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GLOBAL 4-H NETWORK: LAYING THE GROUNDWORK SURVEY

by

Jennifer Major

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Agricultural Systems Technology
(Agricultural Extension Education)

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ABSTRACT

Global 4-H Network:
Laying the Groundwork Survey

by

Jennifer Major, Master of Science

Utah State University, 2011

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Department: Agriculture Systems Technology and Education

A descriptive study examining 4-H programs in Africa, Asia, and Europe was conducted for the National 4-H Council. Program size, scope, structure, organization, and funding varied greatly by country and few of the programs were connected to a university, but many partnered with other 4-H organizations around the world. Program participants were found to be primarily male with few programs specifically for women. A list of content areas provided by the 4-H programs was also obtained and compared to top agricultural commodities in their country. Very few content areas offered by the country aligned with their major agricultural commodities even though programs were available in the United States. The Global 4-H Network has the potential to fill in these holes and provide additional opportunities to global programs.

(81 pages)

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Jennifer Major

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CHAPTER 1

INTRODUCTION

The Food and Agriculture Organization (FAO) of the United Nations (UN) has identified eight Millennium Development Goals (MDGs) and is working with the international community to achieve specific targets. These goals address problems of world hunger, illiteracy, environmental degradation, empowerment of women, and global partnership development (FAO, 2010). 4-H is positioned in many ways to assist in reaching many of FAO's goals through its agricultural science curriculum base, youth development process, and rural economic development capabilities.

4-H is a United States Department of Agriculture (USDA) sponsored organization focused on youth leadership and development while providing opportunities for learning in various project areas, especially agriculture. 4-H, or an equivalent program, exists in many countries around the world and strives to accomplish the same vision as the U.S. based 4-H organization: to build "a world in which youth and adults learn, grow and work together as catalysts for positive change" (National 4-H Council, 2009a).

In the United States, the 4-H program can be traced back as far as the early 1900s (National 4-H Council, 2009b). Developed after the industrial revolution when farming was considered second-rate to urban jobs, 4-H was designed to provide agricultural training and instill the value of rural life in youth. In 1960, the FAO worked closely with

4-H to establish it as a worldwide rural youth development program. By the 1970s, 4-H or similar programs were in 80 countries (FAO, 2006).

Statement of the Problem

4-H addresses the needs of developing countries by promoting the largest resource available—the youth. National 4-H Council, in connection with the National Institute for Food and Agriculture (NIFA) in the United States, the Bill and Melinda Gates Foundation, DuPont Corporation, Cargill, Motorola Foundation, and the Nike Foundation intend to unite 4-H and similar programs under a Global 4-H Network. However, very little information is available regarding the structure, organizational support, funding, and programming areas offered by these potential global partners.

Purpose and Objectives

This descriptive research study was designed to gather the above information from global partners and provide understanding and direction in the establishment of a Global 4-H Network. The purpose of this research survey was to obtain descriptive information from Asian, African, and European countries regarding their agriculture-based youth development programs and develop a set of recommendations based on the relevant literature and survey results for use in the National 4-H Council's upcoming Global 4-H Network. To achieve this purpose the following objectives guided the study:

1. Describe program funding or organizational support in connection with educational, government, or private institutions;
2. Describe the program structure including the number and age groups of youth served, number of volunteers, and program delivery components;
3. Describe current programming areas available to participants and compare to countries within similar areas;
4. Collect suggestions for additional programming areas for each participant and their expectations of the Global 4-H Network along with current opportunities, connections, and resources available to each program;
5. Collect relevant country/continent development and industry information related to the programming areas listed in the survey;

Definitions

Camps: Gathering of youth and leaders with an interest in a specific content area outside of school.

Community of Practice: A network which utilizes the 'train the trainer' approach to disseminate information to the public as illustrated in Herbert-Cheshire (2000).

The United States Extension system is a perfect example of a large community of practice.

Country and Industry Development: Includes both the country's profile demographic information as well as current information regarding the agriculture industry as well as other industries related to the programming areas discussed.

Festivals and Fairs: Community gatherings that incorporate programming areas or contests as part of the activities.

Funding: Monetary support received as part of a budget or as a result of donations, gifts, or grants.

Government Funding: Monetary support received from government agencies or ministries such as the Ministry of Agriculture, Ministry of Youth, or Ministry of Education.

Human Capital: The capability of people to be effective and productive economic agents (FAO, UNESCO, & ILO, 1996).

In School 4-H Clubs or 4-H School Clubs: Delivery method that integrates program content with school curriculum.

Land Grant Universities (LGUs): A government-funded educational institution that houses the cooperative extension program for that state. LGUs were established with the Morrill Act in 1862 and formalized with the Smith-Lever Act in 1914 which partnered the university with the Department of Agriculture. Additional LGUs were added to serve specific populations including the African-Americans in 1985 and the Native Americans in 1995; there is at least one LGU in each state (NIFA, 2011).

Network: A group of individuals or programs that works together to share information and resources, often through technology or other means.

Non-Governmental Organizations (NGOs): An organization that is not associated with the government and is often a non-profit organization.

Private Sector Funding: Funding received as grants or gifts from corporations, businesses, companies, non-governmental organizations (NGOs), or foundations.

Programming Content Area: One of the subjects or content areas available to youth who are participating in the program. For example: Robotics or Beef/Dairy Production.

Staff: People who are paid to receive a salary for their work with the program.

Support: Primarily providing personnel or other resources, as opposed to money, required to execute a program.

Volunteer: People who help with the program but are not paid for their time.

4-H Clubs: Delivery method of program content that involves youth groups meeting with their leaders outside of school or community gatherings and often in the home of one of the leaders.

Assumptions

Assumptions in this study included the following:

1. Participants who responded to the survey were honest and accurate.
2. Programming area information can be categorized for comparison to country and industry development information.

Limitations

This research was conducted with the following limitations:

1. A very small population of global contacts was available from National 4-H Council and their partners.
2. Surveys were not all sent out at the same time; consequently, some had a greater response time.
3. The survey was distributed in English. For many contacts, English is a second language. Terminology and readability could be an issue.
4. Surveys were distributed in several different forms including word documents, PDF files, Survey Monkey links, and in person. Higher response levels were received from participants that received the survey in person.
5. Responses were received primarily from African countries (in person contacts), with only two respondents from both Asia and Europe.
6. Some respondents did not complete the survey or left some portions blank.

Significance of Study

4-H and similar programs around the world enrich the lives of youth and are able to make significant contributions to the development of youth in their respective countries (Beal & Bohlen, 1981). Especially in developing countries, the programs are limited in scope due to the individual challenges they experience. Empowering these programs through the Global 4-H Network has the potential to shorten the time required

for the programs to develop and reach more youth. By focusing on youth development, 4-H volunteers and staff raise generations that are ready, able, and willing to contribute to their society (National 4-H Council, 2009c).

CHAPTER 2

REVIEW OF LITERATURE

Human Capital and Rural Youth

The FAO, UNESCO, and International Labor Organization (ILO) Training for Agriculture and Rural Development (TARD) chooses a different topic to spotlight each year in their publication providing in-depth information on that specific topic. The 1992 publication focused on human resources and their role in sustainable agriculture and rural development. Human capital is named as the single most important element in development. It stands to reason that when considering human capital, special attention is paid to those participating in agricultural occupations. At the time of the publication, 60% of the economically active populations in all developing countries were active in agriculture, more than any other occupational area. Women constituted 30% of the total participants in agriculture while youth aged 15-24 constituted approximately 13%. The number of youth participants was expected to increase in the future as there were two times as many children aged 6 to 15 as 15 to 24. The sheer number of children, youth, and young adults presents a significant challenge when discussing basic education and skill development (FAO et al., 1996).

The 1985 TARD publication focused primarily on rural youth, their characteristics, and programs in recognition of the International Youth Year. The overarching theme pointed out that youth expect to be able to improve their lives, the

lives of their families, and their community in the future. Programs that help youth achieve their goals fell under one or more of the following categories: preparing target groups for effective involvement in economic life of the community, improving or strengthening people's daily-life skills, and/or upgrading of the skills of existing producers. Several examples of youth programs and case studies were given. In one case study, the Village Polytechnic (VP) Program of Kenya provided training in brickwork and masonry, carpentry and joinery, blacksmithing, car mechanics, plumbing and pipe-fitting, leather work, house wiring, tailoring, home economics, and typing in rural communities. Graduates were directed towards self-employment in these areas and were encouraged to co-operate production with other graduates and existing productions. However, it was debatable that entrepreneurial skills were adequately covered to support successful self-employment (FAO, UNESCO, & ILO, 1985a).

In a Zambian case study included in the 1985 TARD publication (FAO, UNESCO, & ILO, 1985b), the overall majority of rural youth were deeply rooted in their lifestyle, with the exception of those who obtained higher forms of education or training. Youth who left school were unlikely to find a job and either settled for unpaid employment or concentrated their efforts on becoming self-employed. Few programs were available to provide the practical training to assist them in their efforts to becoming self-employed (FAO et al., 1985b). Similar observations of school-leavers were made in the South Pacific (FAO et al., 1985a).

Chinese youth identified practical skills and scientific agricultural knowledge as the things they needed to learn the most (Xi, Sun, & Xiao, 2006, pp. 123-133). In the same survey, youth indicated their willingness to adopt new production practices and held fast to the concept that science and technology were the primary productive forces (Xi et al., 2006, p. 125). Although many youth and adults looked to the city for employment, none of them saw it as an ideal choice of life. A majority of those who have worked in the city do not hesitate to return to their hometowns with their professional skills and capital to start their own businesses. Of those working in their hometowns, 93.1% once worked temporary jobs in the city (Xi et al., 2006, p. 133).

Global Development and Youth Concerns

Understanding global development and youth concerns is imperative to designing a survey assessing youth's needs. In developing countries, rural youth have limited opportunities for education (SARD, 2007). When youth were able to attend school, the curricula was often not relevant for a rural area and often cast agriculture in a negative light while promoting urban lifestyles and professions. More and more youth across the globe have been moving to urban areas to find work, while rural areas quickly lose their young productive workforce. The Sustainable Agriculture Rural Development (SARD) Initiative of the FAO of the United Nations (2007) is focused on providing formal education opportunities in rural areas that provide youth with the skills and knowledge required for rural lifestyles and agricultural production.

4-H encourages entrepreneurial small-farm agriculture and non-farm businesses. In a review of how small farm agriculture contributed to food security, Rosset (2000) proposed that democratic decentralization of food production resulted in economic opportunity for people by providing opportunities for land ownership. In addition, it was argued that family and small farms were more productive per acre because they were willing to commit the time needed for labor-intensive intercropping systems that only work on a small scale.

In a cross-section analysis by Ashley and Maxwell (2001), several differences were found between the historical and current needs of rural development in the context of poverty reduction and how it was addressed by government policy and programs. Regression and cross analysis of several studies confirmed a positive relationship between agricultural growth and poverty reduction. Ashley and Maxwell presented the cases for, and against, small-farm agriculture and concluded that small farms can be beneficial if adequate natural resources are available. They suggested that the non-farm rural economy could pick up the slack by increasing livelihood diversification. Three of the five principles of successful rural development strategy presented at the end of the analysis included recognizing the diversity of rural areas, responding to changes, and strategically using productive sectors in rural development to maximize growth and reduce poverty. The principles and suggestions provided helped establish the need for a program similar to 4-H that promotes continual learning and utilizes and encourages many of these strategies.

Solomon and Chowdhury (2002) provided an extensive evaluation of three educational centers that focused on leadership, management, global programming, and rural development through a series of survey interviews and workshops with the graduates, supervisors of graduates, and faculty. Six factors that contributed to the continual learning and success of multi-organizational partnerships were a commitment to learning, building a shared view of learning, making learning an action, trust, and adequate planning and resources. Partnerships such as the Global 4-H Network must pay special attention to these factors, which are an important consideration to the planning and evaluation process. While studying the perspectives of the political economy and theories of innovation and learning networks in rural development, Murdoch (2000) observed that networks of innovation, which align with the principles of continual learning, have the capability of fostering a commitment to learning and are well suited to the ever-changing global economy.

Communication Networks and Communities of Practice

The rapid growth of communication networks and communities of practice in Extension provide an adequate medium for the cooperation of organizations, dissemination of information, and have the potential to address important global concerns. Nyangaga, Smutylo, Romney, and Kristjanson (2010) utilized outcome mapping to help plan for, clarify, and document intended changes in behavior that resulted from specific programming. One case study presented was of the Livestock-

Farmer Field School (LFFS) that worked with several African countries to improve livestock-management techniques. Farmers were involved in developing the training guidelines and were instrumental in disseminating information. After five years, a total of 208 individuals had graduated from the LFFS facility in Kenya and ten trainers of trainers were equipped to extend information and capacity building courses to other countries. In total 2,300 farmers in Kenya and 1,000 farmers in other countries had graduated from these field schools. The LFFS example illustrates the classic Extension approach of bringing information to the people.

Kirk and Shutte (2004) ascertained that capacity building was done primarily through leaders that are assimilated as members of a community of practice. Capacity-building is a continuous, helping process providing for self-reliance and employment.

In a review and analysis of contemporary strategies for rural development in Australia, Herbert-Cheshire (2000) addressed how the notion of self-governance of individuals and communities was constructed into policy, what the political rationales for such policies were, and what local level forms and outcomes were achieved. The illustrated program, Positive Rural Futures, essentially used a "train the trainer" approach to create a community of practice to disseminate information and resources to rural areas that did not have access to expert individuals. The challenge was getting participants to treat the information and resources as public domain and not use it for their exclusive benefit. Evidence that communities of practice provided resources and information that was not readily available to the participants was prevalent throughout the article.

In a qualitative analysis of youth workers participating in one of two global programs, Lombardo, Zakus, and Skinner (2002) analyzed the use of internet resources and their abilities to connect youth. The youth felt they were part of a bigger whole, participated in experiential learning and capacity building activities, felt a mutual empowerment, and identified a lasting feeling of support and sustainability. Several forms of technology were used to achieve the key themes exhibited by the participants including email, face-to-face workshops, internet, multimedia, telephone, and mail; all communication methods contributed to the connection felt between individual participants. As shown in this study, youth continually exhibited a desire to be connected and were attracted to technology as a method of gaining new information.

4-H Positive Youth Development

Iowa State University performed a study on the diffusion of new ideas or practices. They found that the early adopters and innovators of ideas tended to be younger, better educated people who were highly connected to their community (Beal & Bohlen, 1981). 4-H has a history of creating innovators and early adopters. An example is when Marius Malgren in 1912 produced 3-4 times more corn per acre than his parents and neighbors using the pre-germinated seed corn he had learned about from his 4-H club (National 4-H Council, 2007). Marius Malgren's experience also illustrated the capacity of youth to be strong contributors in their communities.

4-H focuses on four essential elements to develop youth into adults that are healthy, problem-solving, and constructive (National 4-H Council, 2009c). These four essential elements are belonging, mastery, generosity, and independence. These elements contribute to capacity building (Kirk and Shutte, 2004), connection among youth (Lombardo et al., 2002), and continual learning (Solomon & Chowdhury, 2002).

Up until the 21st century, studies of youth development focused primarily on the negative aspects of development. Youth were viewed as a problem to be fixed or highly likely to need fixing. Although studies of positive youth development are increasing, there is a lack of widely accepted measures for tracking such development. In the first wave of a longitudinal study of positive youth development, Lerner et al. (2005) examined youth involved in community-based programs, comparing 4-H youth to youth in similar programs. The 4-H Study of Positive Youth Development (PYD) sought to establish a standard and saw youth as resources to be developed. Lerner's primary research question was understanding what propels young people along a healthy developmental trajectory and leads them toward an idealized adulthood marked by the Five C's of competence, confidence, connection, character, and caring/compassion. Adolescent youth who participated in programs where the Five C's were demonstrated were found in the highest risk-free trajectories of development and were beginning to show traits of the Sixth C, contribution to self and community.

Synthesis and Summary

The studies on the success of 4-H as a youth development program suggest that youth have the ability to be instruments of change in their communities (Lerner et al., 2005). The presence of similar programs in several countries also supports the importance of such youth development and agriculture-based programs (FAO, 2006). In addition, the ability to connect rural agricultural areas through networks or communities of practice increases their ability to address local problems and improve current practices (Herbert-Cheshire, 2000). Youth, who are especially attracted to and adept at using current technology, can be an avenue to reach rural areas (Lombardo et al., 2002). In addition, global partnerships have the ability to promote continual learning and capacity building by harnessing both human and financial resources that would not be available outside the partnership (Solomon & Chowdhury, 2002). In light of the proposed Global 4-H Network, little is known about the capacity, expertise, and resources available to youth programs worldwide. Before such a network can be established, descriptive information from this study must be acquired and used to make relevant recommendations to better serve specific areas of the world or to suggest areas that need further study before implementation.

CHAPTER 3

MATERIALS AND METHODS

Survey Instrument Development and Sampling

To provide current program information of potential global partners for the Global Network Initiative of National 4-H Council, a written survey instrument was developed to collect descriptive information regarding the leadership, membership, support, and 4-H content areas of each program. The instrument was developed based on modifications from a survey instrument National 4-H Council had previously administered. Changes to the survey structure and flow as well as content were made based on recommendations from initiative leaders and past participant suggestions. Programs that exist in the United States 4-H program were used to develop programming area options in the survey. The survey was designed to be completed by any potential global 4-H program partner with consideration being taken for participants with English as a second language. Previous surveys conducted by National 4-H Council among individuals where English was a second language minimized the language barrier by using the Flesch Kincaid Grade Level of 8. The grade level was reduced from the original score of 16 to 10 for cover letter and from 10 to 6.4 for the survey instrument to minimize potential misunderstandings.

IRB approval was received June 7, 2010. A copy of the approval letter is included in Appendix A. The approved content for the cover letter and survey are included in

Appendix B. The survey was saved and distributed in three different formats: Word 97-2003 compatible document, a fill-in PDF form, and a Survey Monkey link. Participants could choose the method they used to respond. Along with the survey, a cover letter from Don Floyd, CEO National 4-H Council, explaining the purpose of the survey and rights of the participants was developed and included in all communication with participants. The survey and cover letter were sent out and completed in English due to the limited capacity to accurately translate and work with partners that do not speak English. Although this initially was expected to decrease the response rate, it was expected that as the global initiative progresses and expands, future surveys will be translated to reach out to those with limited or no English skills.

After the initial revisions were complete, the survey was pilot tested on July 1, 2010, by five individuals, including Council associates who were not native to the U.S. and other active global contacts. Pilot testing was done via email with a Word document copy of the survey and feedback was provided as comments in the Word document or in the body of the return email. Based on the results of the pilot testing, some minor changes were made and the survey was sent out via email to Asian country contacts on July 10, 2010. Two reminder emails were sent out August 16, 2010, and October 2, 2010, to increase response rate. The survey was delivered to African participants via a 4-H African Take A Lead development conference on August 2-16, 2010, at the Tanzania 4-H Center. African participants filled out the survey by hand and responses were later

recorded in Survey Monkey. European participants were included on January 20, 2011, via email through the Rural Youth Europe Secretary General, Amanda Hajnal.

A reminder email was sent out February 10, 2011. All email or electronic correspondence included the three survey formats as options for response. Surveys were sent to all global contacts available from the National 4-H Council and their partners. Surveys were sent to 16 Asian contacts, 11 African contacts, and 5 European contacts (Table 1). Overall, 46.8% of total survey contacts responded: 12.5% of Asian contacts, 100% of African contacts, and 40% of European contacts.

Data Analysis

This study was primarily exploratory in nature, with the collection of descriptive survey data to illustrate the program size, scope, and subjects offered for each participant. Survey data was compiled from email, paper, and Survey Monkey responses into an Excel spreadsheet for easy viewing of data. Data was analyzed using descriptive statistics to capture the overall picture presented by the respondents. Individual and continent specific responses were then compared to country and industry development data to determine the usefulness of programs offered from a rural development standpoint.

Table 1

Total Survey Contacts

Asian	African	European
China (4)	Tanzania (1)	Finland (1)
Philippines (1)	Gambia (1)	Denmark (1)
Australia (1)	Zambia (1)	Estonia (1)
Cambodia (2)	Uganda (2) ^a	Norway (1)
Indonesia (1)	Nigeria (1)	Sweden (1)
Japan (1)	Namibia (1)	
South Korea (1)	Liberia (1)	
Taiwan (1)	Kenya (2) ^a	
Thailand (3)	Ghana (1)	
Mongolia (1)		

Note. One response was received from countries in bold. Parentheses indicate the number of contacts in that country.

^a Indicates two responses were received.

CHAPTER 4

RESULTS AND DISCUSSION

Objective One: Describe program funding or organizational support in connection with educational, government, or private institutions

Respondents of the survey were primarily heads of the program in their respective country (with one exception). Thirteen of the sixteen respondents were national programs, five received government support or funding, seven received private sector funding, seven were funded in part by merchandise sales, ten were funded by membership dues, five were supported by the Ministry of Agriculture equivalent in their country, ten were supported by non-profit organizations, and eleven partnered with other programs. Results according to country are illustrated in Tables 2 and 3.

The funding and support patterns are not surprising; a variety of responses was expected based on the various countries' needs and resources available. Interestingly, none of the respondents indicated that they were connected to a university. This is very different from the United States 4-H program which partners closely with land-grant universities (National 4-H Council, 2009b). The Philippines listed that their partners included state universities and colleges, but they did not consider themselves connected to a university. Although steps were taken to minimize possible misunderstandings by using the readability score in Word (details in Materials and Methods), this may be an

indicator of a possible misunderstanding of the meaning of the phrase “connected to a university” for survey participants or could illustrate the various educational structures exhibited by different countries.

Table 2

Program Funding by Country

	Funding ^a	Other Funding
China	ID	
Tanzania	GS, PS	Partnership
The Gambia	PS, MFAD	Partnership
Uganda A	ID, MFAD	
Uganda B	SALE, ID, MFAD	
Zambia	MFAD	Partnership
Nigeria	SALE, ID	
Namibia	PS, MFAD	Partnership
Liberia	ID	
Kenya A	SALE, MFAD	
Kenya B	GS, PS, SALE, ID, MFAD	
Ghana	PS	Partnership
R.O.C. (Taiwan)	GS, PS, SALE, ID, MFAD	
Philippines	GS, SALE	
Denmark	PS, MFAD	Tips funds
Finland	GS, PS, SALE, ID, MFAD	

^a Funding: ID = Individual donations, GS = Government support, PS = Private sector, SALE = Sale of merchandise, MFAD = Membership fees and dues

Typical partnerships listed included youth or agricultural organizations in their country or a connection with a global program. National 4-H Council is engaged with Africa (namely Tanzania) as part of the pilot project for the Global 4-H Network (National 4-H Council, 2010); consequently, it was common for the African participants to list the United States 4-H program or a European 4-H program as one of their partnerships.

Table 3

Program Organizational Support and Scope

	Support ^a	Other Support	Scope
China	NGO		LOCAL
Tanzania	ED, NGO		NATIONAL
The Gambia	NGO		REGIONAL
Uganda A	NGO		NATIONAL
Uganda B	NGO	Self Reliance Projects	NATIONAL
Zambia			NATIONAL
Nigeria	AG		NATIONAL
Namibia	NGO	Forestry	NATIONAL
Liberia			NATIONAL
Kenya A		Ag Society of Kenya	NATIONAL
Kenya B	AG, YO, ED NGO	Gender and Sports	NATIONAL
Ghana	NGO		REGIONAL
R.O.C. (Taiwan)	AG, YO NGO		NATIONAL
Philippines	AG, NGO		NATIONAL
Denmark			NATIONAL
Finland	AG		NATIONAL

^a Support: NGO = Non-governmental organization, ED = Ministry of Education, AG = Ministry of Agriculture, YO = Ministry of Youth, CO = Connected to a University

Objective Two: Describe the program structure including the number and age groups of youth served, number of volunteers, and program delivery components

With the majority of respondents having national programs, it was expected that most would have programs for rural, urban, and suburban areas. Only seven listed that they had programs for all three areas. All African countries listed that they offered rural

programs, but suburban and urban programming varied and may be connected to the establishment of the 4-H program in that country. Denmark listed that they only provided rural and suburban programs which may be connected to the availability of agricultural resources in those areas. In objective three, Denmark listed programming in primarily agricultural areas and very little programming that would be applicable to urban areas. The Chinese respondent was only a local urban program and would not be expected to have a rural and suburban component.

Fourteen participants delivered program content through 4-H community clubs, while eleven delivered program content through in-school 4-H curriculum. In-school curriculum in the U.S. is most often associated with K-8th grade with more community clubs available for those who are in grades 9-12. Survey participants appeared to follow the same trend. Since the majority of the youth lie outside of the K-8th grade age range, a higher frequency of community clubs would be expected. Educational structure was not included as part of the survey. Further information is needed to clarify the use of in-school 4-H curriculum vs. 4-H community clubs in these countries.

Fifteen participants used hands-on learning components with the sixteenth country, Taiwan, not responding to the question. Only seven respondents indicated that they used caring adult/youth mentorship as one of their program components. This is in contrast to the United States program, which focuses on providing quality youth mentorship through program volunteers and is illustrated in the 4-H vision (National 4-H

Council, 2009a). Participants may have not understood the meaning of a caring adult/youth mentorship because all use a significant amount of adult volunteers and staff to run their program.

Three respondents indicated that they used research-based information as part of their program components, including the Philippines. Considering that none of the participants indicated that they were connected to a university, it is not surprising that so few use research-based components. However, research-based components typically indicate some connection to a university or other research institution and reinforces that there may have been a misunderstanding of the meaning of being connected to a university. A summary of program delivery methods, areas, and components for each country are listed in Table 4.

The numbers of youth served, volunteers, and staff varied from country to country and was likely tied to the development of 4-H in that country. Typically, larger numbers of staff and volunteers are indicative of clubs that are active and that potentially have a more established program. Volunteers significantly outnumbered the staff with the exception of Tanzania, Uganda B participant, and Liberia where the numbers of volunteers and staff for each gender were fairly equal. There may have been misunderstandings of the difference between a volunteer and a staff member, or there may be cases where a person works both as a volunteer and part-time staff member and would cause confusion in the number of actual staff and volunteers.

Table 4

A Summary of Program Delivery Methods, Areas, and Components

	Program Delivery ^a	Area ^b	Components ^c
China	FF	U	HO, CP, FUN
Tanzania	CL, SCH, CA FF	R, SU	CA,HO, CP, FUN
The Gambia	CL	R	HO,
Uganda A	CL, CA, FF	R	CA,HO, CP, OU,
Uganda B	CL, SCH, CA, FF	R, SU, U	HO, CP, OU, FUN
Zambia	CL, SCH, FF	R, SU	CA,HO, CP, OU, FUN
Nigeria	CL, SCH, CA	R, SU	CA,HO, OU, FUN
Namibia	CL, SCH, CA, FF	R, SU, U	HO, OU, FUN
Liberia	CL, SCH	R, SU, U	CA,HO, FUN
Kenya A	CL, SCH, CA	R, SU, U	HO, RB, FUN
Kenya B	CL, SCH, FF	R, SU, U	CA,HO, CP, RB, OU, FUN
Ghana	CL, SCH, CA FF	R, SU, U	HO, CP, FUN
R.O.C. (Taiwan)	-	-	-
Philippines	CL, SCH, CA FF	R, SU, U	CA,HO, CP, RB, OU, FUN
Denmark	CL	R, SU	HO,
Finland	CL, SCH, CA	R, SU, U	HO, CP, OU,

^a Program delivery: CL=Clubs, SCH=School based clubs, CA=Camps, FF=Fairs and festivals

^b Area: U=Urban, R= Rural, SU=Suburban

^c Components: HO=Hands on, CA=Caring adult/youth mentoring, CO=community, RB=Research based, OU=Outcome based, Fun = Programs are fun!

Programs may be relying on staff only to support their program due to different cultural views on volunteering or a lack of total volunteers. Table 5 summarizes the number of active clubs, volunteers, and staff support.

In summary, the composite age range of program participants was 6-40, while 80% were aged 13-17. In connection with the in-school 4-H programs mentioned earlier, it is unclear how long the youth are in school and what the educational structure is in each country. More information needs to be obtained to help justify the need for a high

upper age limit. The majority of respondents listed the maximum age of participation for their youth as 25 or greater, in contrast to the United States 4-H program which serves youth only until they are 18 (National 4-H Council, 2009b). In the United States, other programs closely associated to 4-H including collegiate 4-H (4-H National Headquarters, 2010a) and the adult educational opportunities available through Cooperative Extension (4-H National Headquarters, 2010b), are provided as resources to young adults. This may not be the case in global programs and may explain the high upper age limit. Table 6 provides the percent ages of youth in each age category for each country as well as the totals and composite percent ages.

Table 5

A Summary of Active Clubs and Volunteer/Staff Support

	Active Clubs	Female Volunteers	Male Volunteers	Female Staff	Male Staff
China	1	5	5	0	0
Tanzania	650	1069	581	1072	601
The Gambia	60	275	300	2	5
Uganda A	1	-	-	-	-
Uganda B	6	13	12	14	12
Zambia	37	15	21	0	0
Nigeria	87	205	700	5	12
Namibia	0	200	100	6	3
Liberia	6	4	5	5	7
Kenya A	3108	133200	183800	17	13
Kenya B	4000	-	-	-	-
Ghana	57	29	47	2	4
R.O.C. (Taiwan)	-	-	-	-	-
Philippines	1750	350	575	80	52
Denmark	112	-	-	9	3
Finland	2692	-	-	290	0.1

Older participants may be included because the focus of global 4-H programs is to provide resources to all youth and young adults, similar to the mission of our Cooperative Extension system (National 4-H Council, 2009b). Of all participating programs, 65% of the total membership were males and 35% total were females. Only five respondents indicated that they provided programming specifically for girls. The programs listed revolved around life skill development, self-esteem, and reproductive health. Considering that the goals of the Global 4-H Network (National 4-H Council, 2010) and the UN's MDGs (FAO, 2010) include empowering girls and women, special attention is needed for female enrollment and programming as the Global 4-H Network develops.

A chi-squared analysis was conducted for female versus male enrollment. A significant difference between the numbers of males and females was observed for all countries ($\chi^2 = 0.0$, $\alpha = 0.05$). This was expected as males outnumbered females almost two to one (ratio = 1.87). When comparing individual countries, only China and Uganda B respondent had nearly equal numbers of males and females. The individual chi-squared and ratio of males to females are listed in Table 7. Of those who have differences in the enrollment of males and females, only Tanzania, Gambia, and both Uganda participants offered programming specifically for women. The lack of programming for women may be a result of the country's culture and view of women.

Table 6

Percent Youth Participants as a Total Population in Each Age Range

Age Range	Male				Female				Both		
	Ages 6-12	Ages 13-17	Ages 18-25	Ages 26+	Total	Ages 6-12	Ages 13-17	Ages 18-25	Ages 26+	Total	Total
China	100%	0%	0%	0%	6	100%	0%	0%	0%	6	12
Tanzania	68%	22%	7%	3%	17213	70%	23%	3%	4%	18146	35359
The Gambia	0%	17%	50%	33%	1200	0%	13%	50%	38%	800	2000
Uganda A	31%	22%	33%	13%	45	15%	36%	38%	10%	39	84
Uganda B	38%	23%	31%	9%	88	35%	26%	27%	12%	85	173
Zambia	33%	50%	17%	0%	316	33%	52%	15%	0%	169	485
Nigeria	0%	11%	39%	50%	39884	0%	17%	33%	50%	20696	60580
Namibia	-	-	-	-	-	-	-	-	-	-	-
Liberia	26%	30%	45%	0%	179	28%	33%	39%	0%	219	398
Kenya A	0%	95%	3%	2%	317000	0%	95%	5%	1%	133200	450200
Kenya B	-	-	-	-	-	-	-	-	-	-	-
Ghana	37%	44%	19%	0%	1175	23%	49%	28%	0%	871	2046
R.O.C.	-	-	-	-	-	-	-	-	-	-	-
(Taiwan)*	-	-	-	-	-	-	-	-	-	-	-
Philippines	0%	29%	43%	27%	1275	0%	28%	36%	36%	975	2250
Denmark*	-	-	-	-	-	-	-	-	-	-	4000
Finland*	-	-	-	-	26018	-	-	-	-	40913	66931
Total	12336	309674	28165	28206	378381	13009	134690	14795	12712	175206	557587
% total per gender	3%	82%	7%	7%	100%	7%	77%	8%	7%	100%	-
% total participants	2%	56%	5%	5%	65%	2%	24%	3%	2%	35%	100%

Note. Taiwan, Denmark, Namibia, and Finland provided limited information.

Table 7

Chi-squared Analysis for Males vs. Female Participants

	Chi Squared	Ratio
China	1.000	1.000
Tanzania	0.000	0.949
The Gambia	0.000	1.500
Uganda A	0.005	1.154
Uganda B	0.665	1.035
Zambia	0.000	1.870
Nigeria	0.000	1.927
Namibia	-	-
Liberia	0.024	0.817
Kenya A	0.000	2.380
Kenya B	-	-
Ghana	0.000	1.349
R.O.C. (Taiwan)	-	-
Philippines	0.000	1.308
Denmark	-	-
Finland	-	0.636

Objective Three: Describe current programming areas available to participants and compare to countries within similar areas

Survey participants offered a total of 310 programs. Figure 1 illustrates the percentage of programs offered in each category. The following programs were offered by nine or more countries: trees and forestry, meat and dairy goat, rabbits, chicken/poultry and other fowl, maize/corn, healthy decision making/healthy choices, sports and fitness, HIV/AIDS prevention, arts and crafts, community service and

volunteering, personal leadership development, communication and public speaking, and entrepreneurship.

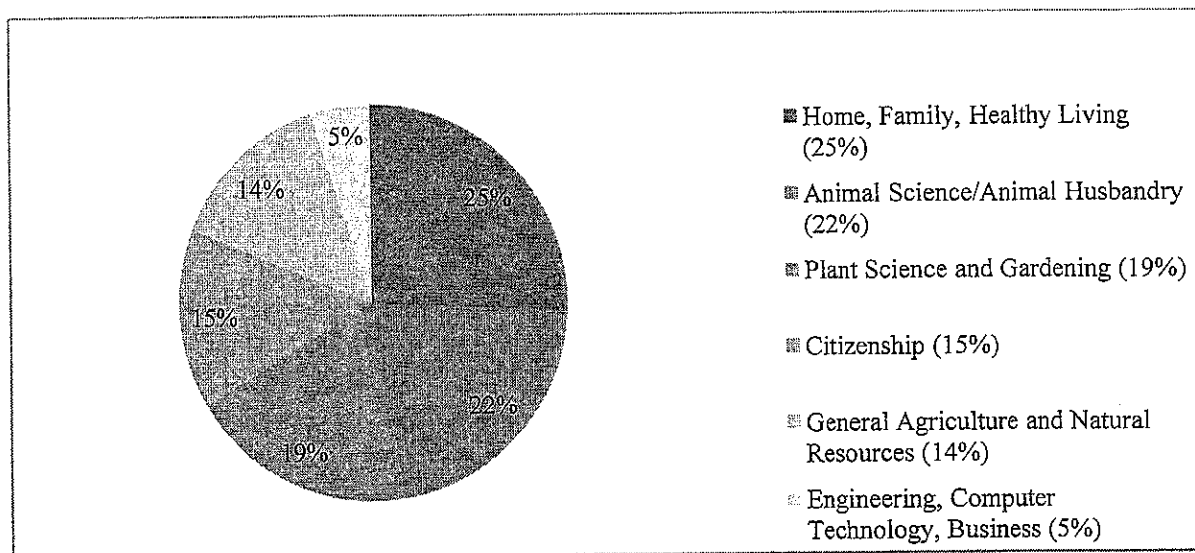


Figure 1. Percentage of programs in each category.

A complete listing of programs by country and of number of countries offering each program is included in Appendix D. Of these programs, three fall into the citizenship category; three are animal science/animal husbandry; two are plant science and gardening; four are home, family, and healthy living; one is general agriculture and natural resources; and one is engineering, computer technology, and business. Interestingly, seven of the most common programs fall under citizenship or home, family, and healthy living compared to the six that fall directly under the agriculture sector. Considering the high numbers of male participants in the developing countries, more agricultural programs were expected. However, the number of participants in each program is unknown. It may be that there are more participants in the agricultural programs, even though the citizenship and home, family, and healthy living programs

were offered in more countries. None of the participants offered biotechnology, GIS/GPS precision agriculture and mapping, or robotics. The Philippines listed GIS/GPS precision agriculture as one of their desired programs in objective four. More information regarding participation in the programs offered is needed and could provide additional insights into the structure and organization of the program.

Table 8 illustrates the two most frequent content areas for each category. Considering that most of the survey participants are developing countries, it is not surprising that the agriculture-based programs offered are low-input programs which use resources that are readily available or involve small farm animals. Interestingly, nutrition was not one of the most frequent programs for category of home, family, and healthy choices and actually ranked as the number five program after healthy decision making/healthy lifestyle choices which educates youth on peer pressure and other decisions. Examination of the top programs raises the question of whether or not the countries are providing programs that are just convenient or are actually providing programs that are needed and helpful in creating self-reliance among youth. Objective five answers part of that question for the agriculture-based programs, but more information is needed regarding educational development, youth programming, and industry needs for each country in order to make a full assessment of which content areas are needed in the other categories. Some needed programs may be listed in objective four as one of the desired programs, but additional information is needed to identify them.

Table 8

Two Most Frequent Content Areas for Each Category

Category	Program or Content Area	# of Countries
Citizenship	Community Service and Volunteering	13
Citizenship	Personal Leadership Development	12
Animal Science/Animal Husbandry	Chicken/Poultry & Other Fowl	12
Animal Science/Animal Husbandry	Rabbits	10
Plant Science & Gardening	Vegetable Production	12
Plant Science & Gardening	Maize/Corn	9
Home, Family, & Healthy Living	Sports and Fitness (exercise)	10
Home, Family, & Healthy Living	HIV/AIDS Prevention & Education	10
General Agriculture & Natural Resources	Trees & Forestry (Planting trees)	9
General Agriculture & Natural Resources	Natural Resources	8
Engineering, Computer Technology, & Business	Entrepreneurship	9
Engineering, Computer Technology, & Business	Information Technology	3

Objective Four: Collect suggestions for additional programming areas for each participant and their expectations of the Global 4-H Network along with current opportunities, connections, and resources available to each program

Nine participants listed one or two programs that they would like to offer but were unable to do so. The desired programs and the challenges in providing them are listed by country in Table 9. Lack of funds, learning materials, transportation, and technology were the most commonly identified challenges for providing programs. Considering that the

majority of the respondents were in developing countries, it is not surprising that their needs included lack of funds, resources, infrastructure, and technology. While this information is helpful, it is best used in consideration with the programs that would be most beneficial to the country that are not currently offered.

Several programs listed technology as one of the challenges (or in some cases the only challenge) to offering their desired program. Technology is a very broad term and has different definitions depending on the desired program. For example, the veterinary program listed by Uganda A may require medical equipment technology to diagnose ailments, while the HIV/AIDS program listed by Gambia may need computer and internet technology to help spread the program to remote areas that need it. Specific information regarding the needs of the country for particular content areas was not collected but should be a question on future surveys or other evaluation methods. Discussions conducted in person with Global 4-H Network associates and program leaders would provide the best source of information and clarify the challenges faced by each program. In addition, clarification of which programs would be most beneficial could also be obtained and used to help determine if the programs that are offered are convenient or actually helpful as mentioned in objective three.

When asked if they had any contact with other 4-H organizations around the world, 13 respondents listed a contact with at least one 4-H organization. This supports information received on the partnerships listed in Objective One. Several of the contacts were previously listed as partnerships; some new contacts included other neighboring

country 4-H programs which could be an important contact in expanding the Global 4-H Network.

Table 9

Desired Programs and the Challenges to Offering Them

Country	Program	Challenge
China	100 lectures of family education for parents	Transportation/Infrastructure
Tanzania	Plant Selection	Funds
The Gambia	Arts and Crafts; HIV AIDS prevention and education	Technology
Uganda A	Veterinary; Information Technology	Technology
Uganda B	Fisheries and aquaculture; trees forestry	Technology
Zambia	28 Computer technology; Agribusiness	
Liberia	Sports; Plant disease/Prevention	Technology
Kenya B	Personal Leadership Development; Information Technology	Technology
Ghana	Animal Science/Husbandry	Technology Technology, Learning Materials, Funds, Staff, Transportation/Infrastructure,
Philippines	GPS/GIS Mapping for Agriculture	Knowledge Transfer,

Participants expected the Global 4-H Network to strengthen the 4-H brand; facilitate the exchange of programs to explore avenues for complementation of knowledge and resources; assist in lobbying of relevant government agencies to collaborate and provide technical support; and supply support technology, program management and evaluation guidelines, training materials/manuals, financial support, best practices for programs, and an exchange of proven programs. Many of the expectations were reoccurring themes from the challenges and desired programs or were

programs already in existence that are to be included in the Global 4-H Network. Additional information is needed to clarify the expectations from each country.

Objective Five: Collect relevant country/continent development and industry information related to the programming areas listed in the survey

The FAO of the United Nations provides agricultural production data on many countries, including several that responded to this survey. Data was obtained for China, Denmark, Finland, Gambia, Ghana, Kenya, Namibia, and Philippines. The most recent data, from 2008, listed the Gross Production Value (GPV) for each agricultural product. Using the GPV, the percent of total GPV was calculated for each item and sorted from largest to smallest. Appendix C contains a table of items that constitute 90% of the total GPV for each country; the remaining ten percent is available from the FAO website and was not included in order to make the data set more manageable. After the top 90% of GPV was obtained, the data was sorted by item so repeated items could be easily identified. The following items appeared three or more times: bananas, cassava, cattle meat, chicken meat, whole fresh cow milk, goat meat, hen eggs in shell, indigenous cattle meat, indigenous chicken meat, indigenous goat meat, indigenous pig meat, indigenous sheep meat, maize, mangos/mangosteens/guavas, pig meat, potatoes, paddy rice, sheep meat, sugar cane, tomatoes, fresh vegetables, and wheat.

None of the survey participants offered very many programs that aligned with high value agriculture products. Some of the programs offered by 60% of the respondents that do align with the high GPV crops listed include meat and dairy goat, chicken/poultry

and other fowl, and maize/corn. These programs were considered low-input programs compared to others listed in the survey because they use resources that are easy to come by or involve smaller livestock projects. Because many of the developing 4-H programs in these countries have limited resources and are faced with significant challenges to offering programs, the prevalence of low-input programs was not unexpected. While the primary focus of 4-H is to develop youth as a resource (National 4-H Council, 2009a), it accomplishes that development by skill building in practical areas (National 4-H Council, 2009c). Compared to the programs offered by the survey participants, 4-H offers programs that would provide instruction and education for many of the important agriculture crops in each country that are not currently being offered. While countries choose which programs to offer, the Global 4-H Network can provide information and resources for programs that are not currently offered in the country.

Youth, especially school-leavers (FAO et al., 1985b), harbor the entrepreneurial spirit and are looking for opportunities to become self-employed and often return from other sources of employment to the rural lifestyle (FAO, UNESCO, & ILO, 1985c). Programs that teach practical skills and scientific agricultural knowledge (Xi et al., 2006) as well as business techniques are lacking (FAO, UNESCO, & ILO, 1985d, pp. 11-12). Of the 66 agriculture commodities with available data, the United States 4-H has programs for approximately 41 of those commodities, 46 if the indigenous meat products are combined with their commercial counterparts. Table 10 provides a snapshot of the programs that are available through the U.S. 4-H program and are currently provided by that country. China did not offer any agricultural programs and is not included. Chinese

4-H programs may provide some programs that align with their agriculture commodities, but the contact that responded was a locally-based, urban program that is likely not representative of the national program.

See Appendix C for details on programs included in the survey are not being offered by the countries compared to high GPV agriculture commodities. Programs that are available, but are not offered, are programs offered specifically by the U.S. 4-H program and possibly other programs that would be available through the Global 4-H Network and illustrates the areas of opportunity available in the countries that participated in this survey.

Table 10

Content Area Offered that Correspond to the Top 90% GPV Agriculture Products for Each Country

Country	Item	GPV	% Total GPV	Program	Program offered?
Finland	Cow milk, whole, fresh	793	28	Beef/Dairy	Yes
Finland	Potatoes	103	4	Vegetable	Yes
Gambia	Chicken meat	41	3	Poultry	Yes
Gambia	Maize	87	6	Maize/Corn	Yes
Gambia	Rice, paddy	73	5	Rice	Yes
Ghana	Chicken meat	44	2	Poultry	Yes
Ghana	Hen eggs, in shell	49	2	Poultry	Yes
Ghana	Maize	141	5	Maize/Corn	Yes
Ghana	Tomatoes	42	2	Vegetable	Yes
Ghana	Yams	482	17	Vegetable	Yes
Kenya	Bananas	3408	1	Fruit	Yes
Kenya	Cattle meat	34551	9	Beef/Dairy	Yes
Kenya	Chicken meat	3508	1	Poultry	Yes

(table continues)

Country	Item	GPV	% Total GPV	Program	Program offered?
Kenya	Cow milk, whole, fresh	55780	14	Beef/Dairy	Yes
Kenya	Hen eggs, in shell	5366	1	Poultry	Yes
Kenya	Maize	32873	8	Maize/Corn	Yes
Kenya	Mangoes, mangosteens, guavas	3281	1	Fruit	Yes
Kenya	Onions, dry	2370	1	Vegetable	Yes
Kenya	Plantains	5355	1	Fruit	Yes
Kenya	Potatoes	14785	4	Vegetable	Yes
Kenya	Sheep meat	2730	1	Sheep	Yes
Kenya	Sweet potatoes	19076	5	Vegetable	Yes
Kenya	Tomatoes	8514	2	Vegetable	Yes
Kenya	Vegetables fresh nes	6214	2	Vegetable	Yes
Kenya	Wheat	5024	1	Wheat	Yes
Namibia	Chicken meat	74	3	Poultry	Yes
Namibia	Vegetables fresh nes	55	2	Vegetable	Yes
Philippines	Bananas	38449	4	Fruit	Yes
Philippines	Cattle meat	17138	2	Beef/Dairy	Yes
Philippines	Chicken meat	50517	6	Poultry	Yes
Philippines	Coconuts	38400	4	Fruit	Yes
Philippines	Fruit, tropical fresh nes	42347	5	Fruit	Yes
Philippines	Hen eggs, in shell	31127	3	Poultry	Yes
Philippines	Maize	44248	5	Maize/Corn	Yes
Philippines	Mangoes, mangosteens, guavas	12687	1	Fruit	Yes
Philippines	Pig meat	116037	13	Swine	Yes
Philippines	Rice, paddy	137102	15	Rice	Yes
Philippines	Vegetables	27953	3	Vegetable	Yes

CHAPTER 5

CONCLUSIONS

4-H programs throughout the world differ in size, structure, support, organization, and funding. The lack of a direct connection to a university identified in Objective One may be a source of some of the funding, support, and resource challenges listed by the programs. There may have been some confusion regarding the meaning of being connected to a university as the Philippines listed state universities and colleges as one of their partners. Other partnerships listed included agricultural programs, non-profit organizations, and other 4-H programs around the world. Partnerships provided, on a smaller scale, the support in personnel, funding, and resources the Global 4-H Network hopes to expand and increase.

Objective Two indicated that on a global scale, people aged 35-40 participate in 4-H which is significantly higher than that in the U.S. Although the upper age of participation varied by country, the large majority of youth participants were aged 13-17 years. Overall, youth involved in the program were primarily males (65%). A chi-squared analysis indicated significant differences in the enrollment of males and females for 12 countries. Of those countries, only four offered programs that were specific for women and primarily centered on life skills and personal health. The major themes of programs offered to all youth participants focused on increasing self-reliance, leadership, and practical and scientific agricultural skills. The delivery method and components differed for each survey participant. Objective Three outlined the program content areas provided

by the survey participants. The majority of programs fell under the home, family, and healthy living category (25%) followed closely by animal science/animal husbandry (22%). Agricultural programs for small-scale production were more frequent than those for large animal or high-input projects.

When compared with Objective Five, very few of the agricultural programs offered aligned with the high GPV agricultural products even though, in many cases, a program exists in the United States 4-H program. Additional support, funding, and resources could facilitate the expansion of agricultural programs that addresses important agriculture products for that country. This reinforces the need for a Global 4-H Network to make these program content areas available to countries that could use them. The most frequent challenges to offering additional programs were a lack of funds, learning materials, and/or technology. Some programs that would be beneficial to the youth are not being offered due to these challenges. Survey participants expected the Global 4-H Network to assist in providing these resources and a sharing of program ideas so that helpful and relevant programs can be offered. More information is needed to identify specific challenges that can reasonably be addressed through the Global 4-H Network. In addition, the culture of the countries must be taken into consideration as some cultures do not treat all information as public domain (Herbert-Cheshire, 2000). Such cultures present a unique challenge in disseminating information for the benefit of all participants.

The Global 4-H Network has the potential to speed the development of 4-H programs in participating countries and provide needed content areas that are beneficial to the development of practical skills, leadership, and self-reliance of youth leaders. The

Global 4-H Network contributes to the MDGs identified by the FAO by implementing programs that address hunger, illiteracy, environmental degradation, empowerment of women, and developing a global partnership of 4-H programs. The support of sponsors like the Bill and Melinda Gates Foundation, Nike Corporation, and others listed previously indicates the contribution the Global 4-H Network can make on a worldwide scale by focusing on raising generations of youth that are prepared to support themselves while being able and willing to contribute to their society.

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APPENDICES

APPENDIX A

IRB Approval Letter



Institutional Review Board
9530 Old Main Hill, Suite 214
Logan, UT 84322-9530
Telephone: (435) 797-1821
Fax: (435) 797-3769



7/7/2010

USU Assurance: FWA#00003308

Protocol # 2692

SPO #:
AES #:UTA00

MEMORANDUM

TO: Rhonda Miller
Jennifer Major

FROM: Kim Corbin-Lewis, IRB Chair
True M. Fox, IRB Administrator

SUBJECT: Global 4-H Network: Asia Project

Your proposal has been reviewed by the Institutional Review Board and is approved under exemption #2.

- X There is no more than minimal risk to the subjects.
- There is greater than minimal risk to the subjects.

This approval applies only to the proposal currently on file. **Any change in the methods/objectives of the research affecting human subjects must be approved by the IRB prior to implementation.** Injuries or any unanticipated problems involving risk to subjects or to others must be reported immediately to the IRB Office (797-1821).

The research activities listed below are exempt based on the Department of Health and Human Services (DHHS) regulations for the protection of human research subjects, 45 CFR Part 46, as amended to include provisions of the Federal Policy for the Protection of Human Subjects, June 18, 1991.

- 2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (a) information obtained is recorded in such a manner that human subjects can be identified, directly or through the identifiers linked to the subjects; and (b) any disclosure of human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

APPENDIX B

- Global Programming Cover Letter and Survey

Dear Friend,

The National 4-H Council in the United States is conducting a survey of 4-H or similar rural youth development programs in your areas to help develop a Global 4-H Network. Your participation is greatly valued and appreciated.

The Global 4-H Network hopes to connect 40H programs across the world to share information and resources. As the network develops, countries will be able to request information and expand their programs using the links established. Currently, National 4-H Council is conducting a needs assessment to identify the most helpful information for your area.

You can help make the Global 4-H Network possible by completing the attached survey. The survey must be completed and returned in English. Correct information is important to us so please provide the most current information possible. You may choose to fill out and return the attached word document or follow the link to a web-based copy <http://www.surveymoneky.com/s/X35HWYB>. If you are having trouble viewing this email and the attached documents or would prefer to be contacted by fax or phone, please send the following information to: jmajor@fourhcouncil.edu. All contacting will be done in English.

Name:

Country:

Phone Number:

Fax Number:

Select your best contact times (check all that apply):

7:00AM-10:00AM EST

10:00AM-1:00 PM EST

1:00PM-4:00PM EST

4:00PM-7:00PM EST

Other (Please List): _____

If you have any questions about this survey, please contact Dr. Linda Jo Turner at jturner@fourhcouncil.edu or Ms. Jennifer Major <MS Candidate at Utah State University> at jmajor@fourhcouncil.edu.

Thank you for your participation!

Sincerely,

Don Floyd, CEO and President

Participation in this survey is entirely voluntary. You will receive no direct benefits or compensation for your participation. This study involves no more risk than those encountered in daily life or during performance of regular tasks. Data collected from this survey will be reported to the Council and used in the development of the Global 4-H Network. Your personal information will be kept confidential unless you give permission for National 4-H Council to share it. By completing this survey you agree to the terms above. Please contact Dr. Linda Jo Turner or Ms. Jennifer Major if you have any questions. Thank you!

GLOBAL 4-H PROGRAMMING SURVEY

The purpose of this survey is to ask about your opinions and experiences with the 4-H youth development movement. Please try to fill in all the items. If you do not have the information or do not know the answer, write "NA" for "Not available"

NAME OF 4-H PROGRAM:

COUNTRY:

NAME OF PERSON COMPLETING THIS SURVEY:

POSITION OR TITLE OF PERSON COMPLETEING SURVEY:

ORGANIZATION ADDRESS (Street detail, City, Zip Code, Country):

ORGANIZATION WEB SITE:

EMAIL ADDRESS:

TELEPHONE NUMBER:

CAN WE SHARE YOUR ORGANIZATION'S CONTACT INFORMATION WITH OTHER 4-H PROGRAMS AND PARTNERS? CHECK ONE.

NO YES

ARE YOU THE PROGRAM HEAD OR CHIEF? CHECK ONE.

NO YES

IF NO, PLEASE PROVIDE THE NAME OF THE PROGRAM HEAD OR CHIEF BELOW.

PROGRAM HEAD:

ORGANIZATIONAL STRUCTURE

How do you pay for or fund your program? Check all that apply.

- Government support or funding
- Private Sector (grants or gifts from corporations, businesses, companies, or NGOs, or, foundations)
- Sales of 4-H Merchandise
- Individual Donations
- Membership Fees and Dues
- Other (List): _____

Who supports your organization/program either with money, personnel or other resources? Check all that apply:

- Ministry of Agriculture
- Ministry of Youth
- Ministry of Education
- Other Ministry (List): _____
- Independent Non-Profit or NGO (non-governmental organizations)
- Connected to University

Do you partner with any other organizations and/or universities in your project or programs? Check one. No Yes

If yes, please list.

Is your organization? Check one:

- Local (focus is a particular village, town or city)
- Provincial/Regional
- National

4-H PARTICIPANTS

4-H Club Members – How many members participated in your 4-H club and other 4-H programs for time period of January 1, 2009 to December 31, 2009? Count each young person only one time, even if they participated in more than one activity. Give your best estimate of the ages.

What is the age range of participants in your program?

How many Male 4-Hers participate for each age group:

_____ Ages 6-12
_____ Ages 13-17
_____ Ages 18 – 25
_____ Ages 26 and up

How many Female 4-Hers participate for each age group:

_____ Ages 6-12
_____ Ages 13-17
_____ Ages 18 -25
_____ Ages 26 and up

Do you offer any programs that are only for girls? Check one. No Yes
If yes, please fill out the information below.

Program #1 name: _____
Age group: _____
Topics taught:

Why do you offer this program?

Program #2 name: _____
Age group: _____
Topics taught:

Why do you offer this program?

How many total 4-H clubs are currently active in your country? _____

4-H WORKERS

4-H Club Volunteers – Volunteers are people who help with the 4-H club program, but are not paid for their time. How many volunteers participated in your 4-H club program for time period of January 1, 2009 to December 31, 2009? Count each volunteer only one time, even if they participated in more than one activity.

_____ Number of female volunteers

_____ Number of male volunteers

4-H Staff – Staff are people who are paid or receive a salary for their work with 4-H. How many paid 4-H staff participated in your 4-H program for time period of January 1, 2009 to December 31, 2009? Count each person only one time, even if they worked with more than one activity.

_____ Number of female staff

_____ Number of male staff

PROGRAM CONTENT AND DELIVERY

How do you deliver your program in your community? Check all that apply.

_____ 4-H Clubs (Programs delivered through club meetings)

_____ In School 4-H Clubs (Projects associated with schools – example: School Garden Project)

_____ Camps (Place for holding activities related to a specific program not associated with schools)

_____ Festivals and Fairs (Community gatherings)

_____ Other (List): _____

What areas does your program serve? Check all that apply.

_____ Rural/Farm

_____ Suburban (Small cities and towns)

_____ Urban (Large cities and towns)

What statements describe the key components of your program approach? Check all that apply.

_____ Caring Adult – Youth experience a positive relationship with a caring adult.

_____ Hands-On – Youth experience hands-on learning, practical skill building.

_____ Community – Programs are conducted in partnership with the community.

- Research Based – Programs are research and education based.
- Outcomes – Programs outcomes are determined in advance and are evaluated/assessed.
- Fun – The programs are fun!

Where do clubs and groups normally hold meetings? Check all that apply.

- Meetings in school – Clubs learn in classrooms.
- Meetings after school – Clubs meet as an after school activity sponsored by the school.
- Meetings in community – Clubs meetings are not sponsored by the school.

What programs do you offer? Check all that apply.

General Agriculture & Natural Resources:

- Fisheries & Aquaculture
- Soil Quality & Conservation
- Water Quality & Conservation
- Trees & Forestry (Planting Trees)
- Natural Resources (utilizing and managing land or raw materials naturally occurring in your country environment)
- Agribusiness (Record Keeping, Marketing, Transportation, Production Costs)
- Farm Safety
- Other (List): _____

Animal Science/Animal Husbandry:

- Beef & Dairy Cattle
- Meat & Dairy Goat
- Sheep
- Swine
- Rabbits
- Chicken/Poultry & Other Fowl
- Breeds & Selections (Pure Breeds, Cross Breeds, Traits)
- Breeding & Raising
- Environment (Shelter, Waste, Water Sources)
- Veterinary Medicine (Deworming, Vaccinations, Treatments)
- Nutrition & Diet
- Animal Harvesting, Storage, & Handling Techniques
- Other (List): _____

Plant Science & Gardening:

- Maize/Corn
- Rice
- Soybeans
- Wheat
- Small Grains (List): _____
- Vegetable Production (List): _____
- Fruit Production (List): _____
- Ornamental (flowers, shrubs, etc)
- Plant Reproduction (Cross breeding, Pollination)
- Plant Diseases & Prevention Practices
- Plant Selection (picking seeds, length of growing period, days to harvest, climate)
- Plant management (Crop rotation, weed control, fertilizing, habitat management)
- Insects, Pollinators, & Pests
- Harvesting, Storage, & Handling Techniques
- Biotechnology (genetically modified organisms)
- Other (List): _____

Engineering, Computer Technology, & Business:

- GPS/GIS mapping & Precision Agriculture (Satellites and Global Positioning Systems)
- Equipment (Maintenance, Operating, Safety of Machinery)
- Robotics
- Information Technology (Computer software applications to store and process information)
- Entrepreneurship (Starting a business)
- Other (List): _____

Home, Family, & Healthy Living:

- Healthy decision making/healthy choices (Lifestyle Choices)
- Sports and Fitness (Exercise)
- Food Safety (Handling, Quality, Storage)
- Food and Nutrition Education (Cooking, Food Preparation & Safety, Eating Healthy)
- Hunger Prevention & Education
- Physical Health and Safety
- Mental/Emotional Health
- Child Care/Childhood Development
- HIV/AIDS Prevention & Education
- Textiles (Production, Preparation, Sewing, Care)
- Arts and Crafts
- Interior Design/ Home decor

___ Other (List): _____

Citizenship:

___ Community service and volunteering

___ Learning about your government

___ Personal Leadership Development

___ Communications and Public Speaking

___ Leading Community Change

___ Other (List): _____

What programs previously listed would you like to offer, but do not currently? Please include a reason why it is not offered.

Program #1: _____

Why it is not offered? (Check all that apply)

___ Technology

___ Learning Materials

___ Funds

___ Staff

___ Transportation/Infrastructure

___ Knowledge Transfer

___ Cultural Barriers

___ Youth Not Priority

___ Other (List): _____

Program #2: _____

Why it is not offered? (Check all that apply)

___ Technology

___ Learning Materials

___ Funds

___ Staff

___ Transportation/Infrastructure

___ Knowledge Transfer

___ Cultural Barriers

___ Youth Not Priority

___ Other (List): _____

CHALLENGES AND OPPORTUNITIES

Do you have any contact with other 4-H organizations around the world? Check one.

No Yes

If yes, please list:

What makes it the most challenging to offer 4-H programs in your community/country?

Pick the 5 biggest challenges.

- Technology – I don't have the technology I need.
- Learning Materials – I don't have the learning materials I need to implement my program.
- Funds – Lack of funds.
- Staff – There is a lack of staff or volunteers.
- Transportation/Infrastructure – I have transportation or travel challenges.
- Knowledge Transfer – I don't have the training I need.
- Cultural Barriers – Bias or perceptions are a problem.
- Youth Not Priority – Youth are not considered a priority in my country.

Please list any other factors that limit your ability to offer 4-H programming.

Do you think an international alliance of 4-H organizations would benefit your work?
Check one.

No Yes

If yes, what kinds of resources and support would you expect from such an alliance?

Does your country participate in any international exchange programs? Check one.

No Yes

If yes, please list:

Is there anything else you would like to tell us about your program?

THANK YOU FOR COMPLETING THIS SURVEY!

APPENDIX C

Top 90% Gross Production Value Table

Table 11

Top 90% Gross Production Value (GPV)

Countries	Item	GPV	% Total		Program	Offered?
			GPV			
China	Apples	88757	2%		Fruit	
China	Asparagus	81595	2%			
China	Bananas	25629	1%		Fruit	
China	Cassava	22666	1%			
China	Cattle meat	71475	2%		Beef/Dairy	
China	Chicken meat	67243	2%		Poultry	
China	Cotton lint	63872	2%			
China	Cottonseed	45795	1%			
China	Cow milk, whole, fresh	75483	2%		Beef/Dairy	
China	Garlic	36844	1%		Other	
China	Goat meat	25036	1%		Meat Goat	
China	Grapes	32536	1%		Fruit	
China	Groundnuts, with shell	45580	1%			
China	Hen eggs, in shell	96380	2%		Poultry	
China	Indigenous Cattle Meat	71401	2%			
China	Indigenous Chicken Meat	67570	2%			
China	Indigenous Goat Meat	25035	1%			
China	Indigenous Pigmeat	420195	11%			
China	Indigenous Sheep Meat	27625	1%			
China	Lettuce and chicory	47308	1%		Vegetable	
China	Maize	326529	8%		Maize/Corn	
China	Mangoes, mangosteens, guavas	65363	2%		Fruit	
China	Mushrooms and truffles	19962	1%		Other	
China	Onions, dry	40191	1%		Vegetable	
China	Other bird eggs, in shell	115214	3%		Poultry	
China	Peaches and nectarines	20379	1%		Fruit	
China	Pears	38932	1%		Fruit	
China	Pig meat	420308	11%		Swine	
China	Potatoes	58216	1%		Vegetable	
China	Rapeseed	23405	1%			
China	Rice, paddy	316198	8%		Rice	
China	Seed cotton	145770	4%			

(table continues)

Countries	Item	GPV	% Total GPV	Program	Offered?
China	Sheep meat	27639	1%	Sheep	
China	Soybeans	34707	1%	Soybeans	
China	Sugar cane	22276	1%		
China	Sweet potatoes	32397	1%	Vegetable	
China	Tangerines, mandarins, clem.	21009	1%	Fruit	
China	Tomatoes	27513	1%	Vegetable	
China	Vegetables fresh nes	126230	3%	Vegetable	
China	Watermelons	47736	1%	Fruit	
China	Wheat	120133	3%	Wheat	
Denmark	Barley	3134	4%	Small Grains	
Denmark	Cattle meat	2033	3%	Beef/Dairy	
Denmark	Cow milk, whole, fresh	11793	16%	Beef/Dairy	
Denmark	Indigenous Pigmeat	22056	30%		
Denmark	Pig meat	18341	25%	Swine	
Denmark	Potatoes	2628	4%	Vegetables	
Denmark	Wheat	4366	6%	Wheat	
Finland	Barley	249	9%	Small Grains	
Finland	Cattle meat	172	6%	Beef/Dairy	
Finland	Chicken meat	114	4%	Poultry	
Finland	Indigenous Cattle Meat	172	6%		
Finland	Indigenous Chicken Meat	117	4%		
Finland	Indigenous Pigmeat	283	10%		
Finland	Oats	138	5%	Small Grains	
Finland	Pig meat	283	10%	Swine	
Finland	Wheat	106	4%	Wheat	
Finland	Cow milk, whole, fresh	793	28%	Beef/Dairy	Yes
Finland	Potatoes	103	4%	Vegetable	Yes
Gambia	Cattle meat	141	9%	Beef/Dairy	
Gambia	Game meat	49	3%		
Gambia	Goat meat	49	3%	Meat Goat	
Gambia	Groundnuts, with shell	290	19%		
Gambia	Indigenous Cattle Meat	141	9%		
Gambia	Indigenous Chicken Meat	40	3%		
Gambia	Indigenous Goat Meat	49	3%		
Gambia	Millet	239	15%	Small Grains	
Gambia	Oil palm fruit	61	4%		
Gambia	Palm oil	56	4%		

(table continues)

Countries	Item	GPV	% Total GPV	Program	Offered?
Gambia	Sorghum	48	3%		
Gambia	Chicken meat	41	3%	Poultry	Yes
Gambia	Maize	87	6%	Maize/Corn	Yes
Gambia	Rice, paddy	73	5%	Rice	Yes
Ghana	Cassava	556	20%		
Ghana	Chilies and peppers, green	54	2%	Vegetables	
Ghana	Cocoa beans	186	7%		
Ghana	Groundnuts, with shell	118	4%		
Ghana	Indigenous Chicken Meat	39	1%		
Ghana	Palm oil	51	2%		
Ghana	Plantains	474	17%	Fruit	
Ghana	Rice, paddy	54	2%	Rice	
Ghana	Sorghum	35	1%		
Ghana	Taro (cocoyam)	138	5%		
Ghana	Chicken meat	44	2%	Poultry	Yes
Ghana	Hen eggs, in shell	49	2%	Poultry	Yes
Ghana	Maize	141	5%	Maize/Corn	Yes
Ghana	Tomatoes	42	2%	Vegetables	Yes
Ghana	Yams	482	17%	Vegetables	Yes
Kenya	Avocados	7203	2%	Fruit	
Kenya	Beans, dry	8078	2%	Vegetables	
Kenya	Cabbages and other brassicas	8966	2%	Vegetables	
Kenya	Cassava	5185	1%		
Kenya	Citrus fruit, nes	3921	1%	Fruit	
Kenya	Coffee, green	5448	1%		
Kenya	Goat meat	5536	1%	Meat Goat	
Kenya	Indigenous Cattle Meat	34549	9%		
Kenya	Indigenous Chicken Meat	3758	1%		
Kenya	Indigenous Goat Meat	5534	1%		
Kenya	Indigenous Sheep Meat	2729	1%		
Kenya	Nuts, nes	2309	1%		
Kenya	Pigeon peas	2297	1%		
Kenya	Sugar cane	9815	2%		
Kenya	Tea	47042	12%		
Kenya	Bananas	3408	1%	Fruit	Yes
Kenya	Cattle meat	34551	9%	Beef/Dairy	Yes
Kenya	Chicken meat	3508	1%	Poultry	Yes
Kenya	Cow milk, whole, fresh	55780	14%	Beef/Dairy	Yes
Kenya	Hen eggs, in shell	5366	1%	Poultry	Yes

(table continues)

Countries	Item	GPV	% Total		Program	Offered?
			GPV			
Kenya	Maize	32873	8%		Maize/Corn	Yes
Kenya	Mangoes, mangosteens, guavas	3281	1%		Fruit	Yes
Kenya	Onions, dry	2370	1%		Vegetables	Yes
Kenya	Plantains	5355	1%		Fruit	Yes
Kenya	Potatoes	14785	4%		Vegetables	Yes
Kenya	Sheep meat	2730	1%		Sheep	Yes
Kenya	Sweet potatoes	19076	5%		Vegetable	Yes
Kenya	Tomatoes	8514	2%		Vegetable	Yes
Kenya	Vegetables fresh nes	6214	2%		Vegetable	Yes
Kenya	Wheat	5024	1%		Wheat	Yes
Namibia	Cattle meat	350	13%		Beef/Dairy	
Namibia	Cow milk, whole, fresh	268	10%		Beef/Dairy	
Namibia	Grapes	251	9%		Fruit	
Namibia	Indigenous Cattle Meat	465	17%			
Namibia	Indigenous Goat Meat	78	3%			
Namibia	Indigenous Sheep Meat	174	6%			
Namibia	Maize	54	2%		Maize/Corn	
Namibia	Millet	66	2%		Small Grains	
Namibia	Pulses, nes	71	3%			
Namibia	Roots and Tubers, nes	347	13%			
Namibia	Sheep meat	137	5%		Sheep	
Namibia	Chicken meat	74	3%		Poultry	Yes
Namibia	Vegetables fresh nes	55	2%		Vegetables	Yes
Philippines	Copra	22278	2%			
Philippines	Indigenous Cattle Meat	16669	2%			
Philippines	Indigenous Chicken Meat	50402	6%			
Philippines	Indigenous Pigmeat	116095	13%			
Philippines	Sugar cane	43058	5%			
Philippines	Bananas	38449	4%		Fruit	Yes
Philippines	Cattle meat	17138	2%		Beef/Dairy	Yes
Philippines	Chicken meat	50517	6%		Poultry	Yes
Philippines	Coconuts	38400	4%		Fruit	Yes
Philippines	Fruit, tropical fresh nes	42347	5%		Fruit	Yes
Philippines	Hen eggs, in shell	31127	3%		Poultry	Yes
Philippines	Maize	44248	5%		Maize/corn	Yes
Philippines	Mangoes, mangosteens, guavas	12687	1%		Fruit	Yes
Philippines	Pig meat	116037	13%		Swine	Yes
Philippines	Rice, paddy	137102	15%		Rice	Yes

(table continues)

Countries	Item	GPV	% Total GPV	Program	Offered?
Philippines	Vegetables fresh nes	27953	3%	Vegetable	Yes

APPENDIX D

Programs offered by country and number of countries offering each programs; Tables 12
and 13 respectively

Table 12

Programs Offered by Country

	GENERAL AG AND NR	ANIMAL SCIENCE/HUSBANDRY	PLANT SCIENCE AND GARDENING	ENG. COMP, TECH, BUSI	HOME, FAMILY, HEALTHY LIVING	CITIZENSHIP
China					Food Safety; Mental/Emotional Health; Interior Design/Home décor,	Personal Leadership Development,
Tanzania	Soil Quality & Conservation, Trees & Forestry, Natural Resources, Agribusiness	Beef & Dairy Cattle, Meat & Dairy Goat, Sheep, Swine, Rabbits, Chicken/Poultry & Other Fowl, Breeding & Raising, Environment (shelter, waste, water sources), Nutrition & Diet	Maize/Corn, Soybeans, Vegetable Production, Fruit Production, Ornamental (lawns, shrubs, etc), Plant management (crop rotation, weed control, fertilizing, habitat management), Insects, Pollinators, & Pests,	Entrepreneurship,	Healthy Decision Making/Healthy Choices, Sports and Fitness, Food and Nutrition Education, Physical Health and Safety, Mental/Emotional Health, Child Care/Childhood Development, HIV/AIDS Prevention & Education, Textiles, Arts and Crafts,	Community Service and Volunteering, Learning about your Government, Personal Leadership Development, Leading Community Change,
The Gambia	Fisheries & Aquaculture, Trees & Forestry, Natural Resources,	Sheep, Rabbits, Chicken/Poultry & Other Fowl, Breeding & Raising,	Maize/Corn, Rice, Soybeans, Vegetable Production, Fruit Production,	Entrepreneurship,	Healthy Decision Making/Healthy Choices, Hunger Prevention & Education, Child Care/Childhood Development,	Community Service and Volunteering, Learning about your Government, Personal Leadership Development, Communications and Public Speaking, Leading Community Change, Community Service and Volunteering,
Uganda A	Trees & Forestry, Natural Resources, Agribusiness,	Meat & Dairy Goat, Chicken/Poultry & Other Fowl, Breeds & Selections (pure breeds, cross breeds, traits), Environment (shelter, waste, water sources),	Maize/Corn, Soybeans, Small Grains, Vegetable Production,	Entrepreneurship,	Healthy Decision Making/Healthy Choices, Sports and Fitness, Physical Health and Safety, Mental/Emotional Health, Child Care/Childhood Development, HIV/AIDS Prevention & Education, Arts and Crafts,	Community Service and Volunteering, Learning about your Government, Personal Leadership Development, Communications and Public Speaking, Leading Community Change,
Uganda B	Farm Safety	Beef & Dairy Cattle, Meat & Dairy Goat, Sheep, Swine, Rabbits, Chicken/Poultry & Other Fowl, Environment (shelter, waste, water sources),	Maize/Corn, Soybeans, Small Grains, Vegetable Production, Fruit Production, Plant Diseases & Prevention Practices, Plant management (crop rotation, weed control, fertilizing, habitat management),	Entrepreneurship,	Sports and Fitness, Food Safety, HIV/AIDS Prevention & Education, Textiles, Arts and Crafts,	Community Service and Volunteering, Learning about your Government, Personal Leadership Development, Leading Community Change,
Zambia	Trees & Forestry,	Meat & Dairy Goat, Swine, Rabbits, Chicken/Poultry & Other Fowl, Environment (shelter, waste, water sources), Veterinary Medicine (deworming, vaccinations, treatments), Nutrition & Diet,	Vegetable Production, Fruit Production, Plant Diseases & Prevention Practices, Plant management (crop rotation, weed control, fertilizing, habitat management), Insects, Pollinators, & Pests, Harvesting, Storage, & Handling Techniques,		Sports and Fitness, Food Safety, Food and Nutrition Education, Child Care/Childhood Development, HIV/AIDS Prevention & Education, Arts and Crafts,	Community Service and Volunteering, Learning about your Government, Personal Leadership Development, Communications and Public Speaking,
Nigeria	Fisheries & Aquaculture, Farm Safety	Meat & Dairy Goat, Rabbits, Chicken/Poultry & Other Fowl,	Maize/Corn, Vegetable Production, Plant management (crop rotation, weed control, fertilizing, habitat management),	Information Technology, Entrepreneurship,	Healthy Decision Making/Healthy Choices, Sports and Fitness, Food and Nutrition Education, Arts and Crafts,	Community Service and Volunteering, Personal Leadership Development,
Namibia	Fisheries & Aquaculture, Soil Quality & Conservation, Trees & Forestry, Natural Resources, Agribusiness,	Meat & Dairy Goat, Chicken/Poultry & Other Fowl, Animal Harvesting, Storage, & Handling Techniques,	Vegetable Production, Fruit Production,	Entrepreneurship,	Healthy Decision Making/Healthy Choices, HIV/AIDS Prevention & Education, Arts and Crafts,	Community Service and Volunteering, Learning about your Government, Personal Leadership Development, Communications and Public Speaking,
Liberia	Fisheries & Aquaculture,	Rabbits, Veterinary Medicine (deworming, vaccinations, treatments),	Vegetable Production,		Healthy Decision Making/Healthy Choices, HIV/AIDS Prevention & Education,	Community Service and Volunteering, Learning about your Government, Personal Leadership Development,
Kenya A	Soil Quality & Conservation, Water Quality & Conservation, Trees & Forestry, Natural Resources, Agribusiness,	Beef & Dairy Cattle, Meat & Dairy Goat, Rabbits, Chicken/Poultry & Other Fowl,	Maize/Corn, Small Grains, Vegetable Production, Fruit Production,		Sports and Fitness, Food and Nutrition Education, HIV/AIDS Prevention & Education,	Community Service and Volunteering, Learning about your Government, Personal Leadership Development, Communications and Public Speaking,

(table continues)

	GENERAL AG AND NR	ANIMAL SCIENCE/HUSBANDRY	PLANT SCIENCE AND GARDENING	ENG. COMP, TECH, BUSI	HOME, FAMILY, HEALTHY LIVING	CITIZENSHIP
Kenya B	Fisheries & Aquaculture, Soil Quality & Conservation, Water Quality & Conservation, Trees & Forestry, Natural Resources, Agribusiness, Farm Safety	Beef & Dairy Cattle, Meat & Dairy Goat, Sheep, Swine, Rabbits, Chicken/Poultry & Other Fowl, Environment (shelter, waste, water sources), Veterinary Medicine (deworming, vaccinations, treatments), Nutrition & Diet, Animal Harvesting, Storage, & Handling Techniques,	Maize/Corn, Small Grains, Vegetable Production, Fruit Production, Plant management (crop rotation, weed control, fertilizing, habitat management), Insects, Pollinators, & Pests, Harvesting, Storage, & Handling Techniques,	Entrepreneurship.	Healthy Decision Making/Healthy Choices, Sports and Fitness, Food Safety, Food and Nutrition Education, Hunger Prevention & Education, Physical Health and Safety, Mental/Emotional Health, Child Care/Childhood Development, HIV/AIDS Prevention & Education, Textiles, Arts and Crafts,	Community Service and Volunteering, Learning about your Government, Personal Leadership Development, Communications and Public Speaking, Leading Community Change,
Ghana		Sheep, Swine, Rabbits, Chicken/Poultry & Other Fowl,	Maize/Corn, Vegetable Production,		Sports and Fitness, HIV/AIDS Prevention & Education, Arts and Crafts,	Community Service and Volunteering, Personal Leadership Development, Communications and Public Speaking,
R.O.C. (Taiwan) Philippines	Fisheries & Aquaculture, Soil Quality & Conservation, Water Quality & Conservation, Trees & Forestry, Natural Resources, Agribusiness, Farm Safety	Beef & Dairy Cattle, Meat & Dairy Goat, Swine, Chicken/Poultry & Other Fowl, Breeding & Raising, Environment (shelter, waste, water sources), Veterinary Medicine (deworming, vaccinations, treatments), Nutrition & Diet, Animal Harvesting, Storage, & Handling Techniques,	Maize/Corn, Rice, Soybeans, Ornamental (flowers, shrubs, etc), Plant Reproduction (cross breeding, pollination), Plant Diseases & Prevention Practices, Plant Selection (picking seeds, length of growing period, days to harvest, climate), Plant management (crop rotation, weed control, fertilizing, habitat management), Insects, Pollinators, & Pests, Harvesting, Storage, & Handling Techniques,	Equipment, Information Technology, Entrepreneurship,	Healthy Decision Making/Healthy Choices, Sports and Fitness, Food Safety, Food and Nutrition Education, Hunger Prevention & Education, Physical Health and Safety, Mental/Emotional Health, Child Care/Childhood Development, HIV/AIDS Prevention & Education, Textiles, Arts and Crafts, Interior Design/Home décor,	Community Service and Volunteering, Learning about your Government, Personal Leadership Development, Communications and Public Speaking, Leading Community Change,
Denmark		Sheep, Rabbits, Chicken/Poultry & Other Fowl,			Food and Nutrition Education,	
Finland	Fisheries & Aquaculture, Trees & Forestry, Natural Resources.	Beef & Dairy Cattle,	Vegetable Production, Ornamental (flowers, shrubs, etc),	Equipment, Information Technology, Entrepreneurship,	Healthy Decision Making/Healthy Choices, Sports and Fitness, Food Safety, Food and Nutrition Education, Child Care/Childhood Development, Textiles, Arts and Crafts,	Community Service and Volunteering, Communications and Public Speaking,

Table 13

Number of Countries Offering Each Program

Category	Content Area	# of Countries	Country Names
General Agriculture & Natural Resources	Fisheries & Aquaculture	7	Gambia, Nigeria, Namibia, Liberia, Kenya, Philippines, Finland
	Soil Quality & Conservation	5	Tanzania, Namibia, Kenya, Kenya, Philippines
	Water Quality & Conservation	3	Kenya, Kenya, Philippines
	Trees & Forestry (Planting Trees)	9	Tanzania, Gambia, Uganda, Zambia, Namibia, Kenya, Kenya, Philippines, Finland
	Natural Resources (utilizing and managing land or raw materials naturally occurring in your country environment)	8	Tanzania, Gambia, Uganda, Namibia, Kenya, Kenya, Philippines, Finland
	Agribusiness (record keeping, marketing, transportation, production costs)	6	Tanzania, Uganda, Namibia, Kenya, Kenya, Philippines
Animal Science/Animal Husbandry	Farm Safety	4	Uganda, Nigeria, Kenya, Philippines
	Beef & Dairy Cattle	6	Tanzania, Uganda, Kenya, Kenya, Philippines, Finland
	Meat & Dairy Goat	9	Tanzania, Uganda, Uganda, Zambia, Nigeria, Namibia, Kenya, Kenya, Philippines
	Sheep	6	Tanzania, Gambia, Uganda, Kenya, Ghana, Philippines, Denmark
	Swine	6	Tanzania, Uganda, Zambia, Kenya, Ghana
	Rabbits	10	Tanzania, Gambia, Uganda, Zambia, Nigeria, Liberia, Kenya, Kenya, Ghana, Denmark
	Chicken/Poultry & Other Fowl	12	Tanzania, Gambia, Uganda, Uganda, Zambia, Nigeria, Namibia, Kenya, Kenya, Ghana, Philippines, Denmark
	Breeds & Selections (pure breeds, cross breeds, traits)	1	Tanzania, Uganda
	Breeding & Raising	3	Tanzania, Gambia, Philippines
	Environment (shelter, waste, water sources)	6	Tanzania, Gambia, Uganda, Uganda, Zambia, Kenya, Philippines
	Veterinary Medicine (deworming, vaccinations, treatments)	4	Zambia, Liberia, Kenya, Philippines
	Nutrition & Diet	4	Tanzania, Gambia, Zambia, Kenya, Philippines
	Animal Harvesting, Storage, & Handling Techniques	3	Namibia, Kenya, Philippines
Plant Science & Gardening:	Maize/Corn	9	Tanzania, Gambia, Uganda, Uganda, Nigeria, Kenya, Kenya, Ghana, Philippines
	Rice	2	Gambia, Philippines
	Soybeans	5	Tanzania, Gambia, Uganda, Uganda, Philippines
	Wheat	0	Kenya
	Small Grains	4	Uganda, Uganda, Kenya

(table continues)

Category	Content Area	# of Countries	Country Names
	Vegetable Production	12	Tanzania, Gambia, Uganda, Uganda, Zambia, Nigeria, Namibia, Liberia, Kenya, Kenya, Ghana, Finland
	Fruit Production	7	Tanzania, Gambia, Uganda, Zambia, Namibia, Kenya, Kenya
	Ornamental (flowers, shrubs, etc)	3	Tanzania, Philippines, Finland
	Plant Reproduction (cross breeding, pollination)	1	Philippines
	Plant Diseases & Prevention Practices	3	Uganda, Zambia, Philippines
	Plant Selection (picking seeds, length of growing period, days to harvest, climate)	1	Philippines
	Plant management (crop rotation, weed control, fertilizing, habitat management)	6	Tanzania, Uganda, Zambia, Nigeria, Kenya, Philippines
	Insects, Pollinators, & Pests	4	Tanzania, Zambia, Kenya, Philippines
	Harvesting, Storage, & Handling Techniques	3	Zambia, Kenya, Philippines
	Biotechnology (genetically modified organisms)	0	
Engineering, Computer Technology, & Business:	GPS/GIS mapping & precision agriculture (satellites and global positioning systems)	0	
	Equipment (maintenance, operating, safety of machinery)	2	Philippines, Finland
	Robotics	0	
	Information Technology (computer software applications to store and process information)	3	Nigeria, Philippines, Finland
	Entrepreneurship (starting a business)	9	Tanzania, Gambia, Uganda, Uganda, Nigeria, Namibia, Kenya, Philippines, Finland
Home, Family, & Healthy Living:	Healthy Decision Making/Healthy Choices (lifestyle choices)	9	Tanzania, Gambia, Uganda, Nigeria, Namibia, Liberia, Kenya, Philippines, Finland
	Sports and Fitness (exercise)	10	Tanzania, Uganda, Uganda, Zambia, Nigeria, Kenya, Kenya, Ghana, Philippines, Finland
	Food Safety (handling, quality, storage)	6	China, Uganda, Zambia, Kenya, Philippines, Finland
	Food and Nutrition Education (cooking, food preparation & safety, eating healthy)	8	Tanzania, Zambia, Nigeria, Kenya, Kenya, Philippines, Denmark, Finland
	Hunger Prevention & Education	3	Gambia, Kenya, Philippines
	Physical Health and Safety	4	Tanzania, Uganda, Kenya, Philippines

(table continues)

Category	Content Area	# of Countries	Country Names
Citizenship:	Mental/Emotional Health	5	Tanzania, China, Uganda, Kenya, Philippines
	Child Care/Childhood Development	7	Tanzania, Gambia, Uganda, Zambia, Kenya, Philippines, Finland
	HIV/AIDS Prevention & Education	10	Tanzania, Uganda, Uganda, Zambia, Namibia, Liberia, Kenya, Kenya, Ghana, Philippines
	Textiles (production, preparation, sewing, care)	5	Tanzania, Uganda, Kenya, Philippines, Finland
	Arts and Crafts	10	Tanzania, Uganda, Uganda, Zambia, Nigeria, Namibia, Kenya, Ghana, Philippines, Finland
	Interior Design/Home decor	2	China, Philippines
	Community Service and Volunteering	13	Tanzania, Gambia, Uganda, Uganda, Zambia, Nigeria, Namibia, Liberia, Kenya, Kenya, Ghana, Philippines, Finland
	Learning about your Government	5	Tanzania, Gambia, Liberia, Kenya, Philippines
	Personal Leadership Development	12	Tanzania, Gambia, Uganda, Uganda, Zambia, Nigeria, Namibia, Liberia, Kenya, Ghana, Philippines
	Communications and Public Speaking	9	Gambia, Uganda, Zambia, Namibia, Kenya, Kenya, Ghana, Philippines, Finland
Leading Community Change	6	Tanzania, Gambia, Uganda, Uganda, Kenya, Philippines	