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Global 4-H Network: Laying the Groundwork for Global Extension Opportunities

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Abstract: *A descriptive study examining 4-H programs in Africa, Asia, and Europe was conducted to provide understanding and direction in the establishment of a Global 4-H Network. Information regarding structure, organizational support, funding, and programming areas was gathered. Programs varied greatly by country, and many partnered with other 4-H organizations around the world. Few content areas offered by the surveyed countries aligned with their major agricultural commodities, even though content areas were available in the United States 4-H Program. The Global 4-H Network has the potential to fill these holes and provide additional opportunities to global programs.*

Introduction

Global partnerships have the ability to promote continual learning and capacity building by harnessing human and financial resources that would not be available without the partnership (Solomon & Chowdhury, 2002). Especially in developing countries, programs are often limited due to a lack of resources. Empowering programs through the Global 4-H Network has the potential to both shorten the time required for program development and reach more youth. 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, 2009a). Youth, who are especially attracted and adept at using current technology, can be an avenue to reach rural areas (Lombardo, Zakus, & Skinner, 2002). Connecting rural agricultural areas through networks or communities of practice improves lives and addresses local problems (Herbert-Cheshire, 2000) congruent to the current mission of Extension. 4-H and similar programs around the world make significant contributions to the development of youth (Beal & Bohlen, 1981) by enriching their lives and empowering them to achieve their goals (Mutchler, Anderson, Grillo, Mangle, & Grimshaw, 2006).

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). Through its connection to Extension, 4-H is positioned to assist in reaching many of FAO's goals with its agricultural science curriculum base, youth development process, and rural economic development capabilities. 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). A proposed Global 4-H Network has the potential to unify development efforts and foster global citizenship (Etling, Reaman, & El Sawi, 1993). The study reported here examined the capacity, expertise, and resources available for the development of a Global 4-H Network using the following objectives:

1. Describe program funding and organizational support;
2. Describe the program structure including youth served, number of volunteers, and program delivery components;
3. Describe current programming areas available to participants;
4. Collect suggestions for additional programming areas and expectations of the Global 4-H Network;
5. Compare the agricultural production data for each country to the programming areas offered.

Materials and Methods

A written survey instrument was developed to collect information on the leadership, membership, support, and 4-H content areas of potential partners for the Global Network Initiative. The survey was based on a survey instrument the National 4-H

Council had previously administered. Survey structure, flow, and content changes were made based on recommendations from initiative leaders and past participants. Programming area options in the survey were based on programs available in the United States 4-H program, with space provided to add programs that were not listed. IRB approval was received June 7, 2010. The survey was pilot tested by Council associates not native to the U.S. and foreign members in other programs. In addition, the Kinkaid scale was used to measure readability and reduced from the original score of 16 to 10 for the cover letter and from 10 to 6.4 for the survey instrument to minimize potential misunderstandings. The survey and cover letter were sent out and completed in English due to the limited capacity to accurately translate and communicate with partners who do not speak English. Although it was anticipated that this would decrease the response rate, it was expected that future surveys would be translated to reach out to those with limited or no English skills.

The survey and a cover letter from Don Floyd, CEO National 4-H Council, were distributed in three different formats: a Word 97-2003 compatible document, a fill-in PDF form, and a Survey Monkey link. Participants could choose the method they used to respond. Two reminders were sent by email.

Participants and their contact information were provided by National 4-H Council. Surveys were sent to all global contacts available from the National 4-H Council and their partners: 16 Asian, 11 African, and five 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. All survey respondents were program heads or associates with whom they worked closely (data not shown).

Data was analyzed using descriptive statistics and SPSS Version 18.0.2 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) South Korea (1) Taiwan (1) Thailand (3) Mongolia (1)	Namibia (1) Liberia (1) Kenya (2)[a] Ghana (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.

Results and Discussion

Objective One—Funding and Organizational Support

Most of the programs were national in scope and supported by non-governmental organizations (Table 2). Five were supported by the Ministry of Agriculture, and two were supported by the Ministry of Education. Organizational support included financial support as well as personnel and other resources.

Table 2.

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

Financial support of the programs varied (Table 3). Five received government support or funding, seven received private sector funding, seven were funded in part by merchandise sales, and 10 were funded by membership dues. Eleven partnered with other programs (data not shown). The U.S. utilizes all these categories for funding, with the majority of funding coming from the government and private sector. Information regarding the portion of financial support from each category was not collected.

Table 3.

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 (including nonprofit and private businesses), SALE = Sale of merchandise, MFAD = Membership fees and dues

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 identified their partners as state universities and colleges, yet they did not consider themselves connected to a university. Although steps were taken to minimize possible misunderstandings by using the Flesch Kincaid Grade Level, this may indicate a misunderstanding of the phrase "connected to a university," or it could reflect differing educational structures. Typical partners included youth or agricultural organizations in their country or global programs. 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 partners. Many of the partnerships reported are similar to that of the United States 4-H Program and Extension, and would benefit from the principles and practices used in Extension as a whole.

Objective Two—Program Structure

Respondents were questioned on the types of programming offered. Only seven of the 16 respondents offered programs for all areas, urban, suburban, and rural (Table 4). All African countries offered rural programs, but suburban and urban programming varied. Denmark only provided programming for rural and suburban areas. The Chinese respondent was a local program in an urban area and would not be expected to have a rural and suburban component or be representative of all Chinese programs.

Table 4.

Summary of Program Delivery Methods, Areas, and Components

	Area [a]	**Program Delivery [b]**	**Components [c]**
China	U	FF	HO, CP, FUN

Tanzania	R, SU	CL, SCH, CA, FF	CA, HO, CP, FUN
The Gambia	R	CL	HO
Uganda A	R	CL, CA, FF	CA, HO, CP, OU
Uganda B	R, SU, U	CL, SCH, CA, FF	HO, CP, OU, FUN
Zambia	R, SU	CL, SCH, FF	CA, HO, CP, OU, FUN
Nigeria	R, SU	CL, SCH, CA	CA, HO, OU, FUN
Namibia	R, SU, U	CL, SCH, CA, FF	HO, OU, FUN
Liberia	R, SU, U	CL, SCH	CA, HO, FUN
Kenya A	R, SU, U	CL, SCH, CA	HO, RB, FUN
Kenya B	R, SU, U	CL, SCH, FF	CA, HO, CP, RB, OU, FUN
Ghana	R, SU, U	CL, SCH, CA, FF	HO, CP, FUN
R.O.C. (Taiwan)	-	-	-
Philippines	R, SU, U	CL, SCH, CA, FF	CA, HO, CP, RB, OU, FUN
Denmark	R, SU	CL	HO
Finland	R, SU, U	CL, SCH, CA	HO, CP, OU

[a] Area: U=Urban, R= Rural, SU=Suburban [b] Program delivery: CL=Clubs, SCH=School based clubs, CA=Camps, FF=Fairs and festivals [c] Components: HO=Hands on, CA=Caring adult/youth mentoring, CO=community, RB=Research based, OU=Outcome based, Fun = Programs are fun!

Fifteen respondents answered the questions on program components and delivery methods. Almost all of the respondents delivered program content through 4-H

community clubs, while 11 delivered program content through in-school 4-H curriculum (Table 4). The program in China, a local program only, indicated that only fairs and festivals were used for program delivery. In the U.S., in-school curriculum is most often associated with K-8th grade, whereas community clubs are available for those in grades 9-12. Survey participants appeared to follow the same trend.

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 4-H program, which focuses on providing quality youth mentorship through program volunteers, as illustrated in the 4-H vision (National 4-H Council, 2009c) and by connecting with Extension professionals and resources. Only three respondents used research-based information as part of their program components, including the Philippines, which is not surprising considering that none of the participants indicated that they were connected to a university. This is also in contrast with the United States program, which functions as part of the Extension system. The connection of Extension to land-grant universities is an integral component of bringing research-based ideas and practices to communities and 4-H for the benefit of the people. Such a connection on a global scale has the potential to enhance the education of youth and adults, and speed the development process of communities.

The numbers of youth served, volunteers, and staff varied from country to country and were likely tied to the development of 4-H in that country (Table 5). Volunteers significantly outnumbered the staff, with the exception of Tanzania, Uganda B, and Liberia, where the numbers of volunteers and staff for each gender were fairly equal. Larger numbers of staff and volunteers are often indicative of clubs that are active and have established programs.

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

The composite age range of program participants was 6-40, with 80% aged 13-17. The majority of respondents listed the maximum age of participation as 25 or greater, in contrast to the United States 4-H program that serves youth only until they are 18 (National 4-H Council, 2009b). In the United States other programs closely associated to 4-H, such as collegiate 4-H (4-H National Headquarters, 2010a) and adult educational opportunities available through Cooperative Extension (4-H National Headquarters, 2010b), are provided as resources to individuals 18 and up. Globally, older participants may be included because the focus of global 4-H programs is to provide resources to all youth and adults, similar to the mission of our Cooperative Extension system (National 4-H Council, 2009b). Based on the range of ages served in global programs, a global network would benefit from the cooperation, support, and practices used in Cooperative Extension.

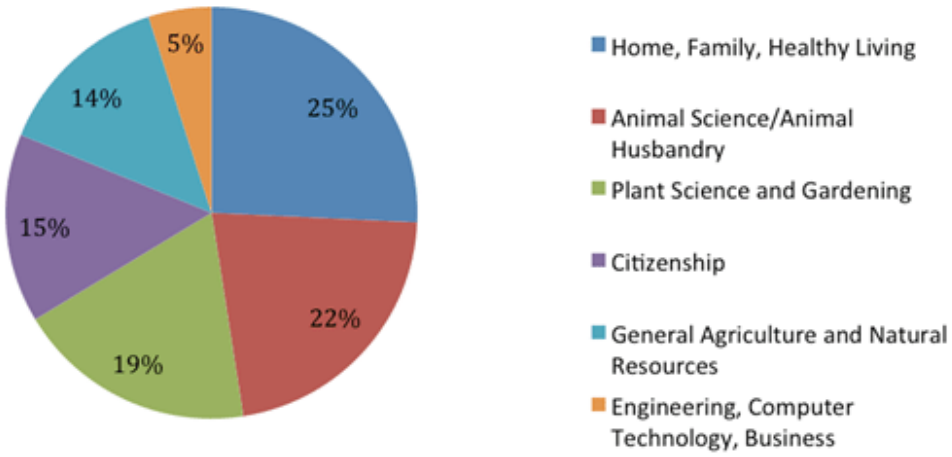
A chi-squared analysis indicated significant differences (= 0.05) in membership gender with an overall ratio of female (35%) versus male (65%). China, Uganda A, and Uganda B had nearly equal numbers of males and females enrolled. Only four respondents indicated that they provided programming specifically for females. The programs for females 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 MDG's (FAO, 2010) include empowering girls and women, female enrollment and programming warrant special attention as the Global 4-H Network develops.

Objective Three—Programming Areas

Survey participants offered a total of 310 programs, which were categorized into one of six major categories (Figure 1). Seven of the most common programs fell under citizenship or home, family, and healthy living: six fell directly under the agriculture sector. Considering the high numbers of male participants in the developing countries, more agricultural programs were expected. Information on the number of participants in each program was not gathered in this survey. None of the participants offered biotechnology, GIS/GPS precision agriculture and mapping, or robotics.

Figure 1.

Percent of Programs Offered by Category



The two most frequent content areas for each category are listed in Table 6. Considering that most of the survey respondents were from developing countries, it is not surprising that the agriculture-based programs offered are low-input programs that use resources that are readily available or involve small farm animals.

Table 6.

Two Most Frequent Content Areas for Each Category

Category	Program or Content Area	# of Countries
Citizenship	Community Service &	13

	Volunteering	
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 & 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—Desired Programming Areas

Survey participants were asked to identify two program areas they would like to offer and the limitations to offering them (Table 7). Seven of the 10 respondents identified agricultural programming needs: only two identified home and health programming needs. Three identified programming needs in information technology and computer science areas, with the Philippines listing GIS/GPS precision agriculture as one of their desired programs. The Philippines is more developed than many of the other countries responding to this survey.

Table 7.

Desired Programs and the Challenges to Offering Them

Country	Program	Challenge
China	Family Education for Parents (100 lectures)	Transportation/Infrastructure
Tanzania	Plant Selection	Funds
The Gambia	Arts & Crafts; HIV AIDS Prevention & Education	Technology
Uganda A	Veterinary; Information Technology	Technology
Uganda B	Fisheries & Aquaculture; Trees/ Forestry	Technology
Zambia	Computer Technology; Agribusiness	
Liberia	Sports; Plant Disease/Prevention	Technology
Kenya B	Personal Leadership Development; Information Technology	Technology
Ghana	Animal Science/Husbandry	Technology
Philippines	GPS/GIS Mapping for Agriculture	Technology, Learning Materials, Funds, Staff, Transportation/Infrastructure, Knowledge Transfer

Lack of funds, learning materials, transportation, and technology were the most commonly identified challenges for providing programs. Technology is a very broad term and has different definitions depending on the desired program. 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. Many of the challenges listed would benefit from the establishment of a connection with Extension or the development of a similar connection in their own country.

Thirteen respondents indicated contact with at least one 4-H organization (data not shown). Several of the contacts were previously listed as partners. New contacts included other neighboring country 4-H programs, which could be an important partner in expanding the Global 4-H Network.

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, training materials/manuals, financial support, best practices for programs, program management and evaluation guidelines, and an exchange of proven programs.

Objective Five—Compare Agricultural Production Data to the Programming Areas Offered

FAO Gross Production Value (GPV) for each agricultural product was obtained for China, Denmark, Finland, Gambia, Ghana, Kenya, Namibia, and the Philippines. To assess the Network's possible contribution for enhancing long-term economic/rural development, the percent of total GPV was calculated for each item and sorted from largest to smallest (data not shown). Few of the programs offered aligned with high GPV agricultural products. Programs aligning with high GPV products and offered by more than 60% of the respondents included 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 used resources that were easy to obtain or involved smaller livestock projects. Since 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. Instruction and education for many of the important agricultural products could be provided by the United States 4-H.

Youth harbor the entrepreneurial spirit and are looking for opportunities to become self-employed, often returning from other sources of employment to the rural lifestyle (FAO, UNESCO, & ILO, 1985). Programs that teach practical skills and scientific agricultural knowledge (Xi, Sun, & Xiao, 2006) as well as business techniques are lacking (FAO,

UNESCO, & ILO, 1985c, pp. 11-12). The United States 4-H has programs for approximately 41 of the 66 agricultural commodities produced in participating countries. Each of these agriculturally based programs in the United States is closely supported by Extension.

Conclusions

4-H programs throughout the world differ in size, structure, support, organization, and funding. The information collected here provides a baseline for understanding and development of future, more in-depth studies, especially those using qualitative methodologies. Partnerships provided, on a smaller scale, the support in personnel, funding, and resources the Global 4-H Network hopes to expand and increase. The lack of a direct connection to a university may be a source of some of the funding, support, and resource challenges listed by the programs. The programs, principles, and practices used in Extension could assist in the development of the Global 4-H Network.

On a global scale, people aged 6-40 participate in 4-H, which is significantly higher than in the U.S. and indicates a potential need for partnership and development with Extension. Although the upper age of participation varied by country, the majority (56%) of youth participants were aged 13-17 years and male. Only four countries offered programs that were specifically for women. Those programs were primarily centered on life skills and personal health.

The majority of programs fell under the home, family, and healthy living category (25%), followed closely by animal science/animal husbandry (22%), both of which are strongly supported in the U.S. by Extension. Agricultural programs for small-scale production were more frequent than those for large animal or high-input projects. The major themes of programs offered to all youth participants focused on increasing self-reliance, leadership, and practical and scientific agricultural skills.

Very few of the agricultural programs offered aligned with the high GPV agricultural products. 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. Additional support, funding, and resources could facilitate the expansion of agricultural programs that address important agricultural products for that country. In many cases, a similar program exists in the United States 4-H program. A Global 4-H Network could make these program content areas available to developing countries and opens the possibility for adult program support through Extension.

The most frequent challenges to offering additional programs were a lack of funds, learning materials, and/or technology. Survey participants expected the Global 4-H Network to assist in providing these resources and a sharing of program ideas so 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. Some cultures do not treat all information as public domain (Herbert-Cheshire, 2000), which presents 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, self-reliance of youth leaders, and awareness of diverse populations. The Global 4-H Network could develop a global partnership of 4-H programs and contribute to the MDG's identified by the FAO by implementing programs that address hunger, illiteracy, environmental degradation, and the empowerment of women. The support of sponsors like the Bill and Melinda Gates Foundation, Nike Corporation, and others listed on the 4-H website illustrates the contribution the Global 4-H Network can make on a worldwide scale by focusing on raising generations of youth who are prepared to support themselves while being able and willing to contribute to their society.

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References

4-H National Headquarters. (2010a). 4-H National Headquarters - 4-H Community. Collegiate 4-H, . Retrieved from: http://www.national4-hheadquarters.gov/comm/4h_collegiate.htm

4-H National Headquarters. (2010b). 4-H National Headquarters - 4-H Community. *Cooperative Extension*. Retrieved from: http://www.national4-hheadquarters.gov/comm/4h_extension.htm

Beal, G. M., & Bohlen, J. M. (1981). *The diffusion process* (Special Report No. 18) (p. 5). Ames, Iowa: Iowa State University of Science and Technology. Retrieved from: http://www.soc.iastate.edu/extension/presentations/publications/comm/Diffusion%20Process.pdf

Etling, A., Reaman, K. K., & El Sawi, G. (1993). Overcoming barriers to a global outlook in 4-H. *Journal of Extension* [On-line], 31(2) Article 2INTL2. Available at: http://www.joe.org/joe/1993summer/intl2.php

FAO. (2010, November 3). Millennium development goals. Retrieved from: http://www.fao.org/mdg/en/

FAO, UNESCO, & ILO. (1985). Chinese rural youth: the long march toward education. *Training for agriculture and rural development* (pp. 31-38). Food & Agriculture Org. Retrieved from: http://books.google.com/books?id=vkyVbMyrIYMC&pg=PA54&dq=Training+for+agriculture+and+development+1985c&hl=en&ei=JbCoTeCaEIWisAOv0un5DA&sa=X&oi=book_result&ct=result&resnum=2&ved=0CEIQ6AEwAQ#v=onepage&q&f=false

FAO, UNESCO, & ILO. (1985c). *Training for agriculture and rural development*. FAO Economic and Social Development Series (Vol. 33). Food & Agriculture Org. Retrieved from: http://books.google.com/books?hl=en&lr=&id=vkyVbMyrIYMC&oi=fnd&pg=PP8&dq=training+for+agriculture+and+rural+development&ots=2igwC1PcyZ&sig=Z7Z2Eo_rHQ5s2Hu-KJmYGWuP9js#v=onepage&q&f=false

Herbert-Cheshire, L. (2000). Contemporary strategies for rural community development in Australia: a governmentality perspective. *Journal of Rural Studies*, 16(2), 203-215. doi:10.1016/S0743-0167(99)00054-6

Lerner, R. M., Lerner, J. V., Almerigi, J. B., Theokas, C., Phelps, E., Gestsdottir, S., Naudeau, S., et al. (2005). Positive youth development, participation in community youth development programs, and community contributions of fifth-grade adolescents. *The Journal of Early Adolescence*, 25(1), 17 -71. doi:10.1177/0272431604272461

Lombardo, C., Zakus, D., & Skinner, H. (2002). Youth social action: building a global latticework through information and communication technologies. *Health Promotion International*, *17*(4), 363 -371. doi:10.1093/heapro/17.4.363

Mutchler, M. S., Anderson, S. A., Grillo, M., Mangle, H., & Grimshaw, M. (2006). Opening doors: A qualitative evaluation of the Waterbury youth leadership project. *Journal of Extension* [On-line], 44(6) Article 6FEA5. Available at: http://www.joe.org/joe/2006december/a5.php

National 4-H Council. (2009a). 4-H National Headquarters - Essential elements. Retrieved from: http://www.national4-hheadquarters.gov/about/4h_elements.htm

National 4-H Council. (2009b). 4-H National Headquarters - 4-H history. Retrieved

from: http://www.national4-hheadquarters.gov/about/4h_history.htm

National 4-H Council. (2009c). 4-H National Headquarters - 4-H lore. Retrieved from: http://www.national4-hheadquarters.gov/about/4h_lore.htm

National 4-H Council. (2010). Global Network | 4-H. Retrieved from: http://www.4-h.org/about/global-network/

Solomon, M. J., & Chowdhury, A. M. R. (2002). Knowledge to action: Evaluation for learning in a multi-organisational global partnership. *Development in Practice*, 12(3/4), 346-354.

Xi, J., Sun, Y., & Xiao, J. J. (2006). *Chinese youth in transition*. Burlington, VT: Ashgate Publishing, Ltd. Retrieved from: http://books.google.com/books?id=FlcRjyvFDiQC&printsec=frontcover&dq=Chinese+youth+in+transition&hl=en&src=bmrr&ei=XdveTYfKMovCsAPWxq2kBw&sa=X&oi=book_result&ct=result&resnum=1&ved=0CDAQ6AEwAA#v=onepage&q&f=false

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