive and learning experience for the majority of
youth that attended.

4-H demonstrated its commitment to civic responsibility in a number of ways;
first, it created forums and environments for children of multicultural backgrounds to
interact and communicate. While 4-H was not alone in this endeavor, as Girl Scouts and
Boy Scouts also offered this opportunity, 4-H projects were much more varied in their
coverage. Its after-school programs, integrated clubs, and an array of projects contributed
to the organization's goal of interesting children from varied economic backgrounds to
join 4-H. This idea worked in communities in which 4-H members sought out these
opportunities, but some children still felt that 4-H was a group that did not offer enough
for their particular needs. To help create an all-inclusive environment, 4-H focused on
communication on many levels, including speech, drama, and leadership competitions. In
addition, the national 4-H organization recognized the need to teach leadership skills in
terms of the business world, so it instituted programs that would inspire some local youth
to learn entrepreneurial skills while investigating career opportunities. Finally, 4-H
attended to all of these ideals of civic engagement by ensuring that all 4-Hers

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70 Patricia Calvert and Jon Irby, “Extension's Youth at Risk Agenda,” Extension Review: Youth at Risk
incorporated citizenship activities within club and camp meetings, such as flag ceremonies, vespers for reflection, and the 4-H pledge and U.S. Pledge of Allegiance. Combining its goals of science-oriented programs with a revised outlook on civic responsibility, 4-H began many initiatives that continue into the 21st century.

**Demographics and Motivational Tools**

From this new focus on civic responsibility came the need to define who the citizens interacting with 4-H actually were and what would make 4-H relevant to all youth. While 4-H previously targeted only agricultural youth, the organization recognized that there was an increasingly large demographic shift from the farms to cities and suburbs. For instance, in 1983, 4,657,784 youth participated in 4-H programming, with only 17% of those children living on farms. About 60% of those youth were under 11, and a growing number of racial/ethnic minority groups participated, with their percentage increasing to 22% of all 4-H members. 4-H witnessed this demographic change and decided to engage in a proactive marketing campaign to include all of these groups in their extra-curricular programming. A 1982 study, entitled *4-H and Career Education*, outlined the organization’s goals as creating “activities [that] represent a direct response to expressed interests and/or needs of participating youth” and encouraging “self-expression and [providing] for some level of successful achievement for all participants.” The mission was to give some incentive to a number of children to find feelings of success in 4-H projects. However, 4-H personnel still had to determine the

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72 Hoyt, 5.
many factors affecting their membership in both clubs and after-school enrichment programs.

Changing demographics' largest impact on 4-H came in the form of single-parent households. Because of a growing divorce rate, children had to adjust to one parent's schedule, which often did not contain enough time to drive them to more than a couple of activities. Most parents in a study by researcher Lawrence H. Ganong stated that they had to make children choose which after-school activity to keep, and 4-H often was cut, because of transportation issues. 4-H after school programming thus had to find the engaging materials that kept youths' attention while teaching them valuable life lessons at the same time. In addition, single parents sometimes felt disengaged, or could not bring children to the 4-H meetings, because they had work or had to balance custody with another parent. Because they had fewer resources, living on a single income, single parents mentioned that they did not have the financial means to provide for their children to participate in 4-H extras, such as camp, or to help them complete their projects. Without enough time or money, providing the proper support for 4-H involvement could sometimes be difficult. As a result, they tended to discourage their children from continuing in 4-H, encouraging them instead to choose extra-curricular activities that occurred immediately after school, at the school building itself. Sports, and other school sponsored activities, served as a way to avoid making youth latch-key kids, and single

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75 Ganong, 287.
parents could more easily pick their children up after work, when the activity ended around 5 p.m. 4-H was at a disadvantage, because it required extra transportation and met at inconvenient times for single parents.

Thus, the original 4-H of 1914 no longer existed in the 1980s; instead, 4-H had to adapt to children from all socioeconomic groups. The organization's analysis of youth in America led to the creation of three target goals; first, children from all over the world were engaging in multicultural discourse through their classrooms, with varying levels of successful communication. One initiative that contributed to tackling this issue was the 1983 Citizen-in-Action grant, of which over 43 clubs in 26 states took advantage. These grants gave money, in combination with local funding, to help children improve their communities. To children from urban areas, this funding could significantly improve their way of life, and 4-H wholeheartedly seized the opportunity to expand its influence. Part of this multicultural ideal was to encourage positive cultural exchange, while teaching children about the long-standing agricultural tradition of the United States. 4-H also worked toward this goal through after-school programming, expanding the types of non-agricultural projects the organization offered, and providing ways for these children to join more traditional 4-H members in camp and award trip experiences. As a result, many youth that were involved gained understanding of other cultures and children of recent immigrants gained valuable acclimation experience. Still, the 4-H organization could have improved its programs by going into schools for more than occasional programs.

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76 Ibid., p. 28.
directed at-risk, urban youth; instead, they could have developed long-existing, consistent after-school programming.

A second challenge in the 1980s was that a generation of hobby farmers were having children that could dabble in different areas of agriculture and livestock rearing without depending on it for their livelihood. With 56.5% of children coming from towns of 50,000 people or less, youth had the opportunity to experience the land, without necessarily living on a farm-for-profit.\(^77\) Even a great number of youth who lived on farms had parents who declared that their primary source of income was off farm work.\(^78\) Although youth from these families may not have had previous agricultural knowledge, they at least had the land resources to do traditional agricultural projects. Typically from middle-class families, youth on hobby farms did not have to rely on their farms for money or resources; rather, they could combine their access to land with financial resources from their parents' off-farm jobs. These children had a unique advantage, because they could do both types of projects offered from 4-H; in addition to raising livestock, they could also have personal connection and resources to do non-agricultural projects such as photography and science. Hobby farm children benefited most from this growth of 4-H projects, because they could immerse themselves in both ways of life. From their rural counterparts, they learned how to raise crops and livestock successfully, but they could also connect with the suburban and urban members of their 4-H group over topics that had nothing to do with agriculture. This unique cross-section of youth

\(^{77}\) Ibid., p. 9.
\(^{78}\) Greenwood, 23.
represented the new face of 4-H that came out of the 1980s; as family farms decreased, connection to farming and agriculture became a hobby, rather than a livelihood.

Because of the growing group of small farmers who mainly did agriculture for amusement purposes, extension agents had to divide their focus between massive farm owners whose enterprises were no longer family, but business, farms and agricultural hobbyists. 4-H had to adapt to this change in order to continue to draw children into its programming and entice them to continue to go to Extension's land-grant colleges. This trend would continue; as of 2006, 45% of 4-H youth lived on farms, while 55% lived in suburban, urban, or hobby farm environments. Because of its increased diversity, 4-H gained members, but it also taught these members about communicating among peers as a way of learning. 4-H marketed itself toward youth from these diverse settings, but the organization also created environments which fostered enrichment for children from both rural and urban backgrounds. One way in which 4-H managed this interaction was by purposefully assigning children to specific 4-H groups to control diverse club membership. Youth thus gained more experience with children from an assortment of backgrounds, which increased their personal development and cultural appreciation.

A final challenge in the 1980s was that America saw a growth in the number of “latch-key kids,” who had to care for themselves until parents came home from work, and also children of single-parent homes. As Heather Johnston Nicholson, a researcher for the esteem-building organization Girls Incorporated, noted, “We created more latchkey children of elementary school age and built an inadequate system of day care in the

79 Greenwood, 23.
1980s; in the 1990s, we discovered that young people of middle school and high school age get in the most trouble during unsupervised hours from 3 p.m. to 8 p.m., and we generated the modern after-school movement.”

Because of the burgeoning latchkey children problem, 4-H and other youth groups saw a target area with opportunities to avert unwanted social behaviors. They knew that all of these children came together in school environments, and it was this social network they decided to focus on in their campaign for greater school enrichment programming.

*After-school Programming and In-School Enrichment*

With many parents unable to provide the needed transportation, the 4-H organization faced the challenge of meeting increasing needs of the various demographic groups that existed in urban, suburban, and rural areas. Extension agents across the nation thought about this difficulty, and they brainstormed positive actions they could take to include these children in their numbers. The most effective and common answer they evaluated was the introduction of after-school programs at elementary, middle, and high schools. During these programs, teachers and extension agents worked with volunteers to create an interactive after-school learning environment with the goal of encouraging children to stay active and learn about what 4-H could offer. Classroom experiments like incubating chicks, growing plants, and conducting science projects all strove to engage children in exciting methods to learn science material, with varying success. The result of these programs was two-fold; 4-H could reach a diverse group of students in a

80 Nicholson, 56.
81 Nicholson, 56.
way that would decrease stress on parents, and it could also help decrease after-school crime among youth.

However, after-school programming also had the potential to benefit youth because it established an environment at school that was oriented toward shaping their character and personal strengths in a non-traditional learning environment. As Nicholson noted, “The sense of 'belonging' somewhere, especially among a group of peers, is developmentally vital, and some youth development programs provide such an anchor for many participants.”82 Children who had potentially not fit in with other youth from traditional, nuclear families now had an environment where the goal was appreciation of difference. Multiple cultures, different family structures, and various socioeconomic backgrounds combined to give youth an idea of America's diversity. This group setting met one of 4-H's main goals: cultivating civic responsibility in America's youth through ensuring they learned how to communicate who they were and with children from backgrounds other than their own.

These after-school programs were an excellent intervention, for children who were actually able to attend, in areas where children too often went down a wrong path that led to teenage pregnancy or dropping out of school. One guidance counselor from New York City was trying to find a way to keep youth engaged after school in the 1990s, and he noted, “Disaffected youth need activities that let them accomplish things. So one day I walked in to see what 4-H had to offer. It was a gold mine!”83 He discovered that through fishing, gardening, home repair, and other hands-on projects applicable even to

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82 Ibid., 59.
urban youth, 4-H actually improved attendance, grades, vocabulary, and children's home lives. One after-school program in New York focused on woodworking, which benefited the school building directly because the students made stage sets for the drama club. In addition, another group learned how to build a hydroponics device for inner-city gardening.\textsuperscript{84} The majority of these children had the chance to learn valuable life lessons applicable to their lives, even though they did not live on farms or normally deal with agriculture, because the 4-H Youth at Risk Initiative just wanted to build leadership skills and improve daily life for youth from disadvantaged socioeconomic background.

Students in a program in North Carolina sought to use their Project CARE to teach youth about problems they might face in daily life; their mission stated that “4-H is attempting to give them the tools they need to make the correct choice—education... [and] in low-income neighborhoods, economic, and social problems interrupt education.”\textsuperscript{85} 4-H personnel wanted youth to know about the side effects and dangers of drugs, teenage pregnancy, and dropping out of school. Because they were more limited in scope, these programs did not reach the number of children they could have with better advertising and financing. Children who attended, though, heard information on how to make proper choices for their lives, and the hope was that they would spread this knowledge to their peers. Although these initiatives were not traditional after-school programs, they still successfully carried out the mission of bettering children who attended after school, which was a national initiative in 4-H through the 1990s.

\textsuperscript{84} Ibid., p. 9.

In addition to after-school programs, 4-H also introduced school enrichment materials into classrooms in order to assist teachers in facilitating science learning in a fun and engaging way. Because of students' increased interaction with 4-H materials, they had better knowledge of 4-H's assets and how it could apply to non-agricultural youth. Diverse school classrooms incorporated these materials and enabled 4-H to reach its target audience of suburban, urban, and multicultural youth. 4-H attempted to fill a void in many children's lives who might not have wanted to engage in other extra-curricular activities, such as sports and academic clubs, and there was clear evidence this effort also increased membership numbers. By 1991, over 3.2 million youth were involved in almost 70,000 school-enrichment programs.\textsuperscript{86} As a result, 4-H membership started to reflect the rest of American society, with a decreasing number of agricultural youth, but an increasing number of children from other backgrounds. School programming became the main way extension agents could introduce children to 4-H who might never have heard about it before. Unfortunately, because agents often had many programs to attend to, there simply was not time for a large, concentrated effort to reach every child in his or her respective counties. Thus, 4-H professionals came up with solid educational content, but lacked the manpower needed to ensure every student came in contact with the organization.

Another effective method for reaching non-agricultural youth was to develop new projects that would incorporate a variety of children's upbringings. As mentioned earlier, 4-H introduced science and math programs, beginning in the 1980s, but there was a need

to create projects that were less farm-driven than previous ones. 4-H manuals about photography, cooking, leadership, and writing became a way for suburban and urban youth to connect to a traditionally agricultural program. Now, children who had no connection to the land could interact with farm children, because both were able to find niches in 4-H.

Camps and Award Trips

In addition to school and club environments, camps and award trips were venues where 4-H members could interact. These events were a way for 4-Hers to bond over shared recreational interests. One of the chief trip destinations was the nation's capital in Washington, D.C. During 1983, 23,000 teens flocked to Washington, D.C., to participate in a leadership development program. They helped with the Washington Youth Fair, did improvement projects in the general area, and participated in the National 4-H Conference. 87 Another 5,000 youth also attended Citizenship-Washington Focus, a program designed by the National 4-H Council and Extension Service to teach youth about government policy making and how it affected them and agricultural reform. 88 This program has continued to the present day, and it is a great incentive for youth to develop their leadership skills and portfolio in order to be chosen to attend. But award trips were special opportunities that often only happened for a 4-H'er once in his/her time in the organization, which again limited the effectiveness in outreach to the majority of youth. Thus, the national 4-H organization had to ensure a traditional, yearly experience in camp.

87 Boyce, 24.
88 Ibid., p. 28.
The University of Nebraska 4-H website notes, “We want youth to leave our camp better equipped to make healthy, positive, and informed decisions while creating lasting memories and experiencing camp traditions.”\(^89\) As described earlier in this work, alumni stated that 4-H created a lasting impact on their lives, but camp seems to be the method that was most effective in establishing lasting memories for 4-H members. Although the first official camp in the nation was established in West Virginia in 1921, camp underwent a transformation along with the rest of the 4-H agenda in the 1980s.\(^90\)

Through rich traditions, continued reinforcement of 4-H's civic and personal values, and a change from campers' home environments, camps provided a safe setting to introduce campers to new ideas. 4-H camps are perhaps the biggest growth that 4-H has had; in 1983, only 305,538 children attended 4-H camps, but that number has now extended into the millions.\(^91\) Beth Van Horn, in an article on 4-H's history, noted, “Camping also offers many opportunities for young people to develop leadership skills beyond the club environment by working with youth from different communities and tackling issues such as motivation, team building, and interpersonal relationships.”\(^92\) Camp and award trips served and continue to serve as excellent motivational tools for keeping children in 4-H, as many camp alumni have noted a large motivation to stay in 4-H was the opportunity to go to camp. Even if youth decide they no longer appreciate 4-H curriculum, or get too busy to participate in many projects, they continue on in 4-H for the possibility of

\(^{89}\) University of Nebraska-Lincoln, “About Nebraska 4-H Camps,” http://4h.unl.edu/web/4hcamps/about4hicamp, (October 2011).
\(^{90}\) Beth Van Horn, “The First Fifty Years of the 4-H Program,” *Journal of Extension* 36, No. 6 (December 1998): 1.
\(^{91}\) Boyce, 9.
\(^{92}\) Van Horn, p. 2.
attending these unique opportunities. County 4-H camps take place at various locations throughout a particular state. Often, counselors have recycled important traditions throughout the years, including enforcement of agricultural concepts. At state camps, children have been rewarded for their success at the county level, and they more often have a specific theme, such as Conservation Camp, which focuses on teaching youth important conservation tips for the home.

The first element of camp, which demonstrates 4-H's main goals for children since the 1980s, is its approach to letting youth camp counselors dictate content, organization, and leadership of camp. The national 4-H website outlines the goal of 4-H from 1960 onward: “Citizenship and leadership skills, learning how to learn, and the ability to cope with change also are an important part of 4-H educational programs. Life skills are built into 4-H projects, activities, and events that help participants become contributing, productive, self-directed members of a forward-moving society.” Likewise, in camp, counselors between the ages of 14 and 19 provide a traditions-based, citizenship oriented experience for younger campers, which was a primary goal of the organization in the 1980s and 1990s. This structure allows youth to facilitate their own material, which meets the criteria of 4-H desiring to produce leaders and effective communicators from its ranks. In addition, 4-H professionals wanted, both then and now, to make sure that adults and children not only organized and worked on separate aspects of maintaining the organization, but also could learn how to work in conjunction with each other. As a

94 University of Nebraska-Lincoln, “About Nebraska 4-H Camps,”
result, extension agents control training and oversee counselors' progress in planning and implementation, but it is an equal discussion between trainers and youth counselors in terms of content and creative design of the camp from year-to-year. Through this experience, camp counselors gain invaluable leadership training which endows them with the confidence they need to make decisions in their everyday lives, in addition to learning skills for future leadership opportunities. Of course, not only counselors experienced camp; their young charges also hopefully learned important skills and created memories at 4-H camp. Youth attended for many reasons, but one of the most prominent was for the annual traditions. Traditions such as flag ceremonies and fire council ceremonies served to reinforce civic engagement among campers, as their rituals taught them how to conduct themselves properly during events such as candle lighting and flag raising/lowering and the protocol for speaking in front of an audience. Combined with activities like swimming, arts and crafts, canoeing/kayaking, and hiking, among many others, these traditions met the goals of 4-H to encourage youth to be active, healthy, and civic minded leaders in their communities. 4-H learned quickly in the 1980s and 1990s that camps were an excellent way to tie in key national initiatives of career and science development, while embracing already existing traditions among 4-H members.

**Conclusion**

This national overview summarizes the main national initiatives in the 1980s and 1990s 4-H organization. Through science, career, and youth development, 4-H transitioned from a solely agricultural program to one that met the growing needs of

http://4h.unl.edu/web/4hcamps/about4hcamp, (October 2011).
urban, suburban, and rural youth. Because of its unique projects that were applicable to children's lives throughout the United States, it proved its survivability in the last part of the 20th century. No longer could people say that 4-H would be outlived once agribusiness farmers replaced family farmers; rather, its durability made it critical to averting youth violence, health and nutrition problems, and other troubling issues facing 1980s and 1990s youth. Unfortunately, because of either lack of staffing or funding, 4-H professionals had to limit the number of programs offered and their frequency, which led to a smaller number of youth who came in contact with programming. While this problem did not particularly effect the youth who attended, it did create a problem in expanding programming to youth who might not have heard of 4-H. In the next section of this thesis, the reader will view a case study analysis of how these over-arching national initiatives were applicable to one particular state: Ohio.
CHAPTER TWO: OHIO 4-H, INNOVATOR IN EXTENSION SERVICE

PROGRAMMING

Beginning in the 1980s, 4-H as a national organization recognized the need to address growing science and technological advances. According to the California 4-H Science, Engineering, and Technology (SET) program, three objectives for 4-H youth came out of the mid-1980s; children must have “inquiring minds; an eagerness to learn; and the ability to apply science, technology, and economic principles.”¹ Two goals arose for Ohio after this major reconsideration of the future of 4-H; first, the new main focus of 4-H would have to be cultivating better citizens and the personal growth of its members. Second, 4-H would need to unify state and national organizations. Although states, such as Ohio, would still implement their own programming and educational initiatives, the national level now had the right to utilize various states’ innovative ideas or projects for national 4-H. Through innovative projects, Ohio helped national 4-H develop into a program that would extend beyond the confines of rural America and reach the needs of children who could not necessarily engage in agricultural production for profit.

Part of this initiative was also to fix a previously existing gender gap that had occurred when 4-H personnel had formerly encouraged domestic projects, such as sewing, cooking, and home economics, as strictly female domains while limiting girls' participation in livestock and crop projects. Because of a movement in the early 1960s to move beyond projects simply informing children how to do a project, 4-H began to create programming that would focus on why agricultural work, club participation, and 4-H as a

whole were important. All projects had to include and encourage both girls and boys to learn how to be better citizens in the Cold War era, with the mentality that youth had to be the future great minds of science and technology in order for America to win the Cold War. As a result, 4-H grew out of its former agricultural focus and now supposedly had a role in national security.

In order to understand how Ohio 4-H instigated these changes, one must also understand how the Extension Service operates, at both the national and state levels. The Extension Service in the United States is a branch of the federal government, and it serves to propel national initiatives that the state then takes and creates its own programs to implement. Although state and county extension personnel are tied to the national extension organization, they maintain an autonomy that enables them to create unique programs for their state that are loosely based on national initiatives. Because of this independence, state and county extension personnel have the freedom to address specific issues in their state, while also reaping the benefits of national research within the overall organization. This construct directly benefited Ohio 4-H in the 1980s and onward, because state personnel utilized the national organization's focus on science, youth development, and incentive programming; however, they were also able to use these broad concepts in ways that would include state-specific issues, such as teen pregnancies, stark rural poverty and malnutrition, and lack of technology in schools, which were all problems that Ohio faced at a rate higher than the national average.

Ohio tackled this task in a number of ways, mainly with adjusting to the realities of a changed demographic. Although Albert Belmont Graham built a thriving boys and
girls agricultural society in Ohio, beginning in 1902, the world had significantly changed since his original goals for these rudimentary canning and corn clubs. In a 1993 Ohio State University Extension survey, parents polled stated that the best parts of 4-H were "high levels of responsibility, high commitment, positive parental involvement and support, positive experiences with competition."\(^4\) Obviously, from 1902 to 1993, Ohio 4-H's focus had shifted from agriculture to the new initiative of training better citizens and solving societal ills. An article in The Daily Sentinel, a Pomeroy, Ohio, newspaper, declared in 1980, “4-H continues to grow and while many of the first projects were home and agriculture-related activities, the realm has expanded to include modern concerns, such as conservation and energy.”\(^5\) As the world changed from the 1980s onward, Ohio 4-H adapted to integrate new categories of children and projects. This portion of the thesis will deal primarily with how Ohio 4-H has evolved to include youth from diverse ethnic, socioeconomic, and regional backgrounds, and it will focus on how Ohio has truly stayed ahead of these changes by implementing innovative programming to obtain optimum retention rates in 4-H.

**Science Project Work**

Science programming was vital to Ohio 4-H throughout the 1980s and 1990s, as it put the state in line with the national SET goals of innovation in technology and spreading science education to youth through its project material. Jennifer Martin, author

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of a 2008 article on the SET initiative, wrote, “4-H's Science, Engineering and Technology (SET) initiative reaches more than 5 million youth with hands-on learning experiences to encourage young minds and to fill the pipeline of young leaders proficient in science. Today, 4-H out-of-school opportunities focus on agricultural science, electricity, mechanics, natural sciences, rocketry, robotics, biofuels, renewable energy and computer science.” By increasing youth participation and familiarization with scientific language and experiments, Ohio 4-H professionals sought to prepare Ohio youth for careers in science and technology as those jobs boomed in the 1990s. Through creative projects in aviation, space, agriculture, and drug awareness, the Ohio 4-H organization introduced a supplement to classroom learning for youth, and tried to focus children on potential future opportunities in those fields. Although all of these projects aligned with national initiatives, states like Ohio had the autonomy to address the demographics in their region with specific projects.

Because Ohio has long been at the lead in developing projects that would serve to broaden knowledge of science in 4-H youth, it is not surprising that there has been science curriculum initiated and compiled by Ohio leaders to accomplish the national goal of science expansion. Regardless of the project material, Ohio 4-H responded with vigor to President Reagan's initial call for scientific endeavors. A number of projects originated in Ohio, yet spread to the rest of the nation once the national 4-H organization

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recognized how innovative they were. Or, if there were already creative projects used throughout the nation, Ohio curriculum committees took the existing information and formatted it to fit the environment and youth in Ohio. The following chapter section will serve as a brief overview of the history of science projects in Ohio 4-H since the 1980s, and will discuss how extension personnel have adapted projects to the scientific needs of Ohio youth.

As part of their continued focus on science curriculum outside of agriculture, Ohio extension agents identified a number of topics, from rockets, to entomology, to engineering, to equine science, to use with Ohio 4-H youth. In “Launching into the Next Millenium: 4-H Lifts Off!,” a compilation of projects in one book by OSU Extension personnel, the idea was for youth to get a taste of several different branches of science to build their confidence in working in these fields and also develop a potential career interest. This particular project in Ohio 4-H tied together the initiatives of science, career development, and also reaching out to non-traditional demographic groups in the schools. All of these concepts were pivotal to the Ohio 4-H movement in the 1980s and 1990s, and this project is an excellent example of how curriculum authors combined scientific concepts with hands-on activities.

Space was an important initiative for the nation at large, particularly under the Reagan administration, and continuing throughout the remainder of the Cold War. The Ohio 4-H “Rockets Away” project in the 1990s taught children how to design and construct a rocket from everyday materials, which introduced them to the possible future

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career of rocket science.\(^9\) For instance, author Robert Horton explained Newton's laws to children in the project book, stating, “This law is especially useful when designing efficient rockets. To enable rockets to *accelerate* to higher elevations with greater payloads, designers must minimize the rocket's *mass* while maximizing the amount of *force* exerted from its engines.”\(^10\) As Horton's words demonstrate, this book, although for young children, combined key scientific concepts from the classroom with hands-on demonstrations of how they worked. By doing so, Ohio 4-H projects served the vital purpose of introducing children from the 1980s and 1990s to the information that scientists used. Thus, 4-H agents laid the foundation for future scientific achievement in these youth. Another project which dealt with the same concepts, but in an even easier to understand manual, was "Fun with Flight," also by Robert Horton.\(^11\) This book broke apart the difficult scientific words encountered in "Rockets Away" and applied them to airplanes and paper projects. Because Ohio 4-H professionals believed firmly in spreading scientific knowledge in the 1990s, they wanted to start science education at an early age in order for children to develop key concepts for later projects.

Not only did Ohio 4-H agents recognize the need for space education during the Cold War, but they also maintained their commitment to spreading knowledge about the natural world to non-farm youth through project material. Dr. Robert Horton created an instruction manual on this topic to teach youth about how fish survive on earth, which

\(^9\)Robert Horton, “Rockets Away!,” (Ohio State University Extension, originally 1990s, revised 2006).
later became a popular project in Ohio titled “Fishy Science.”\textsuperscript{12} By completing this project, youth gained a “hands-on approach to learning about fish,” which helped them to understand that their science skills were growing.\textsuperscript{13} Not only was this project appropriate for individual use, it was encouraged as a classroom manual that engaged children in more interesting learning. Teachers could implement the experiments in the curriculum to supplement scientific concepts that they had already taught in the classroom. These projects had a goal of teaching self-sufficiency, while connecting non-farm youth to the earth, even if they had no prior experience with life on the land. Thus, “Fishy Science” became a way to meet the new science focus of Ohio 4-H in the 1990s and helped build school-enrichment relationships between 4-H and the local school districts.

Another project that Ohio 4-H professionals adapted from national curriculum and utilized in the state was “Acres of Adventure,” which also was a hybrid between individual and classroom projects. Again, Robert Horton created an instruction manual to “promote agricultural literacy among young people during out-of-school time while developing their understanding, appreciation and application of science through a variety of hands-on agriculturally based activities.”\textsuperscript{14} By interesting children in science through fun activities like “Tower Transmission,” where youth built a tower to demonstrate how a GPS would work on a farm, Ohio 4-H worked toward the overall goal of the national STEM movement.\textsuperscript{15} If children in Ohio 4-H could gain the skill set and necessary motivation in science early, then they could later become the future scientists that the

\textsuperscript{13} Horton, “Fishy Science,” 2.
\textsuperscript{14} Robert Horton, “Acres of Adventure,” (Ohio State University Extension, n.d.), 1.
\textsuperscript{15} Horton, “Acres of Adventure,” 42.
United States was so desperate to have. However, if children were in a classroom that did not receive school enrichment attention, or they had no interest or ability to join a community club, they unfortunately were unable to benefit from these programs. Again, the main issue with Ohio 4-H was its inability to reach all youth, due to the sheer variety and scope of projects and programs that agents presented only once before moving on to the next program.

Finally, Ohio 4-H projects aimed to teach youth about more than just agriculture and space in their science curriculum through science classroom projects for children on the dangers of certain aspects of American culture. One Ohio project, the “Tobacco Risk Awareness Program,” combined science and social prevention initiatives to help teachers instruct about the dangers of tobacco use. This tobacco project not only presented reasons to avoid tobacco, it also provided scientific evidence and had various hands-on activities to supplement the presentation of this evidence. Author Cynthia Wallace described the project as a curriculum package that integrated “tobacco risk concepts into easy-to-use science-based lesson plans,” that helped students “develop the confidence and skills necessary for them to make the satisfying decision of just saying NO to tobacco.” Again, Ohio 4-H authors not only integrated scientific principles into their project books, they also embedded key youth development skills that led to better civic and leadership involvement in their community.

These Ohio projects, whether they were originally created in Ohio or adapted from the national level, combined to provide a base science knowledge for youth. In

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17 Wallace, p.1.
addition, they were an excellent foundation for another initiative in Ohio 4-H--citizenship and leadership. Projects and manuals that built scientific knowledge and expertise served to instill in youth a sense of pride, knowledge, and physical/mental ability. Because children reported that they gained confidence doing projects, Ohio 4-H officials thought they were a great way to improve youth's chances at succeeding in school and, later, in their careers. From the time that Albert Graham revolutionized youth experiences in 1902, his tradition continued to lived on through Ohio project innovation that contributed to the national 4-H program's success. Career development was essential in the 1980s and 1990s, and Ohio 4-H agents were pivotal in promoting careers in science, mainly through their innovative projects.

**Civic Responsibility, Leadership Development, and Societal Problems**

Projects and school enrichment were only two of the methods that Ohio 4-H professionals utilized in their outreach to youth. Because of a growing “youth at risk” population, the Ohio 4-H organization also had to adapt to offer better workforce preparation. Although they received this goal from the national level, colleagues in Ohio 4-H combined their skills and knowledge to prepare several workforce preparation programs that met the unique needs of Ohio youth. Judy McKenna, a Penn State University extension professional, clarified this problem: “Young people matriculating in schools will require career skills in addition to formal education... More than one-third of our nation's youth between the age of 16 and 23 drop out of school.... We can no longer expect to have one job, work for a single employer, or use the same skills or knowledge
throughout one's lifetime.” Not only did the Ohio 4-H organization concentrate on career building, but its agents also desired to change from a focus on community service as an end in itself to learning from others while helping. Allan T. Smith, a national 4-H program leader, stated,

For more than 70 years Community Service has been an important part of 4-H. So has hands-on, learning-by-doing, that we now call experimental learning. When you put those two ideas together appropriately, the result goes beyond a 'feel good' experience: service activities tied closely to what youth are learning positively impact learning, and genuinely help the community.

By combining community service, leadership, and career exploration, the Ohio 4-H program expanded with the initiative of reaching a socioeconomically and geographically diverse audience. Children had to learn increased skill sets, and 4-H provided the perfect opportunity for Ohio youth to develop their leadership, citizenship, and career skills.

Demographics and Motivational Tools

On a national level, youth crime and juvenile delinquency rates continued to rise from the 1980s through the 1990s, and youth programs struggled to meet the need for children's development and improvement. According to Lisa Brown, who researched youth at risk in the 1990s, “Times of unsupervised activity between the hours of 3:00 p.m. and 7:00 p.m. dramatically have increased since the 1980s with more single-family households and two parents working outside the home. This time period of unsupervised

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19 Allan Smith, “Beyond 4-H Community Service... to Community Service Learning!” (Cooperative State Research, Education, and Extension Service, 1997), p.3.
activity stimulates among teens the opportunity for mischief and delinquent behaviors.”

According to this same study, the same youth who were “latchkey kids” in the 1980s were now the youth at risk in the 1990s, and national and Ohio 4-H had to find ways to motivate youth into staying in activities that would decrease their odds of acting out violently. Brown cited the main reasons for children acting out in the first place as “boredom, lack of leisure, literacy; and the absence of positive, caring role models, parents or others.” Ohio 4-H professionals took their knowledge of these social ills and developed after-school and school enrichment programs with the goal of teaching children to make more responsible decisions, and they created specialized camps for Ohio youth to motivate them to stay in 4-H and out of trouble.

*After-school Programming and In-School Enrichment*

Because extension agents for Ohio 4-H knew that meetings were increasingly difficult for members to attend, as a result of changing family and social structures, they had to get creative to ensure utmost retention of 4-H members. Sometimes they used already existing programs, such as stimulating national project material, but other times they used homegrown activities. Research on both the national and state level contributed to discovering the dilemmas 4-H faced in the 1980s and 1990s. Although 4-H agents recognized the need for preventative after-school programs that met the need of youth at risk, how could they make agricultural or 4-H content relevant to all children? Robert Horton, author of “Nurturing Scientific Literacy Among Youth Through Experimentally Based Curriculum Materials,” noted, “Most curriculum developers agree that content

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should be organized by going from the learners’ immediate environment to a more distant environment, that is, content should be organized so that the concrete is experienced before the abstract.”

4-H authors knew that they had to find material that was applicable to most children in a classroom, and then they could tie it to agricultural subjects that would introduce youth to 4-H.

One national program that Ohio 4-H utilized was the 4-H B.E.S.T. Program, of Building Esteem Through Science and Technology. The entire goal of this project was to engage children in experimental learning that would introduce them to subject areas familiar to 4-H, like the “Go For the Gold” section, which emphasized math and geology. Through team work, children competed to identify and gather rocks, which was similar to activities in other 4-H project books, except that it provided children with the unique element of group work. Because 4-H projects typically only applied to one person, this section gave youth the chance to share in 4-H learning. Originating in Tennessee, this curriculum brought science to children through hands-on activities that tried to address both the youths' interests and scholarly topics. The previously mentioned “Youth at Risk” national initiative awarded the BEST creators a grant in 1992 so that they could develop a unique program for K-6. BEST serves as a prime example of how interactive scientific 4-H projects attempted to develop structured, classroom appropriate content, with the goal of keeping children active during problematic after-school hours.

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24 Whitaker, Activity 14.
25 Whitaker, 1.
In the 1990s, extension agents all over the country created similar types of units, and they all had the same hands-on, experimental approach. From projects like “Fishy Science,” to “Environmental Education,” to “Rockets Away,” Ohio 4-H agents borrowed ideas and modified them to be appropriate to most socioeconomic groups in the state. Every time Ohio State University Extension professionals wanted to utilize an already-existing national project, they went through the state curriculum committee to modify it for Ohio needs. These units came from a desire to supplement youth learning in the classroom, and not to replace it. Most of the participating children could not make it to regular 4-H meetings, so after-school and in-school enrichment enabled them to participate in 4-H even without access to traditional meetings. As the nation turned to emphasizing science and math inside and outside of the classroom, Ohio 4-H modeled its project content on this national initiative. One after-school curriculum guide, “Science Alive in the Classroom,” mentioned that “more and more elementary and middle school classrooms across Ohio are becoming involved in 4-H school enrichment programs... The programs are designed to enhance existing classroom science units.” Ohio pioneered this material, which included lessons on aquatic life, water use/cycle, rocketry, tobacco-risk education, and space science, all designed to supplement the overall science theme of the 1980s and 1990s. Horton, the researcher who wrote the curriculum for this unit, stated, “Ohio's 4-H school enrichment programs are part of a national 4-H initiative to improve science education in the classroom by helping teachers become better non-

26 Betty F. Crum, compiler of “4-H & School Curriculum,” (Ohio State University Extension, 1990s).
formal educators of science and by helping students understand and apply science-related subject matter and skills.” These school enrichment programs brought classroom project ideas to teachers, with little to no cost to schools, except for the cost of physical materials. Ohio also created some other after-school science programs, which included *Breads of the Harvest* and *Chick Quest*, both of which took fun science material and melded it to the structured environment of the classroom. While *Breads of the Harvest* lets children learn the art of making bread in a classroom, *Chick Quest* taught youth how to analyze chicken cycles, from egg to chick, using poultry that 4-H agents brought classrooms. Ohio 4-H professionals organized these units and later produced them for the rest of the nation, making Ohio once again a pioneer in after-school achievement.

Not only did 4-H agents produce classroom units, they also conducted training sessions and betterment programs in local schools. In Clinton County, Ohio, in 1990, extension staff taught both students and teachers about cholesterol and its importance to teens who make unhealthy food choices. In just one demonstration, over 120 students tested their cholesterol and learned about appropriate nutritional decisions as a supplementary activity to the subjects they had learned about in health class. Another teen improvement project, titled “Teens, Choosing to Make a Difference: Healthy Life Style Choices,” from Brown County, Ohio, “aimed [to make] teens aware of the importance of healthy lifestyle choices.” The resource book included “topics on self-esteem, tobacco,

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29 Horton, p. 2.
drugs, alcohol, nutrition, teen pregnancy, [and] safety in adolescence.” This program was unlike structured units and casual testing and answer sessions; rather, it provided a resource book for youth should they choose to learn more about important nutritional topics. All of these school enrichment activities that Ohio 4-H produced served to create more opportunities for youth outside of agricultural environments to gain knowledge and value from 4-H programming, without belonging to a 4-H club. Because these projects adapted to all youth, they encouraged children to either join or stay in 4-H, even if they did not have a direct connection to agriculture.

**Addressing the Differences among “Youth at Risk”**

Ohio Extension officials encouraged 4-H leaders during the 1990s “Youth at Risk” movement to focus on troubled youth and retention in the 4-H program. It was through this initiative, they believed, that children could get the most out of school enrichment and club activities. Linda Blackford, who investigated how Girl Scouts and 4-H changed to adapt to the varied socioeconomic conditions of their members, stated, “Beginning with tomato- and corn-planting clubs for farm children at the turn of the century, 4-H is the youth arm of the extension system... Today 4-H offers youth a lot more than canning tips and preparation for farm shows.” In order to prevent youth delinquency, 4-H had to develop interesting projects for inner city and rural youth that would engage them in after school activity. Blackford quoted Christie Phillips, spokesperson of the National 4-H Council in 1997: “Kids are as isolated in urban

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environments as they are in rural environments... If you look at 4-H statistics, only 12 percent (of our members) live on farms.”

It would be this social separation that caused the majority of juvenile crime in the 1990s, and 4-H proved to be one of the pivotal organizations to fight that trend. Former President Bill Clinton acknowledged this fact in a speech in 1995, stating, “You know, if every kid in the inner cities in this country belonged to 4-H, we wouldn't have much of a crime problem...”

Even at the national political level, people had begun to notice that 4-H had become a force in improving all kinds of youths' problems, and they continued to do so throughout the 1990s.

Many different kinds of youngsters were drawn to Ohio 4-H, and the Ohio 4-H organization considered a variety of them to be “youth at risk.” One group of children were ethnic minority youth, and they primarily learned about 4-H through in-school and after-school enrichment. Dr. Marilyn Spiegel, author of *Youth at Risk Impact Study: Twelve Ohio Counties*, mentioned the top three risk factors for youth as “poverty, lack of family support, and negative peer pressure.”

During the 1980s, the United States Department of Agriculture had asked researcher Jamie Cano to conduct a study of minority youth in Ohio, which found that Ohio 4-H drastically under served ethnic minority children. As a result, members of the Ohio 4-H organization made a conscious recruitment effort toward children in this category. By helping ethnic minority children

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35 Blackford, p.2.
36 Bill Clinton, “Youth at Risk,” speech given at Montana State University, http://4-
historypreservation.com/History/4-H_Quotes/ (May 1995).
gain new life skills, 4-H programs tried to give them a better chance at an improved future.

Extension agents accomplished this task in multiple ways; first, they sponsored events that would appeal to youth in diverse geographic and socioeconomic categories. When he surveyed them, Cano found that “youth in one urban area were unusually interested in the speaking contests and demonstrations because of the leadership skills and self-confidence promoted by the events.” Because these events were not agriculturally based, youth from all areas could potentially enjoy these projects. These projects and events also helped develop the national 4-H organization's overall initiative to save youth at risk. One way to help escape problematic life situations was for ethnic minority children to find ways to gain self-confidence necessary to overcome the barriers to their own success.

Another method to reach minority youth was to expose them to a life that they had never experienced. As Cano noted, “Urban youth also expressed a desire to learn more about farming and farm animals which are inaccessible to them.” Although these children may have seen evidence of agriculture on television, most of them had never had direct contact with the fresh produce or animals that one would find on a farm. Many of them admitted that agricultural visits and project work kept them away from juvenile delinquency during the times that they were engaged in the group work. By introducing urban children or ethnic minority children to lifestyles and traditions unlike their own, 4-

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39 Cano, 26.
H programs offered them a way out, even for just a short time, of the conditions in which they lived. Unlike traditional 4-H members of the past, most ethnic minority children did not often grow up with strong ties to or knowledge of agricultural life. Also, even if their usual visits never resulted in youth considering agricultural professions, they knew that there were areas in which hard work culminated in a positive outcome.

Farm opportunities were valuable for introducing at-risk youth in Ohio to the way of life that other children experienced, but they were not always a concrete way to prevent discrimination. Old biases and stereotypes plagued judgments, project work, and even farm visits. Cano also found that “project offerings should be reviewed to provide equal opportunities for nonfarm youth in competitive events with projects other than farm animals.”

Many of the children who participated in the Ohio survey mentioned that they felt separated from farm youth, and they did not feel as appreciated in the 4-H organization as rural youth. One location where they felt this indifference was the Ohio State Fair, because not many minorities or socioeconomically impaired youth were able to attend. Cano suggested that Ohio 4-H could fix that problem by allowing more funding and judging opportunities to people from all backgrounds. During the 1990s, Ohio 4-H was admittedly doing a great deal to reach out to disadvantaged youth, but the organization had to expand its programming, judging opportunities, and ethnic minority participation in order to truly become a group that appealed to all members of society, regardless of background.

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43 Cano, p.29.
Finally, Ohio 4-H reached out to ethnic minorities and other at-risk youth by increasing advertising that promoted racial and economic equality. Cano found in her study that “the parents concluded that the advertisements depicting 4-H programs did not generally include minority youth, nor were they written so that urban parents could understand program offerings.” Because of this perceived inequality, Ohio 4-H members, their parents, and the general public potentially only saw 4-H reaching one narrowly targeted group. However, Ohio 4-H joined the national initiative and began a special youth at risk campaign targeting ethnic minorities. In the 1993 Youth at Risk Conference in Maryland, there were several sessions dedicated to reaching volunteers and members that belonged to high risk backgrounds, both urban and rural. Committed to sharing national information about how to reach at-risk youth, Ohio 4-H agents took this knowledge and applied it to the youth in their state. The effect of this campaign was obvious in a 2000 study by a research team at Kansas State University; 97% of Ohio 4-H members believed that “all kinds of kids are welcome in 4-H,” and 90% felt like differences were well accepted between 4-H'ers. Whereas previously children had felt separated by gender and geographic location, they now had the opportunity to feel connected. With increased advertising, attempted better socialization among children of different socioeconomic levels, and increased knowledge of agriculture for urban youth, Ohio 4-H broadened its appeal to many more members throughout the 1980s and 1990s.

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44 Cano, 27.
Building Better Families

Ohio 4-H professionals had to address basic needs that contributed to youth’s at-risk behaviors, even before workforce preparation, through increased programming on nutrition, prevention initiatives for teen pregnancy and drugs, and heightened after school enrichment in order to offset growing societal problems in the 1980s and 1990s. Judy McKenna, a Penn State University extension professional, also mentioned that some of the leading risk factors for youth were low grades, attendance problems and drop outs.47 One of the most at-risk populations were girls who became pregnant during their teenage years. Ohio 4-H made reducing teen pregnancy one of its highest priorities and handed out multiple grants throughout the state to lower the teenage pregnancy rate. According to the 1997 Athens County Children, Adult and Family First Council report, one of the main teenage pregnancy problems was that teens were having subsequent babies after the first birth. The report noted, “Subsequent births to Ohio teens remain high. In 1993, over five thousand or 23.79 percent of the 21,110 births to teen mothers between the ages 15 to 19 were subsequent births.”48 But what could Ohio 4-H do to help this systemic problem? Relying on their history of enrichment in other areas, Ohio 4-H extension agents knew the key to this issue was building youths’ self-esteem and worth. Clearly, youth groups needed to confront the rising number of teens who were engaging in youth at risk behavior, and the 4-H organization thought it could help through intervention, educational sessions, and supporting other programs that arose to deal with teen pregnancy.

47 McKenna, p.1.
Athens County Children, Adults and Family First Council conducted one study regarding prevention of teenage pregnancy in Ohio; in this study, council members looked for reasons why Athens County was particularly at risk for teenage pregnancy. One factor was the economy; Athens County was the poorest county in Ohio, with over 32.5% of the population below the poverty line in 1996. Other risk factors included uneducated mothers of teen moms, being a victim of physical/sexual abuse, lack of religious activity, and becoming sexually active at a young age. But what could 4-H in Athens County do about these numbers? Because of its already in place school enrichment outline, 4-H could implement sexual risk prevention practices into predesignated course outlines. The local extension office partnered with several Wellness Grant recipients and encouraged in-school activities, such as the “Baby Think It Over” dolls. An educator at Federal Hocking Local Schools introduced teenagers to the dolls, donated by Ohio University's College of Osteopathic Medicine in 1997, and found that “all of the girls... mentioned the responsibility they had when they were carried [sic] the dolls, the inability to get other tasks done, the lack of sleep and their difficulty dealing with the doll's crying.” As a result of the hands-on nature of the program, which Extension modeled on its pre-existing school enrichment programs, teens had the opportunity to gain valuable, personal information on what it would be like to be a mother.

49 Athens County Pregnant and Parenting Teen Profile, (Institute for Local Government, May 1997), p. 27.
Various 4-H programs partnered with other agencies to try to prevent teen pregnancy, and they also sought to stop abuse of children after they were born to teenage youth. An application for one Wellness Grant stated, “The relationship that forms between parent and child during the child's first three years of life lays the foundation for the young child's social and emotional growth and initiates enduring patterns.” Because teenage mothers already faced social stigma because of their condition, Ohio Extension chose to partner with other organizations to at least make sure that these mothers could find safe play environments for their children. Although this grant, and its subsequent program, were not officially under 4-H auspices, they still had extension assistance, under the justification that what affects children at risk would naturally fit under the 4-H structure. Just like 4-H, this group would “provide children with learning experiences they most likely would not receive regularly in their home.” As a result, this early intervention program, and the many more that partnered with various county extension offices in Ohio, served the same purpose as school enrichment programs; because 4-H could intervene in these ways in lower income families' lives, they could improve youth education and introduce them to their projects.

Focus on Career Development

From all of their experience with school enrichment and risk prevention programming, Ohio 4-H agents knew that they had to create better workforce and life skills in their youth if they were to succeed in life after 4-H. Because the majority of 4-H members were not going to become farmers, Ohio 4-H members had to experience other

53 Vaughn, p.1.
job opportunities in order to discover what they wanted to do for their adult occupations. In 1985, Janet Matulis, author of “Perceptions of 4-H Alumni from Four Ohio Counties Concerning the Impact of 4-H on Their Career Development,” found that an overwhelming number of “graduated” 4-H youth believed that 4-H was essential in dictating their workplace choice.54 Matulis noted, “Over one-half of the respondents perceived that 4-H had much or very much impact upon their learning that things they enjoyed doing or things they did well could lead to a career.”55 Ohio 4-H agents and leaders helped foster this idea by taking children on field trips to various jobs, focusing on career-related projects, and teaching youth how to build leadership experience through groups such as Junior Leaders, Carteens, and other 4-H interest groups.

Carteens began in 1987, under the careful leadership of Becky Cropper in Brown County, Ohio.56 It was an excellent example of how Ohio 4-H extension agents again locally launched a program that later spread across the entire state, followed by the nation. Kathryn Pepple, author of the Ohio Carteens background webpage, noted, “Ohio 4-H CARTEENS has proven to be a valuable tool in educating Ohio’s teen drivers and saving lives on Ohio roads.” As she noted, from helping others, “teens also gain leadership, public speaking, and organizational skills.”57 Ohio teens did so by researching safe driving practices for law enforcement officials, conducting meetings, creating presentations, and discovering a new career possibility through their tutelage with the

55 Matulis, p.4.
57 Pepple, 1.
State Highway Patrol. This program flourished throughout the 1990s, and it became an effective method to partner teens with future career possibilities, in addition to fostering critical thinking and career skills.

Another innovative Ohio 4-H program that built leadership and gave teens critical career connections was the Ohio 4-H State Ambassadors program. Developed in 1995, this group gave teens the chance to lead state fair shows, develop career connections with top-ranking 4-H officials and high profile donor companies throughout the state, and travel the state to discover new places.\textsuperscript{58} The job description on the Ohio 4-H State Ambassador's website, notes, “Ohio 4-H Ambassadors are the youth spokespersons for Ohio 4-H. Each year outstanding 4-H teens who demonstrate excellence in 4-H achievement, citizenship, and leadership earn invitations to become Ohio 4-H Ambassadors.”\textsuperscript{59} Because Ohio 4-H agents considered 4-H Ambassadors the leading examples of excellence in 4-H, teens had to accomplish great success at the county level before even considering competing at the state level for an ambassador position. As a result, many of these teens participated in leadership opportunities at the county level that built their career skills, and they participated in a number of diverse projects to gain the breadth of knowledge and accomplishment to qualify for the state award. In order to become an ambassador, Ohio youth had to be “tremendous role models who maintain the highest standards of excellence as they fulfill their 4-H pledge commitments of clear thinking, great loyalty, large service, and better living to make the best better in their

clubs, communities, country, and world.”60 Again, this program only reached a hundred or more children each year, in comparison to the thousands enrolled in 4-H. However, it still served as both an incentive for teens who participated to thrive in 4-H and a way for Ohio 4-H professionals to showcase youth in their state.

With Carteens and Ambassadors promoting career development throughout the 1990s, Ohio youth became highly educated in how to build their resume with excellent leadership and skill-building activities. In the Miami Valley region of Ohio, 4-H educators took another approach to fostering job and life skills; they partnered with Tech Prep, a program run by a consortium of community colleges, to introduce teens to various occupations available in the area. Tech Prep offerings included allied health technologies, automotive technology, computer support technology, electronic engineering, industrial engineering, environmental technologies, and business technologies.61 Because of rising internet usage, children using the computer for educational advancement, and the rise of internet help sites for consumers, the technology sector needed experienced labor.62 Consortums like Tech Prep seized the opportunity to train hundreds of youth for the technology field.

Tech Prep was not the only group to take advantage of the chance to train youth for their future careers; Kids on Campus, in Athens County, Ohio, also organized to give at-risk youth a better chance after they graduated high school. Although it originated as a

60 Hast, 1.
summer day camp, Kids on Campus also extended into five local school districts as a school enrichment/after-school program. Kids on Campus accomplished its goals of preventing at-risk behaviors by providing youth with nutritional information, school and homework help, and educating children on possibilities in the job sector. In their 1997 Kids on Campus School-To-Work Proposal, organizers declared their mission: "Kids on Campus is an expression of the community's belief that our children are our greatest asset and our future. This program is an attempt to break the cycle of poverty by raising the goals and expectations of all the participants. We hope to instill a vision in each of our children." 4-H educators in Athens County assisted Kids on Campus throughout the late 1990s with advice on administering school enrichment programs and by providing personnel. In addition, Kids on Campus's nutritional goals spoke to the larger 4-H goal of providing healthy living to its members. Because of 4-H agents' longtime experience with after-school and in-school enrichment and career development, Kids on Campus professionals had an excellent ally. Extension professionals frequently reviewed their materials and gave suggestions for programming. By having a program like Kids on Campus, the Athens area was able to have a foundation for its 4-H program to build upon throughout the rest of the year.

While neither Tech Prep nor Kids on Campus were specifically 4-H-sponsored, Ohio 4-H professionals aided them in their mission because of their own extensive knowledge in workforce preparation programming. Not only did 4-H offer teen building activities like Carteens and Ambassadors, but it also offered excellent resume building

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experiences in the 1990s through its “Ohio School-to-Work” initiative. The collection of businesses that sponsored the School to Work initiative outlined its mission as "preparing our youth for successful entry into the world of work-- and... instill[ing] in each of them a desire for lifelong learning." Because businesses and non-profits, like 4-H, partnered in this program, youth were able to apprentice at a number of different occupations. This plan conformed with Ohio and national 4-H goals of increasing the odds that youth at risk would succeed after high school and would improve their sense of self-worth. Some of the specific goals of School to Work were to "reduce dropout rates,” allow students to “participate in improved, real-world professional development opportunities,” and to “increase college placement and employment rates of graduates.”

As a result of getting regular access to the business world, 4-H and the School to Work initiative instilled in teens the belief that they did have the skills necessary for life after their formal education.

Finally, Ohio 4-H staff implemented several projects to supplement the hands-on job training that youth gained in the 1980s and 1990s. A 1994 Ohio 4-H project book, titled *Teen Leadership on the Job*, outlined a project for youth who wanted to apply 4-H concepts to their career development. Its mission statement declared, “This project is designed for teens who are employed, who want to develop knowledge, attitudes, skills and aspirations for 'Making the Best Better' on the job, and who want to succeed in attaining their personal goals and objectives and those of their employers.”

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65 Ohio School-to-Work, 6.
66 Christy Leeds and Tom Archer, “Teen Leadership on the Job,” (Ohio State University Extension, 1994),
of this book required that youth initiate leadership, engage in stress management, conduct time and money management, and develop work ethics. Teens could complete this project on their own, but they could also work as a team in a group setting. A series of activities ensured that teen youth in Ohio would look internally to identify their strengths and weaknesses, and then utilize job opportunities to experiment with their career skills.

The Ohio 4-H organization had a larger agenda for improving teens' civic responsibility and leadership than just increasing their workforce experience; Ohio 4-H professionals also established a youth mentoring project that fostered peer improvement and practice for work related conflict. The project book created by Sharon Strouse in 1994 was entitled the “One on One 4-H Teen Mentor Project.” In it, Strouse encouraged Ohio teen 4-H members to mentor first year 4-H members: “You are a capable teen. What you have learned from past experiences are valuable lessons to pass on to young members.” By telling youth that they were strong and knowledgeable about life and 4-H, Strouse empowered teens to engage in mentoring. Mentoring not only helped the first year members; it also helped teens gain valuable experience in sharing the strategies that had helped them succeed.

All of these projects, plans, and skills building sessions combined to help Ohio 4-H teens have a better chance at workforce preparation. By assisting children in gaining these critical life skills, the Ohio 4-H organization contributed to the larger national government and extension trend of focusing on youth-development in the workforce

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67 Leeds and Archer, p.2.
69 Strouse, 7.
during the 1990s. School-to-Work initiatives provided an excellent opportunity to have teenagers experience the workplace, while still learning critical leadership through 4-H. Impressively enough, most of these efforts came from Ohio, which was the state that contributed the most to establishing the national 4-H organization. This hard work in building their resumes, developing workforce skills, and completing projects all led up to the best part of 4-H for most youth in Ohio: Camps and award trips.

Camps and Award Trips

4-H camps were, and continue to be, a powerful motivational tool for youth to become involved in 4-H. These camps are almost as old as 4-H in Ohio itself, as they began in 1919; today, they facilitate programming for over 60,000 youth nationally. By cultivating traditions at various sites throughout Ohio, these camps motivated children to come back, year after year, to share in the same experiences with their 4-H friends. Jason Hedrick, who has written extensively about 4-H camps, noted that “camp provides the forum for children to discover and explore their interests, values, and talents.” Polling parents, Hedrick also found that 70% of them said that their child showed greatly elevated self-esteem as a result of camp. Also, female campers seemed to improve even more than males. Even though his study was conducted in the 2000s, Hedrick’s findings were relevant to participants in the 1980s and 1990s. Many current extension staff received an interview questionnaire for this thesis, and the overwhelming majority of

72 Hedrick, p. 3.
them listed camp as one of the positive memories they had from their time in 4-H in the 1980s and 1990s. Many of the respondees to this questionnaire shared in Hedrick’s outlook about the importance of the camp experience.

Women such as Barbara Wood Salyers, an active 4-H participant in Ohio in the late 1960s, used 4-H and its traditions to help form their identities in their adult lives. Salyers became a home economics teacher after finishing college, and she eventually went back to seminary to become a minister. Salyers believed that “the leadership skills [she] learned in 4-H [have] helped to make [her] who [she is] today.”73 These skills and traditions taught at camp transfer across generations; Salyers’ daughter now attends the same camp, where little has changed over the years. She reflected, “When I took my oldest daughter to camp at Tar Hallow… I felt like I had entered a time warp. Many things had not changed. The camping program [she] experienced was almost the same I experienced. My girls are growing up singing the same camp songs I did and they love that we sing them together.” In the 1980s, these unique qualities of camp were enhanced by extension agents' efforts to make sure that all 4-H youth would come to camp, instead of just those children who were from farms. Because 4-H camp had been a tradition among agricultural youth, they needed to ensure other children still felt included in one of the best experiences 4-H had to offer. Thus, camping became a way to promote youth staying in 4-H, not only because it was a fun experience, but because it also became a way to connect with multiple generations of family members.

73 Barbara Wood Salyers, Online Personal Interview, 13 January 2011.
Because of their popularity, camps were a primary focus of 4-H throughout the 20th century, but there were also particular rehabilitation projects that emerged throughout the 1980s and 1990s to fix some camps that were starting to become outdated. One camp, Canter’s Cave in Southern Ohio, faced a challenge dealing with economic and physical problems that had developed since its opening in 1950. Because 4-H believed that any community effort had to come from its members first, two extension agents organized a meeting with local resident Robert Evans, founder of the restaurant chain Bob Evans, and asked if he would be willing to donate. Outside donors have long assisted 4-H in its mission to better youth, and he gave $250,000 to the cause. With his help, they succeeded, and Canter’s Cave was revitalized in the beginning of the 1980s. This project is just one example of how 4-H addressed a problem, by engaging local community members, to teach valuable leadership skills to the children involved. Camp, once again, was a motivating factor for youth action.

Camps are and were not just associated with general activities; there were also some subject-specific camps developed in Ohio and throughout the nation. One such camp, Ohio 4-H Aerospace Adventure Camp, was created in the 1990s in Ohio as a way to work with an external partner to create a unique learning environment for children. Researcher Kenneth Lafontaine noted that, because of rising financial difficulties from the mid-1980s through the 1990s, extension staff had to find outside resources to help enable children to attend Ohio 4-H camps. In the case of the Aerospace Adventure Camp,

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75 Plymale, p.2.
Ohio Northern University partnered with the Ohio State University Extension team “to provide an exciting learning experience for middle school aged youth where they would learn about space and flight in a fun atmosphere.” Much like the nation at large, Ohio 4-H also chose to use its camps to promote the national incentive of science development, and to motivate teenage youth to remain in 4-H. By 1995, over 240 youth had participated in five Ohio Aerospace camps, and researchers found that all of them described the camp as “both personally and educationally exciting.” Camps such as this one significantly aided 4-H with retention.

Another 4-H retention method, particularly effective with urban or socioeconomically challenged youth, was to reward 4-H members with award trips and scholarships. From the late 1970s on, opportunities such as Sea Camp, shooting sports, and sports fishing added to 4-H’s already diverse program. These projects and trips increased retention by providing another way to meet the many varied interests of children from diverse backgrounds. Jamie Cano, head author of a project studying minority youth participation, said that “youth indicated that many of the 4-H activities were meaningful and educational. The awards and recognition program helped to build self-confidence while making youth feel good about themselves.” Camp managers also consolidated 4-H educational projects into the week that campers were there; for instance, campers at Ohio Conservation Camp learned about the “interdependence of

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77 Lafontaine, 2.
78 Lafontaine, 2.
80 Cano, p. 25.
land, water, forests and wildlife” and took that information to make their own land
development plan for a fictitious 160 acre plot.  

Not only did children have the
opportunity to experience saw mills and other interactive, hands-on activities that allowed
them to utilize their knowledge, they also gained critical thinking skills by developing
their own land. Much like the school enrichment programs, camps often used resource
books to plan their week and had children practically demonstrate their knowledge with a
presentation.

Conclusion

Ohio 4-H revolutionized how the 4-H organization responded to national
government initiatives of science innovation, reducing youth violence and other social
problems, and increasing leadership among teens. When Franklin Graham set up a Boy's
and Girl's Club organization in 1902, he also established a program that was adaptable to
meet the needs of shifting socioeconomic, ethnic, and geographic populations of children
throughout the late 20th century. As a result, Ohio 4-H is still thriving today, with over
317,000 youth participating in its school enrichment programs, clubs, and other
leadership opportunities. Of those children, only 15% come from farms.  

Because of
Ohio 4-H professionals' ability to adapt to changing demographics and priorities, 4-H in
Ohio stayed relevant throughout the end of the 20th century and well into the 21st
century.

81 “Meigs Youth to Attend 4-H Conservation Camp,” The Daily Sentinel (3 July 1985),

82 Jim Elder, “Ohio 4-H statistical report 2010,” (Ohio State University Extension, 2010),
<http://www.ohio4h.org/about/documents/Ohio%204-H%20Statistical%20Report%202010.pdf>.
EPILOGUE

With national and Ohio 4-H adapting to ongoing change throughout the 1980s and 1990s, there was little doubt that these organizations would have a lasting impact beyond the 20th century. The 4-H organization still holds an important place in today's society, with its ever-expanding programs in schools, project work, and program planning for specific populations. Youth still get into at-risk situations, and there is an ever-rising rate of divorced parents and latchkey kids in the 2000s. As a result, 4-H professionals can still teach valuable civic responsibility, leadership, and career development through science and other topics to children who may need a strong after-school environment.

The Revolution of Responsibility is the most recent civic responsibility campaign that has similar strategies to the "Youth at Risk!" campaign of the 1990s; however, it goes further and recognizes excellent youth achievement. Instead of preventing and correcting problems, Revolution of Responsibility highlights children in 4-H who have used skills and ideas from their projects to do good works in their communities.¹ According to the author of its website, "4-H youth are a living breathing, culture-changing revolution for doing the right thing, breaking through obstacles and pushing our country forward by making a measurable difference right where they live."² By acknowledging youth who succeed, the mission of this campaign is to impress to other 4-H and non-4-H children that they, too, can improve their world by joining 4-H. One girl, Lindsay Binegar, has her own video on the website, and she tells the viewer about how, through years of showing

² 4-H Youth Development, “Revolution of Responsibility,” http://www.4-h.org/about/revolution/, (December 2010).
hogs, she was able to buy her own house and be self-sufficient at the age of 18.\(^3\) Two other teens in California, Savanna Stanley and Dayle Morris of the Ventura County 4-H All-Stars, cleaned up a wetlands area and organized over 600 4-H youth to help by utilizing their project knowledge and access to extension personnel experts.\(^4\) Another girl, Ashlan Wilson from Oklahoma, fought illiteracy by introducing a thriving book club group under the 4-H name with help from her extension agent.\(^5\) Because of this recognition program, many more youth may be inspired to continue in 4-H, and they can also understand that 4-H is about much more than agriculture.

The national 4-H organization also incorporates both technology and participant interaction with its Revolution of Responsibility program; on its website the organizers have a "Share Your Story" button where a user can submit an example of civic excellence and let 4-H leaders decide if it is worthy of being included on the website.\(^6\) In addition, youth can also sign up for updates via email, join on facebook, shop for merchandise on the 4-H website, and browse other children's stories. Extension agents can order toolkits, flyers, banners, and much more merchandise for promoting the campaign. All of these efforts serve to create a sense of connection, both with the website and the youth featured on it. The goal is for 4-H youth to feel motivated to stay in 4-H and demonstrate to their communities that they can make a difference because of their involvement in the

\(^3\) Lindsay Binegar, “My Hog Started a Revolution,” http://www.4-h.org/about/revolution/stories-of-responsibility/featured/lindsay/, (December 2011).
\(^4\) Savanna Stanley and Dayle Morris, “We fixed the wetlands and started a revolution,” http://www.4-h.org/stories-of-responsibility/Submitted-Stories/We-fixed-the-wetlands-and-started-a-revolution-/. 
organization. Promotional campaigns such as this one have shown great success; according to a 4-H 2009 survey on youth positive development, "4-H’ers – regardless of their background, socioeconomic status, race, and gender... [are] 2.4 times more likely to delay sexual intercourse by Grade 11, shown to have had significantly lower drug, alcohol and cigarette use than their peers, [and are] 2.3 times more likely to exercise and be physically active."\(^7\) Not only did the Revolution of Responsibility award member achievement, but, as this survey demonstrates, it ensured 4-H youth throughout the nation were better prepared for fighting off at risk behaviors. The national 4-H organization thus took the successful "Youth at Risk" theme for the 1990s and adapted it for a even more successful 21st century campaign.

The national 4-H organization is also continuing with its dedication to science, long after the Cold War. 4-H officials have separated the science curriculum into four main parts that emphasize the scientific issues facing both 4-H and non-4-H youth today; they include alternative energy, engineering and technology, plant and animal science, and 4-H National Science Day.\(^8\) These four categories also represent the variety of types of projects 4-H offers, such as veterinary science, beekeeping, animal projects, canning and freezing, and many more. Because 4-H curriculum incorporates current issues in science, it still appeals to a broad majority of its members. According to reporter Charmaine Ortega Getz, of the *Boulder Weekly*, "[4-H is] still an organization devoted to shaping a better future for tomorrow’s adults and encouraging community service."

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However, today’s members, mostly between ages 9 and 19, are as likely to come from the city as the country. The learn by doing’ adage has spawned a wide range of clubs within 4-H that focus on whatever ‘projects’ the members are interested in, from agriculture to web design, baking to filmmaking, firearm shooting to dance.\(^9\) Youth are drawn to 4-H for a number of engaging activities, science and civic opportunities, and its applicability to everyday life.

National 4-H Science Day began in 2007, and it is a program that introduces children to experiments, science fair competitions, and progressive scientific research. Each year, the national 4-H organization picks one experiment, and then tells children to conduct it at home. After they finish practicing, youth gather for one day to learn from acclaimed scientists and conduct the experiment in a series of teams, so that they also learn important team work skills in addition to the science curriculum. This year's experiment, for instance, was called "Wired for Wind," as part of 4-H's newest emphasis on alternative energy; in it, children built windmill energy from household items while learning about where they could utilize this energy in their own community.\(^{10}\) Building upon national 4-H's goal of civic responsibility, this experiment joined multiple initiatives of the organization. National 4-H Youth Science Day demonstrates a continued dedication to the principles first outlined in the 1980s and 1990s, and it will continue to bring children from all areas into an adapting and applicable organization.

Another key section of the national 4-H organization’s goals for science is its

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\(^{10}\) 4-H Youth Development, “2011 Wired for Wind,” http://www.4-h.org/4-h-national-youth-science-day/science-experiments-projects/.
alternative energy initiatives. The website for 4-H alternative energy provides a wealth of knowledge about solar, wind, and other renewable energy sources, and it connects these energy types to age-appropriate activities for 4-H youth. Any child with access to the internet can reap the benefits of 4-H science programming, without even necessarily being a part of a club. Because of its accessibility, this website could also be valuable to teachers, allowing 4-H to reach youth in classrooms and boost science enrollment, if children gain interest through teacher demonstration. One of the best parts of this new program is the 4-H2Online activity section. In this part of the website, youth can play games that demonstrate the effectiveness and vulnerability of the water cycle and it encourages them to take this information and create experiments on water in their own communities. This program combines the goals established in the 1980s and 1990s of utilizing technology, adapting to current science interests, and engaging youth in school classrooms. Once again, national 4-H changed to meet the growing needs of a diverse audience through its science curriculum.

4-H Engineering and Technology also gives children a unique opportunity to learn about increasingly important fields of science, while participating in hands-on activities that make complex topics in those fields more approachable for children. Through both a workshop on the engineering of film making and a detailed robotics program, youth develop practical ideas about useful inventions and then build them themselves with instruction from an advisor. Robotics competitions have gained increasing recognition

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12 4-H Youth Development, “Engineering and Technology,” http://www.4-h.org/youth-development-
and funding from the government and grants, and it is an exciting way to retain youth who benefit from construction-based, rather than reading-based projects. As is the case with alternative energy site, the robotics website offers youth an interactive exploration of why robots are useful, and how they can be adapted to be anything from a human-form robot to the more complicated drone style robot. Children learn exciting concepts about technology and computers, while also potentially developing interest in a future career. Previous 4-H organization initiatives emphasized technology, career development, and cutting-edge science, and current 4-H online materials reflect that ambition.

The last, and oldest, area of national 4-H science is plant and animal science, which emphasizes career training and agribusiness. Agribusiness, or the idea of making a farming project a profitable endeavor, is something that the current 4-H organization believes is for everyone, and not just children of farmers. The “Agriscience” curriculum on the national 4-H website outlines this idea of merging business practices of finance, bookkeeping, records management and agricultural innovation. Their mission statement reads, "The 4-H AgriScience curriculum has been created to cultivate the emerging study of biotechnology and business/economics in the agriculture industry through hands-on experiential learning activities and online learning courses for youth." When youth explore the website, they can experience several upcoming games that are to be released soon, in addition to a number of articles about successful biotechnology experts. Other parts of the website highlight species-specific projects for horses and dogs, in addition to a collection of guides for youth who want to become veterinarians. All of the science

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curriculum on this website serves to remind children of 4-H's agricultural background, in addition to utilizing technology in ways new to the 21st century, such as interactive gaming and youtube video collections.

Even with all of this new programming, there are still ways that the 4-H organization can improve. From the national and state levels, there is an earnest push for 4-H professionals to communicate with their respective populations in innovative and increasingly available methods. For instance, there is now a my4-H page that allows personnel to share ideas and successes with each other.\textsuperscript{14} While this website is now available, it is not often utilized because of limited marketing. In addition, there could be better updating and promotion of online features at the county level; in many cases, people are still used to accessing 4-H information in person, rather than checking a frequently updated website.\textsuperscript{15} By utilizing better marketing, 4-H could reach more youth with quicker methods on sites such as Facebook, Twitter, and youtube. Although many professionals are already on these sites, many youth are not accustomed to information through these means from the 4-H organization, so there needs to be an outreach campaign advertising 4-H's expanding influence in these directions.

The national 4-H organization, as mentioned earlier, is making huge strides in diversity building and reaching non-traditional 4-H members, but its agents could always look into more effective methods of outreach. Instead of focusing on the traditional club format, for instance, more emphasis could be on the after-school and in-school enrichment programs. Although 4-H personnel had switched to this type of programming

\textsuperscript{14} National 4-H Council, “my4-H,” http://www.my4-h.org/, (updated December 2011).
\textsuperscript{15} Crystal Ott, Personal Interview, 10 January 2012.
in the 1980s, there have been many set-backs in terms of funding for both school
enrichment and 4-H agents at the state and county levels. Thus, it has been difficult to
have the staffing necessary to go into schools, while still maintaining traditional 4-H club
work and competitions. However, if 4-H agents turn their focus to developing and
building a solid volunteer base, not in clubs, but in schools, they could save their energies
for programming, and have the adequate manpower for school enrichment. It is through
these programs that the 4-H organization can continue to build diversity and reach ethnic
minorities, through schools in which all children have to participate. Because these
children often cannot come to after school meetings held at advisors' homes, it is essential
to reach them in an environment where they are already attending everyday.

These innovative outreach techniques for the science portion of 4-H demonstrate
the ongoing emphasis in 4-H professionals' research for alternative and green forms of
energy. In addition, as in the 1980s and 1990s, the 21st century national 4-H organization
has made it clear in the 21st century that its personnel want children to develop an interest
in 4-H and science, as a bridge to making them better citizens, scholars, and candidates
for their chosen career field. By utilizing the most common medium of communication,
the internet, 4-H has spread to millions of youth's lives and introduced simple projects
and experiments that youth can do as a supplement to their 4-H projects in subjects such
as robotics and veterinary science. Today's 4-H organization touches millions of youth,
both at-risk and not, and it has the potential to reach into ever-expanding fields of science
and communication. Because 4-H professionals chose not to maintain their original
identity as a club for farm youth, they helped adapt 4-H into a multi-purpose entity that can serve youth in rural, suburban, and urban areas, with hope for an even brighter future.
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