

Developing Resilient Rural Communities in the United States and Japan

農村地域のレジリエンス

2015 Akita International University
Oregon State University
<http://web.aiu.ac.jp/icpt/pbl/gsp389/>

Editors: Ayumi Sugimoto, Nancy Rosenberger, and John Bliss



Rural Communities



Instructors



Students

Index

Index	1
1. Introduction	2
2. Participants List (students & instructors)	5
3. Syllabus	6
4. Book List	12
5. Itinerary	16
6. Students' Final Presentation	23
7. Individual Paper	51
8. Reflection	125

1. Introduction

Introduction on the 2015 Summer Study Abroad PBL program in Oregon and Akita

Akita International University (AIU) and Oregon State University (OSU) held a special summer study abroad Project-Based Learning (PBL) program on rural resilience from June 15 to July 17, 2015.

Three faculty (Ayumi Sugimoto, AIU; John Bliss, OSU; Nancy Rosenberger, OSU) and 8 students (3 from AIU, 4 from OSU, 1 from Oregon Institute of Technology) worked together for the field research on rural resilience in Japan and the United States of America.

This PBL highlighted experiential learning through collaboration among faculty, students, and local people. The students had to identify individual research questions and then, organized into two groups, synthesize them among the group members to achieve learning goals (see below). The students also had to gather information in the classroom and the field in the US and Japan. The faculties facilitated students' studies and the local people shared their knowledge and experiences with the students. This is literally an example of student-centered learning because the students attempted to figure out the realities on the ground through the PBL.

Student Learning Goals and Expected Outcomes

This PBL aimed to enhance students' abilities as follows;

1. Students evidence cross-cultural competency by working effectively throughout the course as members of cross-cultural teams.
2. Students demonstrate ability to articulate (orally and in writing) key concepts of community resilience, adaptive capacity, and related concepts, and to apply these concepts to understanding the challenges faced in the two communities studied.
3. Students demonstrate ability to:
 - Develop and articulate research questions germane to course themes;
 - Collect relevant primary and secondary data using appropriate research methods;
 - Synthesize research findings and present them through professional oral and written communications.
4. Students demonstrate recognition of, and ability to describe their own cultural "lenses" in contrast to other cultural "lenses". Students demonstrate ability to compare and contrast U.S. and Japanese cultural mores, values, and perspectives.

Challenges

The 2015 AIU-OSU PBL course was designed based on the previous PBL between AIU and OSU in 2013. For example, the course theme "rural resilience" and research sites in Akita and Oregon were same as the last time. However, some changes took place in the 2015 PBL course as follows:

- One faculty (John Bliss) continued teaching this PBL course and two faculty (Nancy Rosenberger & Ayumi Sugimoto) joined from 2015. It became a great opportunity

Developing Resilient Rural Communities in the United States and Japan
for team teaching among three faculty members who had different specialties and backgrounds.

- Five American students were gathered from three different universities in Oregon State. Three Japanese AIU students were in the midst of their study abroad in different countries when they came to study in this PBL. Since the students were from different departments and/or universities, their academic experiences and backgrounds were much more diverse than in the previous PBL and thus the class learning was greater in general.
- The students were divided into two groups with different research foci; one was forestry and natural resources, and the other was agriculture and food.
- The field research time was extended so as to learn more through interactions with local people.

This PBL course was organized to emphasize collaborative learning among students, instructors, and local people in Japan and the US. Students worked on their research individually and collectively. They had to determine their own research interests/questions, gather data in the field, and clarify their findings in the individual papers. Moreover, at the midterm and the final presentations, students had to synthesize their individual topics of research into the theme of their team. The students needed abilities such as understanding other cultures, communication skills, self-direction, and a spirit to challenge the unknown.

About this report

This report partially shares the learning results of this PBL. Hopefully, it will convey some ideas for future higher education with international and local collaborative learning. The report consists of eight sections. After this introductory section, the participants listed in the second section show that faculty and students of this PBL had a diverse background. The syllabus in the third section should clarify the course outline. In the fourth section, the list of readings which were assigned to students during the PBL is compiled. The fifth section is the itinerary which tells in more detail how this PBL was undertaken. The sixth section is a copy of the Power Point slides from students' final group presentations at AIU. The seventh section incorporates students' individual final papers; they are presented here as original works without revisions or English proof reading. The final section contains reflections of the faculty.

Acknowledgements

There are too many people to acknowledge for the success of this PBL. However, we would like to note a few.

Firstly, we deeply appreciate those who kindly accepted our visit and eagerly taught their knowledge to us in the field of Oregon and Akita. Mr. Nils D Christoffersen, an executive director of Wallowa Resources, gave us great help in coordinating the entire schedule of Wallowa field work and to provide wonderful lectures in Wallowa. Community Resource People: Philomath, Oregon Food Bank, Maureen and Clint Krebs, Wallowa Lake Methodist Camp Staff, Liza Jane and Adele of 6 Ranch, Rich Wanschneider, Staff of Building Healthy Families, Director of Enterprise Hospital Larry Davy, Jeanette Johnson of Community Connections, Joe McCormack of Nez Perce Tribal Fisheries. When it comes to field work in Akita, thanks must go to Mr. Teruo Endo, a leader of Akata community, and Mr. Syoki Onuma, a leader of Tenjin community. Without their understanding and cooperation, it would have been impossible for us to conduct this kind of experiential learning in Japanese rural communities. Yurihonjo city government also gave us a lot of support to coordinate the field

Developing Resilient Rural Communities in the United States and Japan

work in rural communities. We also would like to express our appreciation to all the people in Wallowa County, Oregon, and Akata community, Tenjin community, Arawa community, and Kayagasawa community in Akita Prefecture.

Secondarily, the administrative and logistical support of many faculty and staff at OSU and AIU provided the necessary basis to complete this PBL. AIU staff members Yukiko Suda, Yuka Okura, Eriko Fujita, Sakiko Kobayashi, Kengo Sato, and OSU staff Laura Hampton and Michele Justice provided support for this project. The faculty of AIU, Dr. Yoshitaka Kumagai, Dean of International Collaboration, Dr. Hitomi Maenaka, Director of the Global Studies Program, and former Vice President Dr. Mark Williams encouraged us to pursue this opportunity.

Finally, AIU received a Japanese government grant ("Re-Inventing Japan Project," MEXT) to pursue this form of education. Thanks to the great financial support received from MEXT, this international PBL program was made possible.

2. Participants List (students & instructors)

AIU-OSU PBL 2015

Developing Resilient Rural Communities in the United States and Japan

Instructors

Ayumi Sugimoto, Ph.D.
(Basic Education, Akita International University)

John Bliss, Ph.D.
(College of Forestry Adm, Oregon State University)

Nancy Rosenberger, Ph.D.
(College of Liberal Arts, Oregon State University)

AIU Students Name (Major, Study abroad destination*)

Kasumi Toshima
(Global Studies, Study abroad in U.S.)

Ryoko Ieda
(Global Studies, Study abroad in Denmark)

Yasuhiro Taga
(Global Studies, Study abroad in Singapore)

*All AIU students are required to study abroad for a year, and only those who are in the midst of or who have completed this requirement were eligible to apply for this PBL.

Oregon Students Name (Major, Home Institution)

Andrew Rood
(Renewable Energy Engineering, Oregon Institute of Technology)

Christian Hargrove
(Natural Resources and Rangeland Management Planning, Oregon State University)

Holly Rysenga
(Animal Science: Pre-veterinary medicine, Oregon State University)

Maya Giddings
(Renewable Materials & Sustainability, Oregon State University)

Tiffany Netz
(Forest Engineering and Civil Engineering, Oregon State University)

3. Syllabus

PBL DEVELOPING RESILIENT RURAL COMMUNITIES IN THE UNITED STATES AND JAPAN

Offered: June 15 – July 17, 2015

Credit: 5 (AIU)

Capacity: 4 AIU students, 4 OSU students

Course Instructors

Dr. Ayumi Sugimoto, Basic Education, AIU

Dr. John Bliss, Forest Ecosystems and Society, OSU

Dr. Nancy Rosenberger, Anthropology, OSU

Course Description

Global economic restructuring is changing the character of rural communities around the world. In Oregon, as in many parts of the United States, rural communities founded upon natural resource extraction and processing have experienced mill closures and increasingly restricted access to resources. Declining employment opportunities have led to an outmigration of youth. Similar dynamics have occurred in rural Japan, leading to an aging rural population and stagnant rural communities. In Akita, as in other areas of rural Japan, rural communities founded on natural resource management have maintained collective actions and community ties. Japan's declining population and outmigration of rural youth have shrunken rural communities.

This course focuses on rural community resilience through a comparative case study of communities in both rural Oregon and rural Akita. Students will research actual practices in the two countries by focusing on community dynamics and their natural resource use, especially forestry and agriculture. Students' field research includes interview, questionnaire survey, and hands-on training.

This course is designed explicitly to enhance the global, cross-cultural competency of participating students. A key strategy will be team research by the integration of AIU and OSU students in a project-based learning (PBL), during this PBL they will take classes together and meet at social functions held by course instructors. Student research teams will work mainly for different topics, forestry or agriculture of rural community resilience. American students will serve as cultural translators for the Japanese students while in rural Oregon, and the Japanese students will serve a similar role while the class is in rural Akita. Funding from the Japanese government will support faculty involved with this project, as well as provide travel and lodging support for OSU and AIU students.

Student Learning Goals/ Expected Outcomes

1. Students evidence cross-cultural competency by working effectively throughout the course as members of cross-cultural teams.
2. Students demonstrate ability to articulate (orally and in writing) key concepts of community resilience, adaptive capacity and related concepts, and to apply these concepts to understanding the challenges faced in the two communities studied.
3. Students demonstrate ability to:

Developing Resilient Rural Communities in the United States and Japan

- Develop and articulate research questions germane to course themes;
 - Collect relevant primary and secondary data using appropriate research methods;
 - Synthesize research findings and present them through professional oral and written communications.
4. Students demonstrate recognition of, and ability to describe their own cultural “lenses” in contrast to other cultural “lenses”. Students demonstrate ability to compare and contrast U.S. and Japanese cultural mores, values, and perspectives.

Prerequisites

To register for the course, students must:

1. Have achieved at least junior standing
2. Submit an application packet including nomination, resume and statement of interest
3. Be interviewed by course instructors
4. Complete the course of research methods

Student Learning Assessment

Each student will prepare a course portfolio documenting their learning experience and outcomes. Portfolios will include the following:

1. Personal learning objectives and self assessment of learning
2. Field notes, writing assignments, journals
3. Class critiques of student presentations
4. Graded final projects; individual field research paper (3000 words, The deadline of paper submission is two weeks after the PBL) (including contributions to course website and blog)
5. Graded final essay examination
6. Student and faculty assessment of student participation in and contribution to class activities
7. In addition, each student will participate in an exit interview with course instructors

Final grades will reflect student participation (including professional behavior, participation in class activities, contribution to class esprit de corps) (40%); quality of team work (including research process, collaborative interaction, and final products) (30%); and individual performance (including written assignments, presentations, and final exam) (30%).

Learning Resources (example, Reading list will be announced later)

Walter V. Reid, Brian W., David S., 2006. Resilience Thinking: Sustaining Ecosystems and People in a Changing World. Island Press

Adger, W., Huges, T., Folke, C., Carpenter, S., and Rockstrom, J. 2005. Social-ecological resilience to coastal disasters. Science 309:1036-1039.

Chaskin, Robert J. 2001. Building community capacity: A definitional framework and case studies from a comprehensive community initiative. Urban Affairs Review, 36(3)2001: 291-323.

Joy Hendy et al. 2013 Understanding Japanese Society, Routledge

John W. Traphagan and John Knight eds. 2003 Demographic Change and the Family in Japan's Aging Society, State University of New York Press

Developing Resilient Rural Communities in the United States and Japan
Margaret McKean 1992 "The Management of Traditional Commons land (Iriaichi) in Japan"
D.W. Bromley (eds.) In Making the Commons Work: Theory, Practice, and Policy. ICS
Press

Course Design: The course consists of 4 modules:

Module 1: Foundations of Rural Resilience

Module 1 will occur on and near the OSU Corvallis campus. Students will engage in reading, discussion, and writing on contemporary rural community dynamics, resilience theory, globalization, and cross-cultural studies. This module will take place over approximately one week.

Topics covered will include:

- Introduction to the class: learning objectives, course logistics, team organization
- Theoretical foundation: cultural literacy, rural communities, globalization, resilience theory
- Introduction to rural America: history, culture, demography
- Team building exercises, social activities
- Course project, website development

This module will include the following activities:

- Lectures on course topics by course faculty and guest speakers
- Student – led discussion of assigned readings
- Several one day field trips to rural communities in the Willamette Valley, Coast Range, and Oregon Coast
- Opportunities for socializing and team building

Student assignments:

- Serve as discussion leader or discussant for at least one assigned reading
- Write 250 word abstract for each reading
- Work with research team to develop research project focus
- One or more pop quizzes or writing assignments relevant to course themes

Module 2: Rural Oregon Case Study

Module 2 will occur in Wallowa County, Oregon. The class will be based at the Wallowa Lake Methodist Camp, where we will eat and sleep and many class activities will occur. This module will take place over approximately two weeks.

The resilience framework will be used to organize our learning experiences. What factors influence the social, economic, and ecological conditions we observe? What are the drivers of change in these conditions? Examples of issues and topics to be explored within this framework include:

- Contemporary life in a remote, rural community in the Western US
- Demographics of rural America: aging populations, outmigration of youth, amenity migrants, rural poverty
- Ethnic and cultural diversity in rural America: the Nez Perce Homeland Project, Maxville Heritage Project
- Contemporary conservation issues: wolves, cattle, and ranchers; public forest health, salmon

Developing Resilient Rural Communities in the United States and Japan

- The role of community non-profit organizations in community well-being: Wallowa Resources
- Rural development innovations and challenges: mini hydro, bioenergy, solar and wind power, ecotourism

This module may include the following activities:

- Field trips focused on:
 - Prairie restoration at the Nature Conservancy's Zumwalt Prairie
 - Community development with Wallowa Resources
 - African American history: The Maxville Heritage Project
 - The Nez Perce Homeland Project
 - Rural politics and services with Wallow County Commissioners
 - Public forest management on the Wallowa-Whitman National Forest
 - The science and sociology of Wolf reintroduction
 - Community-scale bioenergy
- Team research projects, including secondary data collection and analysis, key informant interviews, and participant observation
- Synthesis of course themes through journaling, development of a course website and blog
- Service learning project with either the Maxville Heritage Project or the Nez Perce Homeland Project
- Multiple recreational opportunities, including hiking, swimming, trail running, and horseback riding
- Several structured pauses for reflection, discussion, synthesis, and writing
- A community dinner at which students will present insights from their Wallowa experience

Student Assignments:

- Research projects undertaken during this module will be conducted by teams comprised of 2 AIU and 2 OSU students. Teams will work together under faculty guidance to develop research questions and methods.
- Teams will identify data requirements, key informants, and other research needs, and will co-produce materials to be hosted on the course website. These may include written reports, videos, links to existing sites, photographs, and other materials as appropriate.
- Individual students will also complete short writing assignments, participate in class discussions, and complete a mid-term essay exam.

At the end of this module we will pause for one or more days to reflect on what we've learned, synthesizing and documenting our experience through writing, presenting, and developing the course website. This may occur in either Wallowa County or back on the OSU Corvallis campus.

Finally, we will afford students some days to prepare for travel to Japan and the next module of the course. Modules 3 and 4 will be conducted during the period July 18 – August 7.

Module 3: Rural Japan Case Study

Module 3 will take place in rural Akita Prefecture, Japan. We will be exploring the concepts of resilience in Akata village, a community of Yurihonjo city. Students will engage in reading, discussion, and writing on contemporary rural community dynamics, resilience theory, globalization, and cross-cultural studies. This module will take place over approximately one

week.

Topics covered will include:

- Introduction to Akita session: learning objectives, course logistics
- Theoretical foundation: family structure, rural communities, global and national policy, resilience theory
- Introduction to rural Japan, Akita: history, culture, religion, demography, economy, agriculture, forestry (Iriairin commons), sixth industry, NPO
- Team building exercises, social activities
- Course project, Website development

This module will include the following activities:

- Field trips focused on:
 - Mt. Takao
 - Rural Akita history
 - Rural politics and activities with Neighborhoods Association
 - Iriairin Common forest management in rural Japan
 - Introduction of the Sixth industry to farmers
 - Bioenergy (wood pellet industry, community currency)
- Lectures on course topics by course faculty and guest speakers
- Student – led discussion of assigned readings
- Three days field trips to rural communities in Akita: Tenjin, Arawa, Kayagasawa, Mt. Takao
- Five days field research in Akita: interview, questionnaire survey, hiking common forest, farming experience, one night home stay, social gathering
- On the job training in Akita: harvesting and cooking edible wild plants and vegetables, helping farmer's store

Student assignments:

- Serve as discussion leader or discussant for at least one assigned reading
- Write 250 word abstract for each reading
- Work with research team to develop research project focus
- One or more pop quizzes or writing assignments relevant to course themes

Module 4: Synthesis

Module 4 will occur on the Akita University campus, and involve synthesis across the two countries studied, critical examination of lessons learned, and assessment of student learning. Team projects will be completed and presented.

Examples of issues and topics in Akita to be explored within the resilience framework include:

- Contemporary life in a remote, rural community in Tohoku region, the North-Eastern Parts of Japan
- Demographics of rural Japan: aging populations, outmigration of youth, amenity migrants (A-turn), seniors living alone, rural poverty
- Ethnic and cultural diversity in rural Japan: Emishi people, intangible cultural properties (ex. Namahage), cultural tourism and local tour guide
- Contemporary conservation issues: Iriai community forest, abandoned farms, and group farming
- The role of community outsiders in community well-being: Akita Green Tourism Promoting Association (NPO), Keihoku supermarket (private sector in urban)

Developing Resilient Rural Communities in the United States and Japan

- Rural development innovations and challenges: sixth industry (farmer's market, ecotourism), bioenergy

This module may include the following activities:

- Team research projects, including secondary data collection and analysis, key informant interviews, and participant observation
- Synthesis of course themes through journaling, development of a course website
- Service learning project with Akata neighborhoods association, common forest association, farmer's market association
- Multiple recreational opportunities, such as fireworks festival, hot spring
- Several structured pauses for reflection, discussion, synthesis, and writing
- Home stay, community dinner, and tea party at which students will present insights from their Akata experience

Student Assignments:

- Research projects undertaken during this module will be conducted by teams comprised of 2 AIU and 2 OSU students. Teams will work together under faculty guidance to develop research questions and methods.
- Teams will identify data requirements, key informants, and other research needs, and will co-produce materials to be hosted on the course website. These may include written reports, videos, links to existing sites, photographs, and other materials as appropriate.
- Individual students will also complete short writing assignments, participate in class discussions, and complete a mid-term essay exam.

4. Book List

PBL Rural Community Resilience 2015

Readings

Students must purchase their own copy of the Walker and Salt book. All other readings will be made available as PDFs.

WEEKS ONE AND TWO

On Resilience *Read Prior to class*

Walker, Brian, and David Salt. 2006. *Resilience Thinking: Sustaining Ecosystems and People in a Changing World*. WA DC: Island Press. 174 pp.

On Methods *Read by June 16*

James Spradley, *The Ethnographic Interview*, pp. 55-68

Russell Bernard, *Research Methods in Anthropology*, pp. 156-163; 429-432; 436-440.

On Oregon

Abrams, Jesse. 2010. Land tenure and use history of Wallowa County, Oregon. Unpublished draft of dissertation chapter. Department of Forest Ecosystems and Society, Oregon State University. 46 pp. *Read by June 20.*

Kelly, Erin Clover, and John C. Bliss. 2009. Healthy Forests, Healthy Communities; An emerging paradigm for natural resource-dependent communities? *Society and Natural Resources* 22:6, 519 – 537. *Read week of June 22.*

Robbins, William G. 2005. From Natural Resources to a new economy. In Robbins, William G., *Oregon: This Storied Land*. Portland: Oregon Historical Society Press. P. 179 – 200. *Read week of June 22.*

Stauber, Karl N. Why invest in rural America – And how? A critical public policy question for the 21st century. 29 pp. *Read by June 26.*

WEEKS THREE AND FOUR

On Japan

Kenneth Quinones ed., 2011, *Akita – Beyond the Narrow Road's End*, Akita International University Press, p.1-27, p.106-151. *Read before July 2.*

Chapter 1: Akita's Land, People and Economy

Chapter 2: Akita City

Chapter 7: Southern Akita (including Chokokuji and the Akata Buddha)

Chapter 8: Akita – A Brief History

John W. Traphagan and John Knight eds. 2003 *Demographic Change and the Family in Japan's Aging Society*, State University of New York Press, p. 3-52

Chapter 1: The Study of the Family in Japan: Integrating Anthropological and Demographic Approaches

Chapter 2: Changes in the Living Arrangements of Japanese Elderly: The Role of Demographic Factors

Margaret McKean 1992 "The Management of Traditional Commons land (Iriaichi) in Japan" D.W. Bromley (eds.) *Making the Commons Work: Theory, Practice, and Policy*. ICS Press,

Elinor Ostrom et al. eds. 2002 *The Drama of the Commons*. National Academy Press

Masatoshi Ouchi, 2010, *Rural Development Strategies in Japan*, Greh Halseth, Sean Markey and David Bruce eds. *The Next Rural Economies: Constructing Rural Place in Global Economies*, CABI International, p. 207-222

On Japanese Agriculture *Read by July 4*

Penelope Francks, "State and Agricultural Adjustment in Industrialized Japan" In *Agriculture and Economic Development in East Asia*, pp. 73-102

William Kelly, "Rice and Revolutions and Farm Families in Tohoku: Why is Farming Culturally Central and Economically Marginal, In CS Thompson and JW Traphagan, eds., *Wearing Cultural Styles in Japan: Concepts of Tradition and Modernity in Practice*, pp. 47-71.

Takami Kuwayama, "The Reference Other Orientation" In NR Rosenberger, ed., *Japanese Sense of Self*, pp. 121-151.

AIU-OSU PBL 2015 Preparation Seminar for AIU Students

2015 年 4 月 2 日

作成：梶本歩美

1. 概要

2015 年度 OSU PBL に参加する AIU 学生のみなさん、自身の知的好奇心にもとづいて、日米の地域社会を探究し、一緒に PBL をつくっていきましょう。

PBL では、日米の学生が混成チームを形成し、文献調査、ディスカッション、フィールドワークをとおして、各チームそれぞれの研究課題に取り組んでももらいます。日本人学生のみなさんは、全行程で重要な調査メンバーですが、とくに秋田でのフィールドワークで、リーダーシップを発揮してくれることと期待しています。

そこで、PBL 開始前に、日本の地域社会に関する基礎文献を学ぶ Preparation Seminar (プレゼミ) を実施します。PBL のなかでは扱えない日本語の文献を中心に輪読します。

2. スケジュール

※スカイプで実施します。日時は日本時間ですので、ご注意ください。

第 1 回 地方消滅とは何か

【日時】

4 月 24 日 (金) 10 時から 12 時

【内容】

2014 年に日本創成会議が発表した消滅可能性都市は、日本全体に大きな衝撃を与えた。通称、増田レポートといわれる調査書によると、2040 年秋田県は大潟村を除く全ての市町村が消滅の可能性にあるという。しかしながら、自治体や集落が消滅する可能性があるとは、どういうことなのだろうか。増田レポートの論拠を理解したうえで、地方消滅や限界集落などの議論の有効性と問題点を議論する。

【課題文献】

日本創成会議・人口減少問題検討分科会、2014『成長を続ける 21 世紀のために「ストップ少子化・地方元気戦略」』提言、平成 26 年 5 月 <http://www.policycouncil.jp/>

※秋田県人口問題対策プロジェクトチーム、2015『秋田の人口問題レポート』秋田県
http://www.pref.akita.lg.jp/www/contents/1425347455427/files/jinkou_zentai.pdf

【参考文献】

増田寛也編、2014『地方消滅－東京一極集中が招く人口急減』中公新書
山下祐介、2014『地方消滅の罨－「増田レポート」と人口減少社会の正体』ちくま新書
小田切徳美、2014『農山村は消滅しない』岩波新書
広井良典、2013『人口減少社会という希望－コミュニティ経済の生成と地球倫理』朝日新聞出版

第2回 日本の農村社会の基礎理論

【日時】

5月23日（土）14時から16時

【内容】

日本の農山村における地域社会の特徴とは何であろうか。基本となる共同体の概念を学び、日本の地域社会がどのように成り立っているかを、事例と理論を通して考える。日本と欧米の地域社会（コミュニティ）の違いについても議論する。

【課題文献】

内山節、2010『共同体の基礎理論』農文協（2章、3章、6章、終章）

日本村落研究学会編、2007『むらの社会を研究する』農文協（1章、2章、3章※）

*PDFをAIMSにアップします。

【参考文献】

大塚久雄、1955『共同体の基礎理論』岩波書店

鳥越皓之、1985『家と村の社会学 増補版』世界思想社

第3回 地域社会をみる眼

【日時】

6月5日（金）10時から12時

【内容】

フィールドワークや調査の一環で農村社会を訪れた際、私たちは何を見て、聞きて、感じるができるのだろうか。宮本常一は、日本の農山村を歩き、多くの民俗調査を残した。常一の鋭い描写をもとに、私たちが農村調査で得られる情報とはなにか、どのようにすれば深い観察や情報収集ができるのか、外部者としてどのようにふるまうべきか、などを考えよう。

【課題文献】

宮本常一、1984『忘れられた日本人』岩波文庫

各自入手してください。

【参考文献】

大牟羅良、1958『ものいわぬ農民』岩波新書

米山俊直、1967『日本のむらの百年』NHKブックス

宮本常一・安溪遊地 2008『調査されるという迷惑』みずのわ出版

Robert Chambers, 1995, Rural Development: Putting the last first, Prentice Hall

5. ITINERARY

Note: All classes the first week are in Peavy Hall 101

Monday, June 15

- 9:00 AM Meet in Peavy Hall 101. Hike up to Fitton Green Natural Area for view of landscape: Practicing observation, Land use and reading the landscape with writing—What can we learn about rural America just from observing closely? Student introductions—where are you from, what studying, hobbies, family, etc.
- 11:30 AM Return to campus. Lunch on your own
- 1:00 PM Nancy: Overview of Japanese culture and Society (Nancy Rosenberger). Cultural concepts of US comparison. Discussion of readings on Japan (“Understanding Japanese Society” (Hendry 2005)). Show film?
- 6:00 PM Meet at Peavy Hall for transport to dinner at John’s house

Tuesday, June 16

- 9:00 AM Lecture on resilience theory, concepts and vocabulary (John Bliss). Discussion of readings: “Resilience Thinking: Sustaining ecosystems and People in a Changing World” (Walker and Salt 2006). Sarah Cunningham on youth migration
- Noon Lunch on your own
- 1:00 PM Form teams, discuss roles, activities. Cross-cutting themes for both teams to consider: economic, ecological, social resilience (demographics, age, gender, income differences). Interviewing—how to do interviews; how to make up questions; sensitivity; taking notes; what to tell about selves; do interviews; transcribe (John Bliss, Nancy Rosenberger, Ayumi Sugimoto). Teams work together in choosing topic and developing questions.

Wednesday, June 17

- 9:00 AM Interview coding, generating themes and theme maps. Participant observation, mapping, and other research tools (Nancy Rosenberger, Ayumi Sugimoto).
- Noon Lunch in Philomath on your own
- 1:00 PM Walkabout Philomath: Participant observation, mapping, and unstructured, conversational interviewing. Visit Philomath Food bank

Thursday, June 18

- 9:00 AM Reflect on Philomath experience. Team building: Think about questions for each team to ask and who they might want to talk to in Oregon or Japan. Discussion of readings—revisit Resilience readings.
- Noon Lunch on your own

Developing Resilient Rural Communities in the United States and Japan

1:00 PM Preparation for Wallowa—questions regarding team projects, food, agriculture, and natural resources. Discussion of values, cultural differences, and conflicts, what to watch for in homestay. What to expect in Akita (Ayumi Sugimoto).

Friday, June 19

8:00 AM Depart from Peavy Hall loading dock. Travel to Wallowa County
Noon Lunch on the road (on your own)
5:00 PM Arrive at Wallowa Resources Stewardship Center, Enterprise.
6:30 PM Barbeque at Maureen and Clint Krebs Ranch
8:00 PM Students to homestays

Saturday, June 20

Morning Students with homestay hosts
12:00 PM Farmers' Market, Joseph
2:00 PM Walkabout Joseph. Practice participant observation.
4:00 PM Return to Wallowa Lake Methodist Camp, settle in cabin assignments.
6:00 PM Dinner, camp lodge

Sunday, June 21: Issues in natural resources

7:45 AM Breakfast, pack sack lunch
8:30 AM Walk to Wallowa Lake Gondola, take gondola to the top of Mount Howard. Walking tour, Nils Christoffersen leads discussion of forest health, climate change, wolves, wildlife and recreation, overview of E. Moraine Community Forest project
Noon Sack lunch on Mount Howard
2:00 PM Descend Mt. Howard in gondola, return to camp. Free time
6:00 PM Dinner, camp lodge
7:00 PM Evening program TBD

Monday, June 22: Local food production

7:45 AM Breakfast
8:30 AM Depart for the town of Wallowa. Tour Hawkins' Sisters poultry operation, 6 Ranch with Liza Jane, Adele
Noon Sack lunch in field
1:00 PM Rich Wanschneider, Josephy Center, Joseph. History of Wallowa County.
4:00 PM Return to camp
6:00 PM Dinner at camp lodge
7:00 PM Freetime

Developing Resilient Rural Communities in the United States and Japan

Tuesday, June 23: Community well-being

7:45 AM	Breakfast
8:15 AM	Depart for Stewardship Center. Building Healthy Families, Alternative School. Enterprise. Maria and Lindsay.
10:00 AM	Health Care, WC Hospital, Enterprise. Hospital Director Larry Davy.
11:15 AM	Community connections: food bank, transport, energy credit/firewood, elder care. Jeanette Johnson.
4:00 PM	Return to camp
6:00 PM	Dinner
7:00 PM	TBD

Wednesday, June 24: Natural Resource Management: wood and water

7:45 AM	Breakfast, make sack lunch
8:30 AM	Depart for Integrated Biomass Energy Campus, Wallowa. Renewable energy: biomass, micro-hydro, solar. Wolf Ranch.
Noon	Lunch of locally-produced fresh food at Lostine Tavern (on your own).
TBD	Reintroduction of Coho by Nez Perce. Fish weir, Joe McCormack.
4:00 PM	Return to camp
6:00 PM	Dinner
7:00 PM	TBD

Thursday, June 25: Summary, synthesis

7:45 AM	Breakfast
9:00 AM	Synthesis activities
Noon	Lunch, camp lodge
1:00 PM	Synthesis activities
6:00 PM	Dinner, camp lodge. Homestay hosts invited.

Friday, June 26:

7:45 AM	Breakfast
8:30 AM	Depart for Corvallis
Noon	Lunch on the road, on your own
6:00 PM	Arrive Corvallis

Saturday, June 27 – Sunday, June 28: Free

Monday, June 29 TBD

Tuesday, June 30

1:26 PM	Depart PDX for Japan on Delta 623
---------	-----------------------------------

Wednesday, July 1

3:55 PM Arrive, Narita International Airport, Tokyo

Thursday, July 2

9:55 AM Depart Haneda Airport for Akita

11:00 AM Arrive, Akita. Orientation to AIU

Friday, July 3

8:30 Leave AIU

9:00 – 10:30 Hike up to Mt. Takao for view of satoyama landscape: Ayumi – Observing mountains, Omono river, communities, land use, shrine and temple... What can we learn about rural Japan just from observing closely? What are differences between rural America and rural Japan?

11:00 – 12:30 Lunch at farmer's restaurant Yunaya – lunch set 1080yen, 1st farmer's restaurant in Akita, short interview with the owner of Yunaya, Ms. Ikuko Asano. Stop at two communities, Arawa and Kayagasawa, on the way back to AIU

14:00 – 17:00 Ayumi – Introduction to Akita culture and society ("Akita – Beyond the Narrow Road's End" (Kenneth Quinones ed., 2011)). Ayumi, Kasumi, Takahiro, Ryoko – Presentation on demographic changes and issues in Japan and Akita ("Demographic Change and the Family in Japan's Aging Society" (John W. Traphagan and John Knight eds)). Discussion of readings and student presentation on Japan and Akita (AIU students prepare discussion questions)

Saturday, July 4

9:00 – 11:30 Lecture on "Iriai" common forest (Ayumi). Discussion of readings: "The Management of Traditional Commons land (Iriaichi) in Japan" (Margaret McKean 1992), "The Drama of the Commons" (Elimor Ostrom et al. eds. 2002)

13:00 – 15:00 Lecture on agriculture and rural development in Japan (Ayumi & Nancy). Discussion of readings: "Rural Development Strategies in Japan" (Masatoshi Ouchi, 2010)

15:00 – 17:00 Revisit Resilience theory (John) and readings about Akita and Japan

Sunday, July 5 (No class)

Teams work together

Monday, July 6

8:00 Leave for Tenjin community (about 2 hours drive from AIU)

Developing Resilient Rural Communities in the United States and Japan

- 10:00 – 12:30 Walk around Tenjin community, visit to Mt. Chokai and eat lunch there
13:00 – 15:00 Farm experience and interview (gentian flower, asparagus)
15:00 – 17:00 Sato Sougyo Company (forestry, explanation, Q&A, @ Tenjin community center)
18:00 – 20:00 Dinner Party with Tenjin residents: local cuisine, traditional music etc...
Stay at Chokai-sou

Tuesday, July 7

- 8:30 Leave for Tenjin community
9:00 – 10:30 Beef industry (explanation, Q&A, @ Tenjin community center)
11:00 – 13:00 “Michinoeki” Roadside Station Kiyomizu-no-sato, Farmer’s Market, Lunch
13:00 Back to AIU
Evening Program TBD: Reflection of Tenjin experiences

Wednesday, July 8

- 8:30 Leave for Akata community (about 40 minutes drive from AIU)
9:00 – 13:00 Walk around Akata, community center, farmer’s market, Chokokuji temple, Akata waterfall (Sack Lunch), Mt. Toko, a syncretic fusion of Shintoism and Buddhism in Akata (nature worship of five mountain, 33 Buddhist statues),
13:30 – 16:00 Explanation by Akata community leader Mr. Teruo Endo, Q&A
16:00 – 18:00 Dinner Party with Akata residents: students introduction, presentation about PBL in Oregon by students, local cuisine etc...
Back to AIU

Thursday, July 9

- 8:30 Leave for Akata community
9:00 – 12:00 Iriai common forest near Akata waterfall, harvesting sansai edible wild plant in common forest
Sack Lunch
13:00 – 16:00 Farmer’s Market, Food processing facility, Farm visit, farm experience
Back to AIU
Evening TBD. Preparation for questionnaires

Friday, July 10

- 8:30 Leave for Akata
9:00 – 14:00 Food/Agriculture group – Farmer’s market, food processing facilities. Forestry group – visit three different style of Iriai common forest, compare between maps and realities
14:00 – 16:00 Data check in Akata community center, Tohkokan
16:00 Back to AIU

Developing Resilient Rural Communities in the United States and Japan

Saturday, July 11

8:30 Leave for Akata
9:00 – 15:00 Group research
15:00 – 17:00 Pizza Party and/or Soba noodle cooking
17:00- Home stay

* John, Nancy, and Ayumi return to AIU.

Sunday, July 12

10:30 Ayumi leave AIU for Akata
Morning Students stay with host families
11:30 Leave Akita for AIU
 Free Time

Monday, July 13

Synthesis
Preparation for presentation

Tuesday, July 14

Final examination
Preparation for presentation

Wednesday, July 15

Morning Preparation for presentation
13:00 – 15:00 Presentation @ AIU Auditorium
Closing Party

Thursday, July 16

9:00 – 14:00 Course evaluation
15:30 Leave AIU
16:00-17:30 Presentation @ Akata community center

Friday, July 17

9:40 AM Depart Akita for Narita
10:45 AM Arrive Narita
4:30 PM Depart Narita for PDX
9:58 AM Arrive PDX

Thoughts on packing:

- Think about basic needs and comfort. However, avoid the concept of pampered luxury. This is a field course and not a guided tour with all of the comforts of home.
- Pack all clothing and personnel items in one soft duffel type bag. DO NOT BRING A HARD SUITCASE!! Please remember that you should be able to carry/lift this bag by yourself! Make sure you can!
- For drive days, pack required clothes and personnel items in your day pack; in all probability your duffel bag will be "unavailable" until arrival at the end destination for that day.
- Clearly identify/label/tag your day pack, duffel. All luggage/gear should have a BIG name tag.
- Bring clothing for time in the field; jeans and shorts are O. K. but be ready for variable and cool, wet weather.
- Bring enough socks and underwear for the duration; in all probability laundry will not be available.
- You will need a Brim hat/Bill cap; protection against the sun.
- Lightweight waterproof jacket for rain protection and heavy shirts/jacket for keeping warm. Rain can come at any time. Cool weather can be anticipated in the Eastern Oregon.
- One pair tough, sturdy field boots/shoes and one pair casual, everyday footwear. Be sure to wear/break in new shoes/boots.
- Highly-rated sunblock (SP 30 or higher). Do not subject yourself to high-altitude, ultraviolet radiation and painful sunburn.
- Lip protection.
- Sun glasses. Daylight brightness levels will be much higher than in "green", vegetated areas. Please use sun glasses.
- Day pack for field gear, water bottle, and lunch.
- Canteens/Water Bottles. Plan on carrying at least one quart of water for field days.
- Personal spending money (about \$40).
- Personal toiletries; including any medication needed.
- Camera and perhaps small binoculars.
- Readings, notebook and writing implements.
- Flashlight/ headlamp.
- Alarm clock.
- Ear plugs if you need more quiet to sleep.
- Medical insurance card (if you are lucky enough to be insured!).

We will be well housed and well fed but if you have particular snack food needs or prefer your own sleeping bag/ pillow do bring those.

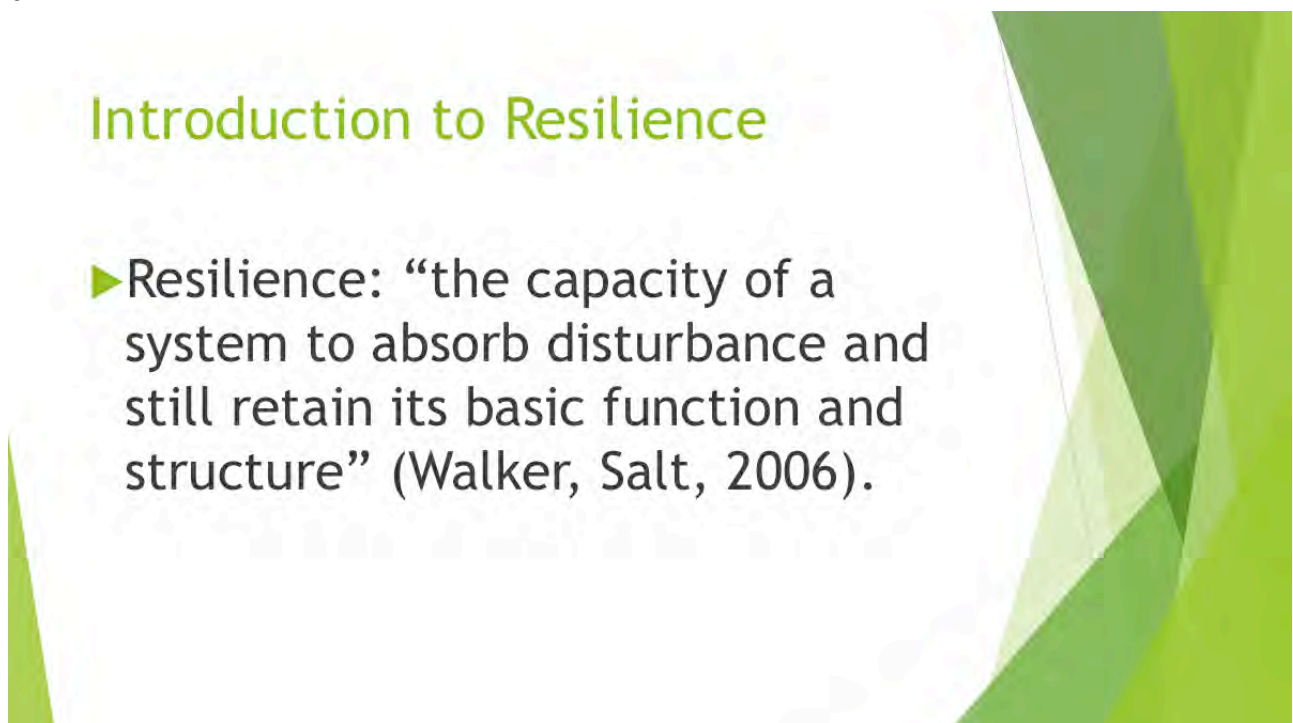
6. Student's Final Presentation

Food and Agriculture Team

01

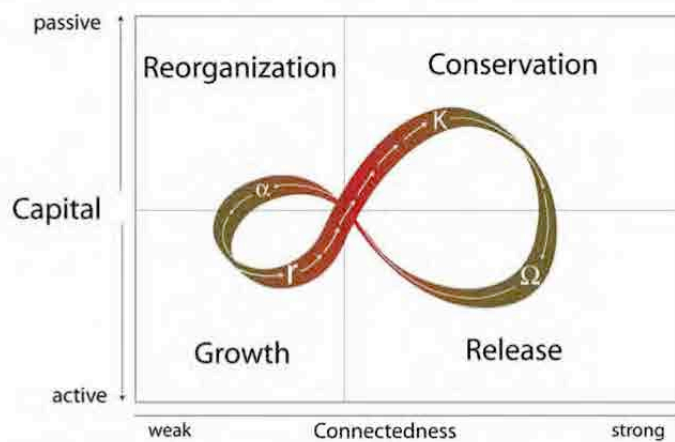


02



03

Complex Adaptive Cycle



<http://www.ecologyandsociety.org/vol14/iss1/art15/figure1.jpg>

04

Question:

- What is the relationship between agriculture and food and community resilience in rural communities?

05

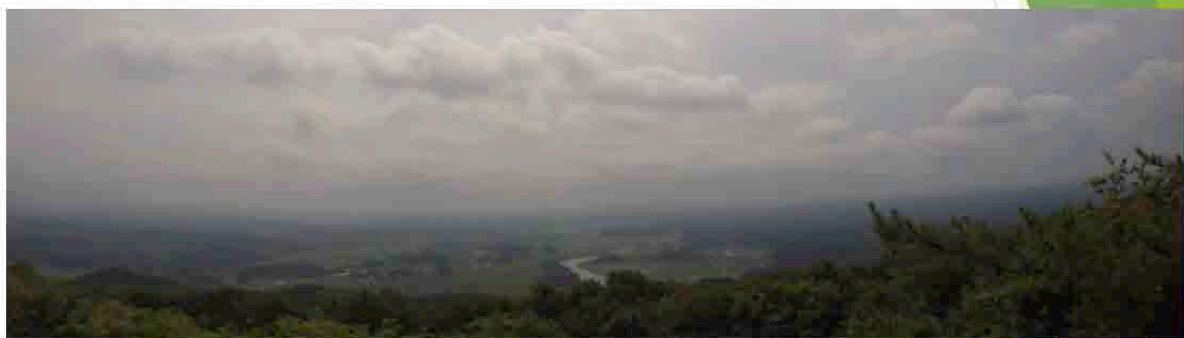
Methods:

► Field Work

- Wallowa County, Oregon; Akita Prefecture, Japan
- Interviews with locals
- Speakers from Agriculture, Food and Natural Resources fields

06

Akita Prefecture Case Study



07

Cooperation among agricultural communities

- ▶ How, and to what extent, do members of rural agricultural communities cooperate?



08

Cooperative Farming

- ▶ Development of farming corporations
- ▶ Cooperative work schedules
- ▶ Increased efficiency

09

Community Divisions

- ▶ Akata - upper, middle, lower
- ▶ Strong community connections
- ▶ Potential disagreements

10

Local Government

- ▶ Encourage cooperation
- ▶ Develop social and economic capital
- ▶ Support innovation

11

How People in the Community Tie Through Food

- ▶ Custom
- ▶ Religion
- ▶ Innovation

12

Custom

- ▶ Give-and-take of food (within neighborhood)



13

Religion

- Religious festivals



14

Innovation

- Farmer's market
- Pizza oven



15

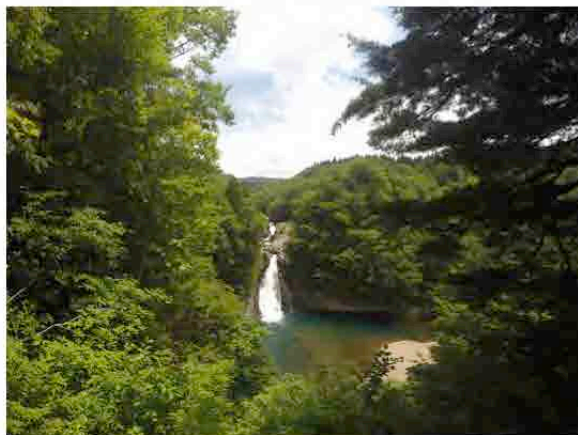
How does this make them more resilient?

- ▶ Developing social capital
 - ▶ Food brings people together
- ▶ The community can adapt more easily.

16

Water Resources

- ▶ How are the water resources within rural communities utilized in terms of agriculture and food production?



17

Rice



18

Irrigation Networks



19

Community Leadership

- ▶ Relationship with Official Power and Leaders
- ▶ Education for future leaders
- ▶ Innovation

20

Leadership Education in Akata Neighborhood Association- Yurihonjo City Council- Wallowa Resource

- ▶ Akata: 2-4 months training by community leaders
- ▶ Yurihonjo City: 2yrs Community Leadership Program
- ▶ Wallowa Resources: 10 month leadership program (last year)
→The Ford Foundation 10 month program (continue)

21

Innovation

- ▶ Wallowa Resources
- ▶ Neighborhood Association
- ▶ Individuals



22

Themes:



23

Consolidation of Land

- ▶ Government subsidies to merge fields
- ▶ Farming corporations formed



24

Farming Corporations

- ▶ Increased social capital
- ▶ Increased economic capital
- ▶ Ability to innovate



25

Unanswered Questions

- ▶ Economic trends
- ▶ Political disturbances

26

Dependence on Outside Resources

- ▶ Subsidies
- ▶ JA & National Government

27

Subsidies

- ▶ Capacity
 - ▶ Building infrastructure and new ideas
 - ▶ Challenge to new things
 - ▶ Communication among the coop
- ▶ Vulnerability
 - ▶ Preventing independence
 - ▶ Difficult to get the long-term prospect

28

JA(Japan Agricultural Cooperatives)

- ▶ Capacity
 - ▶ Being able to get skills
 - ▶ Providing access to economic capital
- ▶ Vulnerability
 - ▶ Difficulty of independence
- ▶ Connection to Government

29

Akita - Akata Farm

- ▶ Subsidies from the government
- ▶ Support from JA (training, processing products and marketing)
- ▶ Supported and opposite opinions
 - ▶ Independence in the future
 - ▶ Hard to separate from JA power

30

Aging Population and Outmigration of Youth

- ▶ The Issue:
 - ▶ Masatoshi Ouchi in *The Next Rural Economies*

“Since the end of World War II... as a result of urbanization, the youth in rural areas flowed to urban areas seeking high wages and a different kind of lifestyle “
 - ▶ Aging Elderly Populations
 - ▶ Low Birth Rates
- ▶ How Akita is handling this:
 - ▶ Some communities like Arawa, and Kayagasawa are trying to make their aging population as happy as possible.
 - ▶ Other communities like Akata are trying to draw in younger generations through innovation
 - ▶ Tourism Maps
 - ▶ U-pick blueberries
 - ▶ Pizza Oven

31

Questions this raises

- ▶ What will be the long term effects of innovation within these rural communities and will it allow them to regain their younger populations and increase birthrates?
- ▶ Will the younger generations attracted from other areas be able to integrate into the communities and have any voice or power within the communities?

32

Compare and Contrast

- ▶ Individual attitude towards government
- ▶ Bodies that hold communities together
- ▶ Individual ties to the land

33

Individual Attitudes



34

Bodies Holding the Group together



35

Individual ties to the land



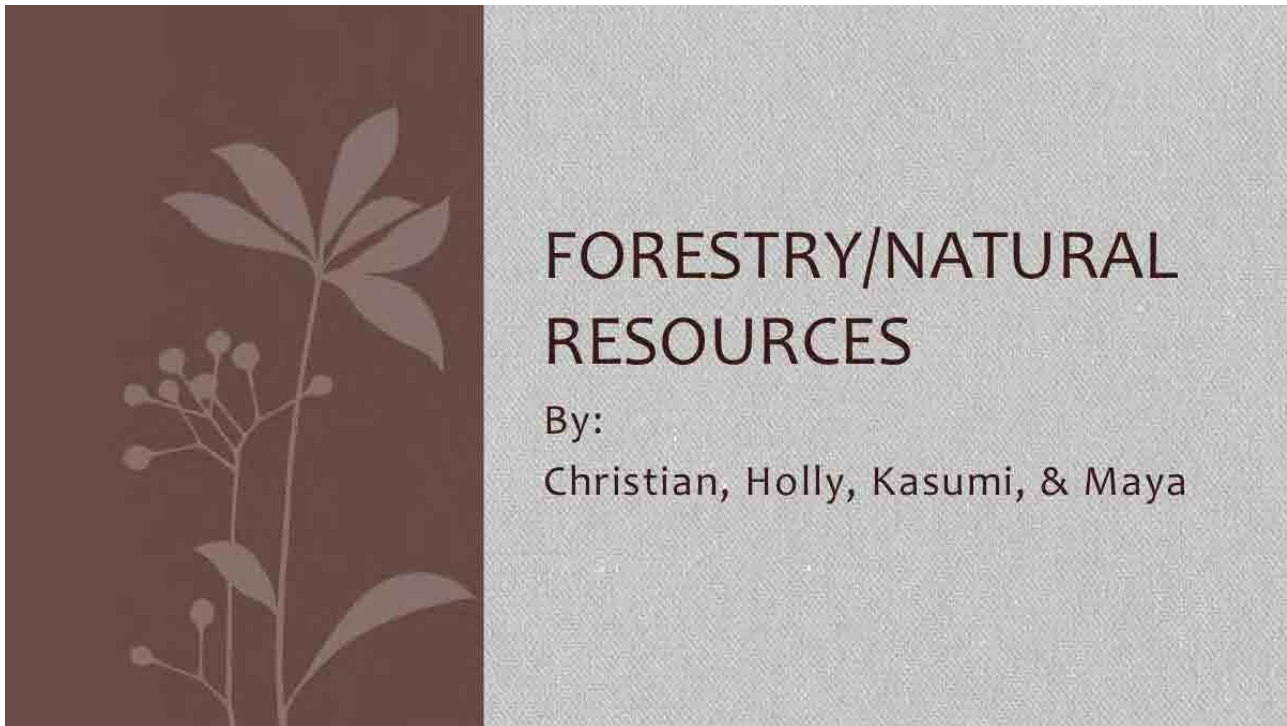
36

Conclusion

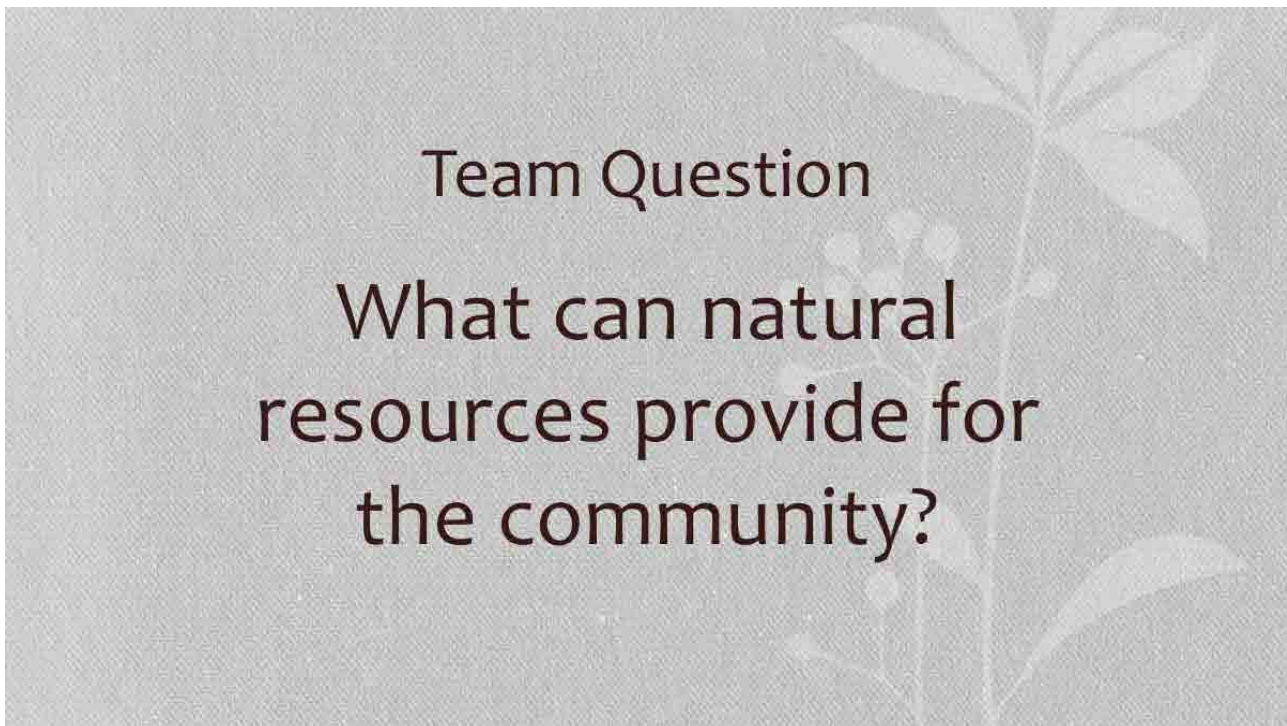
- ▶ Qualities of Resilient Communities in Regards to Agriculture
 - ▶ Strong Leadership
 - ▶ Innovation
 - ▶ Access to Natural Resources
 - ▶ Investment in Social Capital

Natural Resource and Forestry Team

01



02



03

What are the Economic Impacts of Natural Resources and are these Impacts Resilient?



04

Economic Industry

- Forestry
 - Timber harvesting
- Agriculture
- Tourism
- Subsidies
- Thinning



05

Expanding Natural Resources

- Processing center
- Expanding rice fields
 - 60/40
- Timber harvest



06

Future

- Biomass
- Renewable energy
 - Wind
 - Wave
 - Hydro
- Specialty products
 - Mountain vegetables
 - Blueberries

Question



07

How can forests be managed and utilized in a successful way to create value for the community?



08

Changes in Land Tenure

- Ownership changes
 - Edo period: land owned by lord
 - Meiji period: individual owners
 - Today: several owners
 - Government (national, prefectural, city)
 - Community forests
 - Individuals/families
- Management changes
 - Clear cut
 - Endangered species
 - Thinning & pruning



09

Use of Forest Resources

- Timber harvesting
- Individual/family use
 - Wood carvings
- Recreation
 - Hiking
 - Tourist attractions
- Mountain vegetables
- Shrines/temples
 - Spiritual



10

How does a natural resource based community prevent the out-migration and attract more people?



11

Utilization of Natural Resources

- Tourism
 - Landscape
 - Akata waterfall
 - Mt. Chokai
 - Japan Sea
- Religion
 - 5 sacred mountain
 - Giant Buddha
 - 33 pilgrimage



12

Leadership in the Community

- Neighborhood association
 - Brings community together
 - Processing facility
 - Pizza oven



13

What makes communities/families resilient in rural communities?



6 Ranch - Wallowa

Families in Akata



14

Economic Capital

Akata

- Chosen as model city
- Farmers market
- Funds make it possible to try new things
 - Processing facility
 - Pizza oven

Tenjin

- Funds from government
- Farmers market
- Processing facility

Wallowa



15

Innovation

Akata

- Farmers market & processing facility
 - Bring community together
 - New way of income for families
- Pizza oven
 - Community gathering
 - Experiential learning
 - Bring outsiders
- Niche market
 - Blueberry farm



16

Strong Leadership

- Change and adaptability not possible without strong leaders
- Endo-San (Akata)
 - Encouraged new ideas
 - Involvement
 - Made projects happen
- Sato-San (Tenjin)
 - Leader of timber company
 - Good wage and benefits
 - Employs many in the area

Nils



17

Main Themes

- Natural resources heavily managed
 - Government
- Natural resources attracts tourist
 - Akata waterfall
 - Religion
- Potential use for natural resource
 - Forest resources
 - Biomass



18

Keys to Resilience

- Diversity
 - Monocultures
 - 60/40
- Ecological Variability
 - Management
- Modularity
 - JA
 - Fields
- Ecosystem services
 - Natural resource diversity



19

Keys to Resilience

- Social Capital
 - Community groups
 - Processing center
- Overlap in governance
 - Leadership
 - Education
- Innovation
 - 6th industry
 - Agriculture farm corporations
 - Mapping



20

Thanks for listening

Questions?

7. Individual Paper *Original works without revisions or English proof reading

Effects of Cooperation on the Resilience of Rural Communities in Oregon and Akita

Andrew Rood

Introduction

As Walker and Salt indicate in their 2006 book *Resilience Thinking*, the socio-ecological systems that sustain our well-being are becoming increasingly stressed. This issue is especially prevalent in rural areas where working landscapes can suffer dramatic disturbances that shock the communities they support. Until recently, the dominant model for addressing this issue has been a drive for increased efficiency: the attempt to perform the same task in a better way. Although efficiency has value, this approach alone has been shown to merely increase the vulnerability of rural areas to disturbance. As a result, a new model has been proposed: resilience. Resilience is described as the ability of a system to absorb a disturbance and maintain its basic structure and function (Walker, Salt, 2006). This report will discuss rural communities in Wallowa County, Oregon and Akita Prefecture, Japan in the context of resilience with a focus on agriculture and food. Through participant observation in rural communities, the following question was established:

- What is the relationship between agriculture/food and community in rural areas?

This report, in conjunction with three other reports by peers on the same topic, will discuss the above question. More specifically, this report will focus on the following question:

- How, and to what extent, do the members of rural communities in the agriculture and food business cooperate?

Cooperation is the foundation of social capital, and understanding how people cooperate could be an integral part of understanding community resilience. By using data collected through participant observation and interviews with community members, this report will discuss community cooperation, and the factors that influence it, in Wallowa County and Akita Prefecture. It will also assess the potential effects of this cooperation, or lack of cooperation, on the resilience of the communities. Finally, it will compare and contrast community cooperation in the two areas.

Wallowa Case Study

Field Observations and Discussion

Over the course of the observations in Wallowa County, an observable pattern was the creation of apparently healthy business relationships between locals. This pattern implies a value within the community of willingness to do business with local individuals. Values can be described as tightly embedded moral and emotional judgements accepted by a group. These values can help describe a community's view of a subject, and offer insight into what kinds of beliefs and behavior a community finds acceptable. This value was observed at the Lostine Tavern, which cooperates with local farmers and ranchers to source ingredients from within the county. This cooperation appeared to occur on a personal level with a variety of locals, including 6 Ranch, Carmen Ranch, and Hawkins Sisters Ranch. To paraphrase a Lostine Tavern employee, "We call [the farmer/rancher] and they get [the ingredient] to us when we need it" (June 24, 2015). In addition to loyal suppliers, the Lostine Tavern was also said to enjoy a loyal base of local return customers who helped support the business, especially during the winter tourist lull. Such a preference for local foods was also observed during a visit to the Soroptomist Club thrift shop in Enterprise, where local volunteers indicated that they made an effort to source the foods they ate locally. These elderly locals indicated that, although they often purchased imported goods from Safeway, they would prefer to support

Developing Resilient Rural Communities in the United States and Japan
local producers and locally owned businesses.

Healthy business relationships were also observed between individual farmers and ranchers, specifically with Mary Hawkins of the Hawkins Sisters Ranch. For example, she purchased wood chips from a neighboring farmer for her litter, establishing an economic and social connection between her and another local producer. In addition, she expressed a desire to source feed for her chickens locally. To that end, she was purchasing wheat, rye, and peas from neighboring farmers. Although she had yet to find an adequate feed mix, and was forced to purchase supplements from outside the region, she seemed hopeful that she would be able to develop effective locally sourced feed. In addition, she seemed hopeful that she would be able to market her feed to other chicken farmers that might move into the area. Her hopes for the future also extended to setting up a meat processing facility on her ranch, which would allow her to slaughter her chickens on site. She then expressed interest in marketing the chicken processing service to other chicken farmers in the area.

Such cooperation can help the community by keeping economic capital within the local area. If individuals are doing business with other locals instead of outsiders, more of the money from those transactions remains in the county, helping the local economy. Thus, the development of social capital within the community can lead to an increase in local economic capital. Developing this relationship between social and economic capital could increase the area's economic self-sufficiency, making the county less vulnerable to downturns in the panarchy of the larger regional, state, and global economies. A panarchy refers to a hierarchical set of complex adaptive cycles on different scales, and a complex adaptive cycle describes the progression of a socio-ecological system between phases of rapid growth, conservation, release, and reorganization, generally in that order (Walker, Salt, 2006). The decrease in vulnerability, the ability to be harmed, of an economy less reliant on larger economic trends could increase the resilience of Wallowa County.

Mary Hawkins' situation, in particular, indicates how someone's background can influence their ability to cooperate. Although she was originally from the county, she had an elite high school education in Portland followed by a prestigious education at Brown University. This background puts her atop the scale in Wallowa County with regards to education, but also means that she had to come back to the community as somewhat of an outsider. Several members of the community in Wallowa county who moved in from outside indicated that it was difficult for them to establish relationships, yet Mary Hawkins appears perfectly able to communicate with other ranchers and establish productive connections. Hawkins' position of being an insider educated on the outside indicates that it is possible for people from the community to move out for a time and then come back without significant issues re-integrating into society. This concept is important, as it means that the community has access to the outside for developing human capital, assuming that those who leave to get education actually return. By developing more human capital, the community can increase its adaptive capacity. However, this development might be limited by the socio-economic divide. Mary Hawkins is very well educated and comes from a family that has been in the area for some time, and her success does not necessarily indicate that someone with fewer resources and connections could achieve the same thing.

Additional evidence of cooperation in Wallowa County involves community support and social services for lower income individuals. The presence of these supports can be represented through the observable value that volunteering and helping out other locals is important. This value was seen through the organization Community Connections, which offers many services to the needy. For example, they operate a food bank that provides food to low-income families and helps connect them with other social services. The Meals on Wheels service provides food to those who cannot get out of the house, and the Community Connections bus service provides much needed infrastructure to help people access food. These activities are supported by both government subsidies and local community members,

who donate food and volunteer their labor to help sustain the food bank and transportation services.

The social services provided in Wallow County indicate a spirit of cooperation between the socio-economic classes, which could help deal with the issues associated with concentrated poverty. By helping to reduce the food anxiety of lower income individuals, the community improves the capacity of those individuals to contribute to the social and economic well-being of the county. Such individuals could be more capable of cooperating and networking within the community if the burden to obtain basic necessities is eased. Social services can also assist impoverished people by helping them to improve their economic status, thus allowing them to contribute more capital to the local economy. By increasing the amount of support for lower income individuals, communities in Wallowa County can potentially access a largely neglected resource of currently disenfranchised individuals.

Another observable trend was that, while independent ranchers are capable of cooperating, they often have trouble doing so. Cameron Krebs, the primary inheritor of the large Krebs Ranch, also indicated a spirit of cooperation among locals. He mentioned that, for example, when branding, he could call upon his neighbors, who would be happy to help him with the labor intensive task. He also mentioned the importance of establishing a strong support network of other local ranchers to learn from and cooperate with, and said that the livestock association held meetings to help ranchers form connections within the community. Liza Jane and Adele at Six Ranch shared the sentiment that branding was a good example of strong cooperation among the ranching community. In addition, they indicated the intention of starting a community organization to connect ranchers and share ideas because “you can’t do [ranching] alone” (June 22, 2015). Similar ideas were shared by a young Nature Conservancy worker who said that a characteristic of the community was the willingness of its members to listen and discuss key issues. However, the outlook regarding community cooperation among ranchers did not always seem so positive. Liza Jane and Adele of 6 Ranch indicated that “ranchers don’t do good peer work” (June 22, 2015), and that there had been a large decline in the willingness of ranchers to cooperate and share ideas among the community. They indicated that not only were conservative ranchers reluctant to help each other, but they were particularly skeptical of 6 Ranch being managed by women. This bigotry issue can be expressed by paraphrasing Adele, who said that that “the good ol’ boys club is still very prevalent in some areas” (June 22, 2015). While the extent of such a bigotry within the ranching community remains somewhat ambiguous, its presence hints at the reluctance of conservative ranchers to accept new ideas.

The contradictory observations made of the ranching community in Wallow County indicate that family history, educational background, and socio-economic status are factors that could foster or inhibit cooperation. The development of support networks among ranchers, either informally with neighbors or through organizations such as the Livestock Association, indicates a valuable investment in social capital. However, an issue seems to be that such investment is not accepted by all groups within the community. Although not enough information was gathered to do more than speculate on the nature of these groups, it appears that they are probably divided based on their family, education, and socio-economic background. For example, many of the people that spoke highly of the community’s ability to cooperate, such as Cameron Krebs and the Nature Conservancy worker, were from families that were established in the area. As mentioned earlier, outsiders seemed to have a harder time developing connections, and the less well established families might have a much harder time cooperating. In addition, the members that were willing to cooperate were all well-educated and aware of the benefits that networking can bring. It is possible that the less educated members of the ranching community are more isolated. Such isolation might also be tied to socio-economic status, with the less affluent portion of the community less involved in cooperation. Social capital is an extremely important element of a resilient community, as the ability of a community to respond cooperatively to change can increase the likelihood that the

community can absorb the disturbance and retain a structure that meets the needs of its members (Walker, Salt, 2006). It will likely be important for the community to work towards fostering more cooperation, like Liza Jane and Adele hope to do with a new ranching organization, if Wallowa County hopes to become more resilient.

Another somewhat contradictory observation in Wallowa County was a willingness to innovate coupled with skepticism of new ideas. For example, Liza Jane and Adele were in the process of pursuing a second river restoration process on their land, which is likely to increase the ecological variability on the 6 Ranch as more fish spawn in the restored river. The Carmen Ranch also was willing to innovate with a very successful new business model of marketing grass-fed beef to buyers in Portland, Oregon. The Krebs Ranch also fostered innovation with new methods of capturing water from the soil and using solar panels to generate power. In addition to projects on such large ranches, smaller scale techniques were also seen, such as Mary Hawkins' use of under ten acres to raise meat chickens. It also seemed that greenhouses, gardens, and small numbers of easily accessible livestock, such as goats and pigs, were being utilized by community members in increasing numbers for personal use or for local sale. However, not all members of the community seemed ready to recognize the benefits of innovation, especially when external subsidies were required. This resistance to change was indicated by Liza Jane and Adele as skepticism among other ranchers regarding their river restoration projects. It was also hinted at by Wallowa Resources' Nils Christoffersen who said that there was much criticism regarding Carmen Ranch's now successful marketing technique. Many of the informants also indicated that local community members were reluctant to accept government handouts, potentially stalling expensive new projects. In addition, poorer farmers often do not have the financial security to attempt risky innovations, also stalling the development of new projects.

The continuing development of, and resistance to, innovation indicates the potential effect of certain factors on innovation and cooperation. For example, there appears to be a connection between innovation and role within the society. This factor can be seen with Liza Jane and Adele, both women in the ranching community. To paraphrase Liza Jane: "being a woman gives me the freedom to experiment because I'm not as tied to tradition". Although Liza Jane and Adele clearly stated the importance of building relationships in ranching, their gender still appears to place them in a unique, sometimes ostracized, role. This situation indicates that perhaps being in a less traditional role increases independence and improves the ability to innovate. However, those people must still be willing to cooperate with others in the community if they hope to be successful. This need might be especially true when it comes to cooperating with organizations that can help provide the resources necessary to innovate.

Another potential factor that influences innovation is the presence of a catalyzing organization. The non-profit Wallowa Resources is an example of one such organization. They had a hand in many innovative projects, such as the 6 Ranch river restoration project, the integrated biomass campus, the enterprise biomass heating projects, and the micro-hydro projects for Vern, a local mechanic. It appears likely that none of these projects would have gotten off the ground if Wallowa Resources had not been so active in spreading knowledge and acquiring government funds. Therefore, it seems that cooperation between individuals and a catalyst, and cooperation between the catalyst and the government, is essential for fostering innovation.

Innovation is extremely important, as it diversifies the community's income and offers new methods of adding value to the landscape. Such diversification can decrease the negative effects of a disturbance, thus increasing its resilience. In addition, a willingness to accept change and attempt innovation increases the community's adaptive capacity, the ability of a community to respond to change. In order to access such benefits, Wallowa County should likely continue to promote new ideas through local organizations, such as Wallowa Resources, provide safety nets for lower income individuals to decrease the risk of innovation, and

Developing Resilient Rural Communities in the United States and Japan
provide access to subsidies for those who are willing to innovate.

Synthesis and Speculation

From the limited amount of information acquired by the short observation period in Wallowa County, there were four primary observable patterns that this paper discusses. Firstly, community members and organizations cooperate by doing business with each other, providing a valuable connection between social and economic capital. Secondly, the community appears willing to assist its less fortunate members through social services and volunteering, helping to improve their social and economic position. However, it is likely that higher level action is required to adequately tackle the wealth disparity issue. Thirdly, ranchers and farmers have a basis for good cooperation, but certain groups appear to have issues building social capital. Finally, innovation appears connected to social independence, but requires cooperation with a catalyzing organization to acquire the necessary resources. While these four issues were the primary focus of the Wallowa study, there are plenty of other influences that generate many unanswered questions.

Although business relationships appear strong among the community, the economic viability of those relationships is likely related to the ability of the county to grow economically by attracting new residents and businesses. For example, if new chicken farmers are not able to enter the county and make a profit, Mary Hawkins' hopes to market feed and meat processing locally could stall. In addition, if the county is not able to attract young residents then innovation could suffer as the inflow of new ideas and youthful enthusiasm shrinks. Many of the incoming residents in Wallowa County are retirement age amenity farmers who live in Wallowa only part of the year and likely have minimal dedication to the community. Although these residents could provide niche markets, such as the one Mary Hawkins hopes to exploit, a stable population of youth is probably also required to ensure the vitality of the community.

There are also unanswered questions regarding innovation. The progress of innovation likely depends on public opinion regarding new technologies. If new projects, such as the district biomass heating project in Enterprise, meet unexpected challenges, public opinion regarding such innovative tech could turn skeptical and inhibit future developments. The viability of innovative technologies could also depend on the political environment. If government subsidies for innovative projects change, there will almost certainly be an effect on the success of current projects and the viability of future ones.

Issues regarding land tenure could also have an effect on community cooperation, as many locals rely on access to public land to sustain their businesses. If land tenure laws change, the way that community members utilize public land could be affected. The current trend towards large numbers of very small and very large farms will likely also have an effect on how farmers interact with each other, although not enough information was gathered to speculate on that effect. The effect of management changes on private lands also remains unseen as foreign investors, American companies, and local communities grapple for property owned by large land management organizations.

There are also global factors that will likely play a large part in shaping Wallowa County in the future. As communities within Wallowa County move through the reorganization phase of the complex adaptive cycle, shifts higher up in the panarchy could have rippling effects. Changes in the global market for certain crops could have a profound influence on the nature of Wallowa County's agriculture. Climate change could have unforeseen effects on the suitability of Wallowa County for certain agricultural activities. Trade agreements, such as the looming trans- pacific partnership (TPP), could also have dramatic effects on Wallowa County as the value of certain goods changes with the removal of tariffs.

These factors will all likely have an effect on Wallowa County, although those effects remain to be seen. However, by building social capital, encouraging a diversified local economy, and fostering innovation, Wallowa County could become more resilient, allowing it to better respond to future disturbances.

Akita Case Study

Field Observations and Discussion

During the field work in Akita Prefecture, traditional distinctions between different groups within a larger community were observed. Akata, for example, is divided geographically into three different sections: lower, middle, and upper Akata. Along with this geographic separation appeared to come traditional differences between the communities of each section. Kato Atsuko, a young female journalist who was raised in upper Akata and now works in Honjo city, said that the upper section of Akata was in many ways an independent community that retained its own cultural identity. She also indicated that there were several significant reasons for the community split between the three Akata regions. Firstly, each region holds its own sports festival. These festivals are very important social events for the community that allow people to mingle and develop relationships. Holding separate festivals for each region means that those relationships are formed within each region, not across them. Another reason for the split was the cooperation of elementary school children with volunteer activities within each region. By working together during the summer, children from the region develop strong bonds with each other from a young age, reinforcing the tightness of each individual region's community. Thirdly, many of the families from each region are related to each other. For example, the Atsuko-san's family was related to many of the others from upper Akata. As Hendry indicates in the second edition of *Understanding Japanese Society* (1987), relations between continuous family units are important in Japanese society, so it stands to reason that communities with many related lineages would be closely tied together. These factors appear to contribute to a separation between the three different Akata regions, where individuals cooperate within their region, but not necessarily across them.

These divisions between groups within Akata present a variety of potential effects on cooperation and resilience in Akata. The tight-knit nature of each regional community indicates very strong social capital within each region. Such capital could afford each individual community a greater capacity to respond to a disturbance, as the community members are able to work together closely to solve potential problems. The divisions between the regions could even improve the resilience of Akata as a whole, as Walker and Salt indicate that modularity is a quality that resilient systems exhibit (2006). If each region in Akata is independent enough, a disturbance that cripples one region might not have such a dramatic effect on the other two. However, it is probably unlikely that each region in Akata is independent enough to remain unaffected by a disturbance due to the interconnectivity between the three regions and among the larger regional, national, and global systems. The lack of connections between individual regions might also be detrimental to the resilience of Akata, as the different groups wouldn't be able to cooperate as well to address a disturbance that affects the whole community. The independent nature of each region could lead to disagreements that might inhibit Akata's ability to respond to a disturbance.

Although regional divisions in Akata remain, they appeared to be softening as a result of various factors within and without the community's control. For example, Atusko-san indicated that Akata village leader, Endo-san, has taken consistent action to spread information about the community's development across all three regions and has strongly encouraged the participation of members from every region in community events. Atsuko-san said that such encouragement from the village leadership, despite the somewhat more conservative nature of upper Akata, has helped to make the upper Akata community more open to change. Such leadership could be important for increasing Akata's resilience, as

Walker and Salt indicate that both strong leadership and innovation as qualities of a resilient socio-ecological system (2006). In addition, the relatively recent consolidation of local schools into a few larger regional schools has provided children with greater opportunity to establish connections across a larger area than just their home community. This movement towards greater interconnectivity could help address some of the potential issues that could arise from a divided Akata.

One other pattern that was observed during the field work in Akita Prefecture was the development of organized groups within a community. In Akata, the leadership developed a plan for revitalizing the community that involved the creation of several community associations under the Chonaikai local administration. The Chonaikai comprises the central decision making group in the village that provides leadership to the community. Some management groups, such as the district leader and social healthcare groups, are comprised of representatives from each Akata region that could help ensure some political equality among the village leadership. Other groups are then responsible for specific community development efforts, such as the pizza/soba events, farmers market and processing facility, and regional products management. There are other groups outside Akata that are also present, such as the women's and youth associations in the Kitautetsu, a region containing Akata and two neighboring villages. These organizations provide opportunities for community members to interact with others outside their immediate social circles, and could allow ideas, and even people, to flow more freely around the region.

The presence of such community associations appear to have a profound effect on the communities they serve, and could improve the resilience of those communities. These associations are a distinct example of organized social capital. By helping to develop strong connections between community members, they could provide a foundation for discussion regarding how to better the community and how to respond to disturbances. For example, the pizza/soba group allows community leaders to stage events that utilize the newly constructed pizza oven facility to help connect members of the community together and to connect them with outsiders. These events help build social capital, an effort that Walker and Salt indicate is a quality of a resilient socio-ecological system (2006). These organizations can also allow leaders, like Endo-san, to communicate effectively and with authority to the community by providing an organized platform to convey and execute their ideas. In addition, regional associations can help develop connections among different villages, providing a level of social capital on the regional level in addition to the local, village level.

Despite the advantages that community associations can bring, there are some potential vulnerabilities involved as well. Although the information gathered about the group composition was not fully comprehensive, the community leadership appeared to be primarily retirement-age males with well-established backgrounds in the area. While the expertise of such individuals is not in question, such homogeneity indicates that there are certain voices among the community that might not be sufficiently represented in the community. For the leadership organizations to be as effective as possible at establishing policy that addresses the needs of the whole community, more women, younger people, and individuals from less prominent lineages could be included. Otherwise, the community is at risk of developing in a way that strongly favors only certain demographics to the detriment of others. This possible trend could lead to, among other issues, a decrease in the diversity of the community as certain groups are increasingly disenfranchised and a subsequent decrease in resilience. The current system of community associations is also at risk from the aging and depopulation issue that many rural communities face. If not enough young people remain to succeed the association members, those associations could lose their ability to function.

Another observable trend in rural Akita Prefecture was the consolidation of small parcels of land into larger ones. There has been a push by the Japanese government to encourage farmers to combine their small fields into larger ones by providing generous

subsidies. An important continuation of this policy is the creation of agriculture corporations within rural communities. In Akata there are two such corporations: Akata Farm and Toko Farm in middle and lower Akata, respectively. These organizations consist of a small number of member families with land and decision making power that rent large amounts of land from other farmers in the area. Akata Farm, in particular, has been able to utilize the majority of the farmland in middle Akata; between the 13 core members and 30 renters, Akata Farm has access to 43 of the 47 farms in the area. This consolidation of land results in higher efficiency than with smaller, individual farms. Although Akata Farm is a relatively young development, there are plans to expand the farming area, increase profits, and hire workers locally and from the outside. Such activities are supported by the central government through a hugely powerful national organization called the National Federation of Agricultural Cooperative Associations (JA). JA supports local agriculture corporations by providing access to subsidies, purchasing and processing crops, marketing products, supplying pesticides and machinery, and offering training and educational opportunities. The support from JA is so comprehensive that Toko Farm was started with direct support from Kudo-san, a former JA employee and the functioning JA representative for Akata. With support from JA and the central government, agricultural corporations appear to be shaping the future of Japanese agriculture.

The consolidation of land through agriculture corporations, such as Akata and Toko farms, could have positive effects on the resilience of rural Akita communities. By increasing the profitability of local farms, agriculture corporations could bring more economic capital into the community, allowing farmers to contribute more to the local economy. These farms also present the opportunity to develop social capital. There was clear cooperation between the involved male farmers in developing both the knowledge and providing the labor to operate the farm, especially with regards to cultivating the new asparagus crop. In addition, these corporations could potentially introduce new job opportunities into rural areas, providing income for locals and possibly attracting workers from the outside. The connections between farming corporations and larger organizations, such as JA and the prefecture and central governments, could also increase the resilience of rural communities by providing access to economic and human capital that would otherwise be inaccessible; government subsidies and JA training programs could increase the adaptive capacity of rural communities by providing the knowledge of how to adapt to disturbance and the funds with which to do so.

Despite the benefits, there are risks associated with large corporate farms. For example, the structure of the organization itself might present problems. All the decision making power in the organization rests with the 13 core members. There is the potential that the farmers Akata Farm rents from could be poorly represented. If this power divide becomes a point of contention between the core members and renters, then the ability of the organization to successfully operate could be at risk. The economic dependence on JA and government support could also increase the vulnerability of local farmers, as any significant change in JA or government policy could have dramatic effects on the economic viability of local agriculture. The cultivation of only a limited number of crops could also be a vulnerability. If the market for a certain crop, or government subsidies for that crop, change, the ability of farmers to make a profit could be affected due to the lack of diversity in their sources of income. In addition, the increase in efficiency of agriculture from collective farming does not necessarily mean an increase in resilience. Walker and Salt indicate that increasing efficiency can often result in a system that, although very good at doing a limited number of things, is very fragile (2006). However, in order to compete with the large scale mechanized agriculture that dominates the global markets, the move to collective farming corporations might be a necessary risk for Japanese farmers. The creation of these corporations indicates a compromise between the increasing necessity of efficient farming, especially with the fast approaching TPP, and the local value that small farming is an important part of Japanese agricultural heritage.

Another observable trend in rural Akita was the development of innovative new ways to derive value from agriculture. One of the most innovative of these projects studied in Akita was the farm restaurant outside of Arawa. Asano Ikuko, the proprietor of the restaurant was an older woman who had pursued the task of growing, processing, and marketing her crops based on a policy known as sixth industry. The culmination of this effort was the opening of a farmers restaurant that has become well renowned over the local area and beyond for its quality, organic food. As the values of emphasis on consuming organic foods and romanticizing rural Japan become more prominent, it is likely that Ikuko-san's success will continue. Another example of sixth industry innovation was present in Akata, where the development of a food processing facility allows the local community to process mountain vegetables for sale at Keihoku supermarket in Kashiwa city. This development is extremely important for Akata, as it allows the community to circumvent its geographic isolation and derive economic capital from an extremely high traffic area. By pursuing such sixth industry innovation, rural communities can increase the amount of economic capital they attract, develop social capital within the community, diversify their incomes, and potentially attract attention from the outside.

Another observable trend in rural Akita was the relationship between innovation and role in society, particularly regarding Ikuko-san's farm restaurant. She has seen growing success with a business that is now supported by her whole family, despite initial skepticism from her husband. It is uncommon for women to start businesses in rural Akita, but she indicated that more and more wives were attempting to innovate whereas their husbands were stuck to the traditional farming methods. This trend implies that women might be less tied to tradition and therefore more capable of attempting radical new business models. Such innovation is productive, as it can help to diversify income and decrease dependence on organizations such as JA. As a result, the innovating farm can become more resilient. However, although the success of this farm restaurant is a good model to aspire to, it might not be doable for everyone. Ikuko-san comes from a well-established family that traces its lineage back to a prominent retainer for the Edo-period Kameda Clan. Other women from less prominent families might not be able to achieve the same success.

There is also evidence of somewhat less radical innovation by agriculture corporations that can potentially increase their resilience. For example, the Akata Farm Corporation has begun to plant an increasing amount of asparagus to supplement its crop of rice and soybeans. Asparagus has been generously subsidized by the Akita Prefecture government, and as a result has become a very profitable crop. In addition, Akata farm has begun using an innovative new style of greenhouse for asparagus cultivation that allows harvest two weeks earlier than usual, increasing the value of the crop further. These greenhouses are also subsidized, making the capital investment by Akata Farm relatively low. By planting new crops, such as asparagus, Akata farm can diversify its income and increase its profits, potentially increasing its resilience. However, it is important to note that such innovation likely does not entirely nullify the vulnerabilities associated with collective farming, especially with regard to dependence on JA support and government subsidies.

Synthesis and Speculation

Over the course of the field work in rural Akita Prefecture, there were four primary, observable patterns that this paper discusses. Firstly, the presence of divisions between communities within a rural area appear present, and provide certain advantages and challenges. Secondly, the presence of community associations provides organized social capital and a platform for developing community resilience. Thirdly, the consolidation of farmland into larger corporations has advantages, but also presents some vulnerabilities. Finally, the development of innovative projects can diversify the income of rural areas and provide access to new markets. However, there are plenty of other factors that could affect cooperation and resilience in rural Akita.

Regarding innovation in rural Akita Prefecture, there is an apparent dependence on strong leadership. In Akata, for example, many of the innovative community development projects, such as the pizza oven, food processing facility, and farmers market, met with stiff resistance from many community members. However, through Endo-san's strong leadership, these projects were pushed forward and completed. Many people in the community, including Atsuko-san, Kudo-san, and Taguchi-san, the head of Akata Farm, indicated that, without Endo-san's leadership, many projects would never have left the concept phase. This strong leadership has likely improved the resilience of the community by promoting innovation, establishing social capital, and increasing economic capital. Walker and Salt also indicate that good leadership can lead to increased resilience (2006). However, the dependence on such leadership could present some vulnerabilities. If there is not a suitable successor, for example, then the community might not be able to continue to support community development projects without such a strong leader. In addition, if the leader ends up having misguided priorities, then they might push a new project that wastes valuable community resources. Although the forcefulness of the leader might encourage resigned cooperation from dissenting members, such abuse of authority could break down bonds within the community and lay the foundation for political disturbance in the future.

In addition, factors such as age, gender, and family dynamics can potentially affect cooperation and develop resilience. For example, Atsuko-san indicated that there was a strong spirit of cooperation among the youth within the local area, and that the regional youth association worked on culture festivals, gave lessons to kindergarten children, and helped introduce children to others in the area. Such efforts by the youth indicate a value of establishing local connections between children, establishing a basis for social capital later on and potentially offsetting the perceived negative effects of consolidating the local elementary schools into larger ones. This role played by the community youth could be extremely important, as such a focus on children did not appear to be shared by the older generation. Gender also appears to play a role in influencing cooperation, as Atsuko-san indicated that women have always cooperated in areas such as festival preparations and childcare. The difference in cooperation between men and women was not entirely clear, and not enough female informants were interviewed to develop a clear picture, but it is possible that women in a community communicate and cooperate more than their male counterparts, providing the foundation for developing strong social capital among and between communities. Atsuko-san also indicated that there might be some changes in family dynamics that could affect cooperation. For example, the traditionally stringent rules regarding birth order and marriage appear to be softening, providing more opportunities for young people to marry who they want and also live where they want. If such a trend continues, it might be increasingly possible for young people who want to stay in rural communities to do so and still find a suitable partner.

Comparisons and Contrasts

During the observations in Wallowa County and Akita Prefecture, the presence of catalyzing organizations appeared necessary for the development of the community. In Oregon, Wallowa Resources, along with a variety of other non-government organizations, provided valuable services such as distributing information, providing access to subsidies, and helping with the planning and execution of new projects. In Japan, JA provided many of the same services, along with many others. In addition, community associations helped bridge the gap between individuals and JA. It is probable that the presence of such organizations is necessary in both Wallowa and Akita due to the complex nature of many new development projects in both areas. Much human and economic capital is required to execute such projects successfully, and these organizations make them possible by shifting significant amounts of the burden off of individual community members. Another reason for the necessity of catalyzing organizations could be their ability to help adapt conservative values to a changing world. Both Wallowa and Akita have long standing agricultural traditions that appear difficult

for people to break away from. By providing access to knowledge about the possibilities for development, and the funds to make that development happen, these organizations can potentially help convince otherwise skeptical community members in both areas to support new innovations.

Another comparison between Wallowa and Akita is how the socio-economic status and family background of community members in both areas appear to play important roles in establishing an ability to cooperate and innovate. Those with more economic capital and more family connections within the community appeared to have a greater capacity to increase their resilience through economic and social development. The presence of this divide in both areas is likely the result of too many factors to address properly here, but some reasons for the similarity could be the presence of historically unequal distribution of land, differing quality of land between different farmers, and differing lengths of history among residents. However, it should be noted that the divide appeared more prominent in Wallowa than it did in Akita. One reason for this could be greater divisions in land ownership in Wallowa than in Akita. Many of the successful farmers and ranchers in Wallowa owned very large amounts of land, whereas there appeared to be many less fortunate community members who owned little to no land. This trend could be due to an emphasis on individuality in Wallowa farming, where people were responsible primarily for their own wellbeing. In Akita, on the other hand, the divisions of land appeared much more equal, with almost every community member owning some amount of land. This trend is likely due to a greater emphasis on community success than individual success in Akita, where communities historically had responsibilities, such as tax burden during the Edo period, as a group instead of as individuals. The apparently greater socio-economic divide in Wallowa might also explain why social services appeared more prominently there than in Akita. In both areas, however, the development of social and economic capital across different classes through social services and community activities could help to even the divide and make the community more resilient.

Another similarity between Wallowa and Akita was the possible tie between innovation and societal role, specifically regarding women. In both places, some of the most innovative projects were conducted by women. Liza Jane and Adele's 6 Ranch activities and Ikuko-san's farm restaurant were both good examples of innovation by women. These informants all indicated that their position as women played a role in their decision to innovate and their apparent success. In both areas there appeared to be a trend where women were expected to play a less dominant role in most economic activities and were less tied to business traditions, thus making it easier to break away from tradition and try new things. In addition, both Wallowa and Akita are being subject to higher political, environmental, and economic forces upon which they have no control. It is possible that, as a result of these two trends, that people in both communities are becoming aware of the need to innovate to keep up with a changing world, and that the people most ready to acknowledge and act upon this need are women.

An observed contrast between Oregon and Japan was the difference in emphasis on individual and collective farming techniques, respectively. In Oregon, many of the farms and ranches appeared to be predominantly independent, separated by family. In Akita, on the other hand, there has been a movement from individual farms to larger, collective farming corporations. One factor that could produce this difference is the availability of land. In Wallowa County, farmers often have access to large tracts of land that allow them to utilize very efficient mechanized farming techniques. In Akita Prefecture, however, individual, often part time, farmers often have plots of land that are too small and inefficient to be competitive on the world scale, partly due to the mountainous geography of the land and partly due to previous government intervention. As a result, the Japanese government is encouraging farmers to adopt more collective farming techniques to develop larger, more efficient farms. The individual nature of Wallowa farms can contribute to the resilience of local agriculture, as

they are modular and capable of responding independently to disturbance. However, a lack of cooperation between farmers could make them vulnerable. Collective farming, on the other hand, provides great economic capital and promotes social capital between the involved farmers, but creates a system that might be more vulnerable to changing trends higher in the panarchy.

Over the course of the observations of rural communities in Oregon and Akita, a variety of trends regarding cooperation became apparent. In Wallowa County, strong business relationships, volunteering, and social services were featured prominently as examples of cooperation. In Akita Prefecture, community associations and cooperative farming methods were shaping how rural communities cooperated. In both areas, there were strengths and weaknesses to community cooperation among communities where traditional and progressive philosophies met. Both areas exhibited a willingness to innovate, despite resistance from certain elements of the community. Such innovation was driven in both areas by cooperation with powerful catalyzing organizations that provided funding and strong leadership.

Overall, it appears that there are plenty of examples in both Oregon and Akita of how cooperation among rural communities can increase the resilience of those communities. They can develop social capital by encouraging productive relationships between people within the community and with people from the outside. That social capital can then pave the way for the development of economic capital by fostering local business and accessing funds through catalyzing organizations. By developing these forms of capital through cooperation, rural agricultural communities can become better able to respond to disturbances. However, in both Oregon and Akita there are inhibitors to cooperation and innovation that make rural communities vulnerable. In addition, there are a wide variety of both predictable and unforeseen political, economic, and ecological disturbances that could still cripple rural communities. Whether or not rural communities can become resilient enough to tackle large disturbances in the future remains to be seen, but communities that develop innovative cooperative networks will almost surely be more successful than those that do not.

References

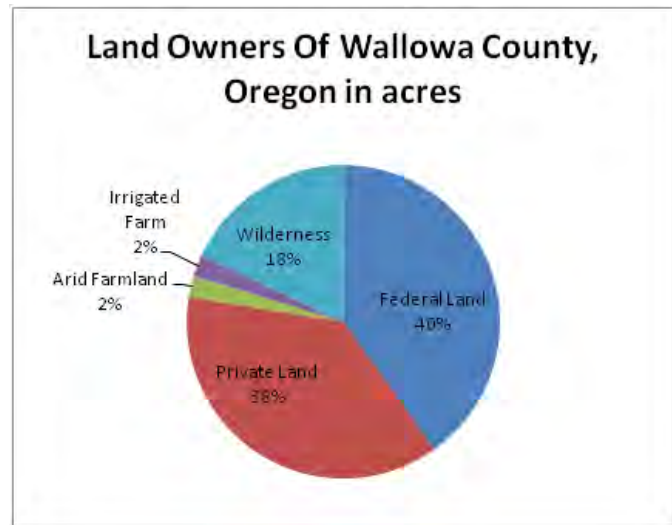
- Hendry, J (1987). *Understanding Japanese Society* (2nd Edition). London and New York: Routledge
- Walker B., Salt D. (2006). *Resilience Thinking*. 1718 Connecticut Avenue, NW, Suite 300, Washington, DC 20009: Island Press.

Importance of Natural Resources to the Economies and Livelihoods of Rural Communities

Christian Hargrove

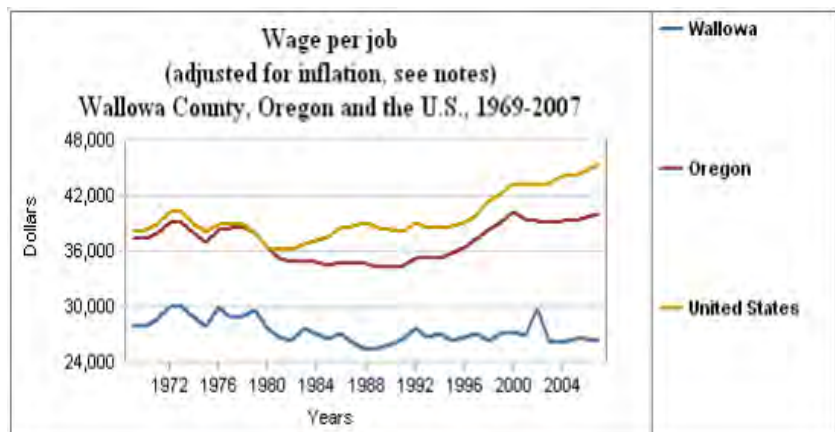
Wallowa County, Oregon

While studying resilient rural communities in Wallowa county Oregon, we came across a recurring theme among the local population, They described it as a “magical county” that is “community connected”, as well as being a “tight knit community” (Joe a rancher). This also contributes to being a “diverse” community, which attracts many types of people, who were once contractors to bioengineers, adding to a knowledgeable workforce. Of which this community prides itself on, as well as its different type of lifestyle.

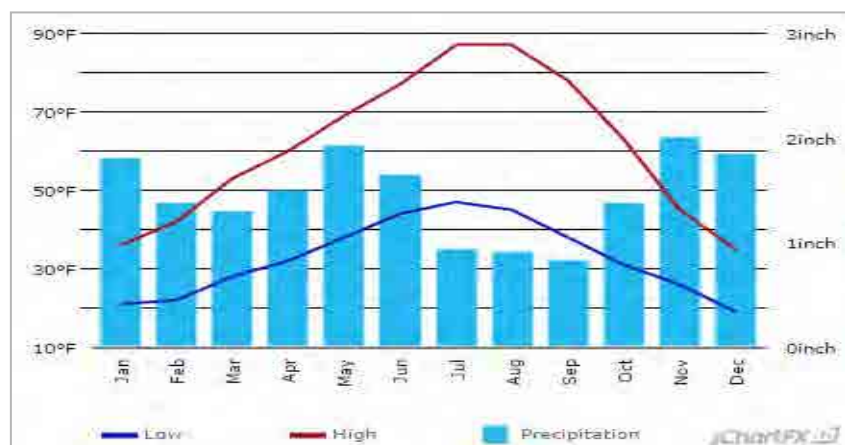


Wallowa County is a unique place as well, with fifty-eight percent of the land being under federal management, mainly national forest, with three wilderness areas comprising the landscape. And of this fifty-eight percent thirty-one percent is wilderness area, which amounts to eighteen percent of the total land base in Wallowa County being unusable for commercial natural resource use.

This led me to think with the loss of most of federal logging, what are ways Wallowa County supports its economic capital. With this I developed a question, to try and understand this. What are the economic impacts of natural resources and are these sources resilient? With asking this question I received resounding answers, such as Jim Henson’s “Very Significant” and the NRCS stating their a “driving factor”(Source: Northwest Area Foundation/1969-2007: Bureau of Economic Analysis, Regional Economic Data, Local Area Personal Income, Table CA34, (<http://www.bea.gov/regional/reis/>); DATE LAST UPDATED: January 22, 2009.).



However, a downside to jobs in Wallowa county is the majority of which tend to be low paid jobs, which are seasonal (Figure 1). And even full time jobs have trouble making a family wage, such as the Vitality 2009 report showed, a family of one



Developing Resilient Rural Communities in the United States and Japan

parent and one child earned 101 percent of the county cost of living, while a two parent one child with only one wage earner only earned seventy four percent of the cost of living. This makes the counties average yearly salary \$25,523, Much less than the US and even Oregon average for an annual salary. (Figure 1). This is hard to support a family on, especially since Wallowa is famous for its nine months of winter, and so it is expensive to heat homes, as the average temperature hovers around freezing.

It is also hard to make a living off the land as the precipitation mainly falls during the winter as snow, and is highly variable in precipitation from 60+ inches in the eagle caps to just 10 inches in the grassland, creating diverse ecosystems. However, the county is nestled in at the base of some 10,000 feet high peaks, which is great in its ability to cause what is known as rain-shadow effect and provide some desperately needed moisture in an arid landscape.

There are a few main industries (Figure 3) in Wallowa, agriculture, tourism, forestry, health care, and services. Of these the natural resources has brought in approximately fifty-eight million dollars annually.

Agriculture is the largest economic producer in the area and one of the largest employers. With "Hay and permit grazing, being the largest incomes in the valley" (NRCS) this affects a large amount of the area's economic value, this is especially true due to the land area owned by the national forest service, and timber investment and management organizations (timo's). On these lands they practice the ranching methods of silvopasture, (Which is where the landscape is managed for timber purposes, but is still allowed to be used for grazing.) This is important to the forest service as the multiple use act calls for such practices. Permit grazing on the national forest has a huge effect on the economics of the county as the cost to use the permits is typically undervalued. Especially when compared to similar land that is in private hands, permits costing 1.75 per AUM on USFS land can cost as much as forty dollars per aum on private land (Figures courtesy of: "Wallowa County, Oregon (OR)." *Wallowa County, Oregon Detailed Profile*. City-data.com, 2015. Web. 15 July 2015).

Agriculture is a huge economic driver in Wallowa with around nineteen percent of the county's GDP being produced by it. approximately half of the 90,000 acres that have been farmed are irrigated, and what is left is largely in either the conservation reserve program with around 24,000 acres or has been seeded to permanent pasture around 13,000 acres.

Sector(s)	Export Dependent Employment	
	Full and Part-time Jobs	
	Number	Percentage
Agricultural Production & Processing	773	18%
Timber Production & Processing	258	6%
Residential and Commercial Construction & Real Estate	258	6%
Manufacturing - Other than Ag. & Wood Products	429	10%
Tourism	515	12%
Government	601	14%
Households - Net earnings outside Wallowa County; dividends, interest, rents and transfer payments	1,331	31%
Other	129	3%
Total Jobs	4,293	100%

One of the largest advancements for farming in Wallowa county has been the building of the dam at Wallowa lake which was put in place to ensure a good water supply and raised the lake that was already two hundred plus feet deep another twenty five feet. The agricultural land has produced an estimated twenty five million dollars in sales annually, while livestock has created an additional eighteen million annually, making up a large portion of Wallowa counties natural resource's GDP.

Tourism is one of the next largest components of the economic base for Wallowa. However, this is one of the most fickle industries, as it depends upon the tourism season memorial day thru Labor Day to make its money. Another problem with this is the fact that it supplies a large amount of jobs to Wallowa; however these are just minimum wage, seasonal jobs. This is difficult to survive on especially for winter. A large job market is Wallowa Lake, with it experiencing an estimated 700,000 visitors to the site every year (Wallowa Resources).

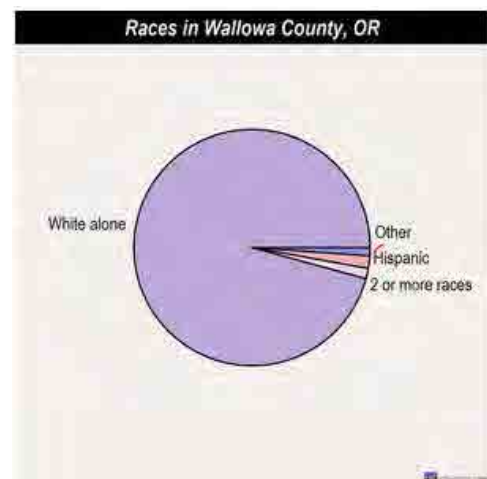
This is huge especially when considering the population of Wallowa County is around seven thousand.

Wallowa county wasn't prone to the tourism boom that has shocked many rural communities, this is due to the lake establishing a state lodge in the 1920's that attracted many visitors to take the railroad to Joseph, then a horse buggy to Wallowa lake, and finally a ferry across the lake that typically served a meal on it while you crossed.

Another attractant to tourism in Wallowa County is the art scene that is occurring in Joseph, from the bronze foundries to a few local painters, and a large volume of writers. The county also attracts more writers through its holding of fish trap, another nonprofit founded in Wallowa County. The largest attractant to tourists is the scenery of the county, with vast numbers reaching the county every year, to either hunt for some trophy class animals, or fish the rivers and lake for a world record. And then large majorities enter to hike into the eagle caps and the lake basin. This all makes for a thriving tourism industry in Wallowa

Services which are largely government services are also a huge economic factor for the county, due to the large swaths of public land, and farm services. This is a large factor as this supplies a large amount of family wage jobs. These also supply some vital services from maintaining water quality to fish and game populations. They also supply grants and advice to conserve farmland and irrigation water. A large part of these services today is the supplying of grants and loans to small farmers in Wallowa County to develop renewable energy sources. Many of the current ones that are being developed are micro hydro and solar power, which in the future could be of huge benefit to the county.

Forestry which used to be the main economic factor has of recent been little in the economic output of the valley. With the last sawmill closing down in 2007 it resulted in a large amount of timber being shipped out of the county to other mills. And then the woods are becoming vastly overgrown with around twelve thousand board feet per acre, of which the majority is low quality and small diameter timber, which is not good for production. This has led to a creation of a small wood processing center that will take these logs and sort them for saw log, firewood, poles, or chips to feed into a biomass heater. Which, one has been built in the high school and plans to build one to heat public buildings in enterprise.



Is Wallowa County resilient, through its economic activities? I would hypothesize that Wallowa County is resilient due to its ability to transition from the shocks it receives, such as, the loss of the timber industry, when collapsed lost many family wage jobs. However, it does still have a ways to go to becoming even more resilient and keep its population and economy thriving.

There are six of the nine keys to resilience that I would hypothesize Wallowa County has.

- **Diversity**

- Mainly this is in the economics of Wallowa County and the knowledge and type of people that are in the county, this is not as diverse in race (see graph) as many other communities.

- **Ecological Variability**

Developing Resilient Rural Communities in the United States and Japan

- They lost their ability to log large volumes of board feet timber, and now have low grade timber left. They responded to this by creating a biomass plant that can utilize these logs and produce a product with value.

● **Social Capital**

- The people and the creation of NGO's (non-governmental organizations) to fill a need when seen and also to come together as a community and help each other.

● **Innovation**

- Wallowa has a unique ability to create solutions to many of its problems and is also able to adapt to change and needs rather fast. For example to lower heating costs they installed a biomass generator which lowered their costs an estimated \$105,000 dollars every year for just the school.

● **Overlap in Governance**

- Wallowa County has many organizations that act to govern their natural resources from the federal to state and local. But, also has a unique capacity for the NGOs acting in ways to help sustain the county's natural resources and open ways to develop some.

● **Ecosystem Services**

- Wallowa has a diverse set of ecosystem service from the large swaths of natural grassland, to timber land. And its ability to capture and filter water and sustain the environment makes it unique. Especially in its way to have multiple springs, as the county rises from just eight hundred feet above sea level in the canyons, to ten thousand feet in the eagle caps.

Cross Cutting Issues

Wallowa experiences many issues that are considered cross cutting, from their age structure and methods to attract a new generation of residents. To the roles in which women are starting to assume from ranch bosses, and new markets, to presidents of upcoming NGO's that have a large impact on the county. The last crosscutting issue is class and doesn't appear to have as much of an effect on the county as they typically consider each other as the same class, however; this is typically not true if you are an outsider as you are then considered a different class.

Wallowa County has been able to keep its hopes for an age structure alive. By maintaining schools in each town and also creating programs to attract families and kids to the area, such as the outdoor school provided by Wallowa resources. However, the main population base is a retired community many families have brought back the next generation to continue on their legacies, such as ranching or farming.

The gender roles in Wallowa County have begun to be demolished and with that you are seeing more women creating niche markets to sell their goods. Also many women have become the heads of ranches, for example the 6 ranch with Liza Jane. Although, there is still some of the old legacy, they are slowly giving in to these new ideas that come forth. And creates a rather diverse area for innovation to be created.

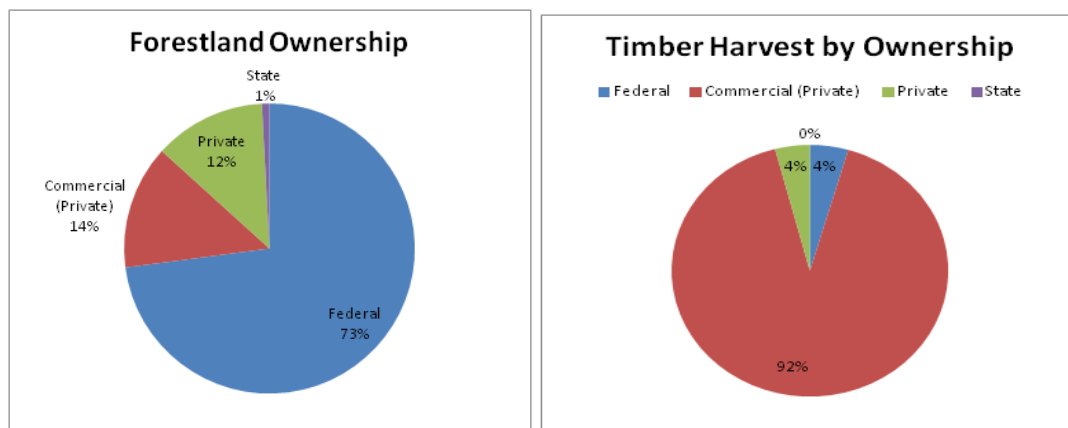
Wallowa County does show evidence of classes in terms of household income. However, most of the households of Wallowa seem to regard themselves as the same class and are able to talk to each other more easily by not regarding themselves as a better class. I would hypothesize that this is because to live in such a rural community that sees most of its money three months out of the year you need to be able to rely on your neighbors. While also having a certain type of grit to continue legacies even when cards keep going against you.

Future Constraints

In the future I believe there are many possible constraints that could slow or alter the growth in Wallowa County, below I have outline a few of the main ones. These range from future constraints on the ranching industry to their forestland and harvesting levels. (Figure 6, 7)

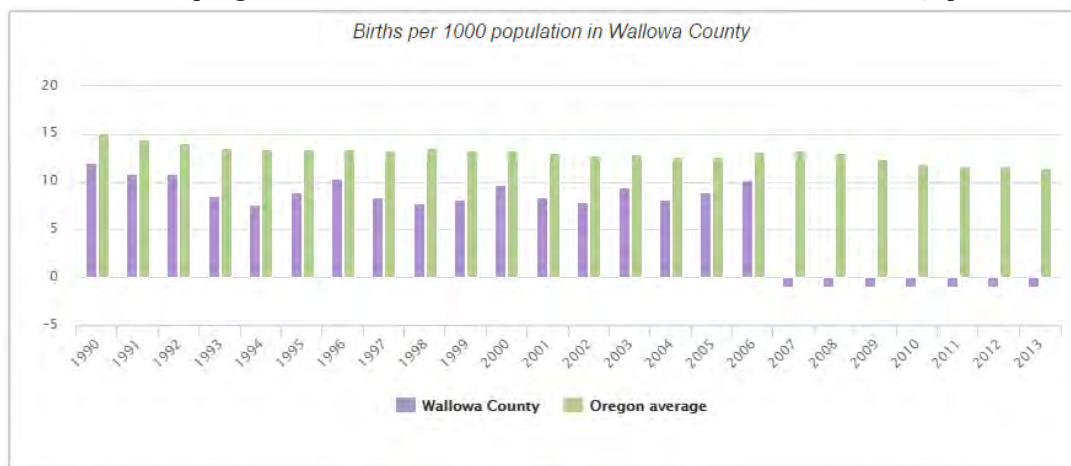
The price of permit grazing is incomparably cheap on federal land when compared with other options such as hay or feeding. When the USFS and BLM charges leaseholders a \$1.69per AUM (<http://www.fs.fed.us/news/releases/forest-service-and-blm-announce-2015-grazing-fee>), private landholders can charge as much as \$40 an AUM for the same type of land. This could potentially strain the cattle industry in Wallowa County as more land is pushed to be included into wilderness areas (figure6) (unless grazing permits are grandfathered in). Or a greater push to increase the permit fees to keep up with the costs of managing the land, or even animal size and age based fees. If this does happen the county has a potential to lose an excessive amount of revenue if beef prices do not stay inflated.

The biomass plant is a great effort at producing local industry however the main problem is that the largest amount of timber is owned by the USFS. And as commercial timber lands start to dry up, this will become even more reliant on the USFS to open lands to logging (Figure 7). To address this they need to collaborate and address issues as to why they are shy at putting timber up for auction. Once these steps are taken the USFS if managed correctly has a potential to supply the needs of the county every year for their biomass industry. And potentially creating saw logs to export in the future, as commercial lands will have little revenue for the next 40 years while timber is re-grown. As the largest commercial operator Hancock timber investment has already scaled back its logging capacity by laying off two of the crews it has working for it, due to little timber left to cut.



A constraint to the tourism industry is the niche markets and places to stay within the county. These are only open during a certain time of the year so many miss people hoping to enjoy the area during the offseason. Also with so many niche markets it can potentially limit the revenue of the area. As many consumers would not be interested in such specialty products and they are dependent upon the fact that you can't find these specialty items elsewhere. This will become rarer to find as Wallowa County is thrust into the global market and needs to make availability across the globe to stay competitive and other industries siphon off some of their business through cheaper imports.

Developing Resilient Rural Communities in the United States and Japan



Another problem that is occurring in Wallowa County is their growth rate. Since the last mill closure in 2007 there has been no increase by births in Wallowa County, this can become a major problem eventually. As a lot of the ranching operations are multi-generational and without the addition of a new native generation, They will cease and have to be influenced by people from out of the county taking over the industry. This will also cause many of the farms to have to hire outside help to continue operations, thus increasing the cost to farm and produce a product. Making it more difficult for the smaller ranches to thrive even ones that address niche markets, to supplement their incomes and increase the resilience of their farms.

Another constraint with such low birth rates is the fact that many of the towns are dependent upon the local schools being there, to attract new families to the area in order to raise their kids and send them to school locally. However, if there are few local students even the newly established charter schools will cease to exist as they will receive no funding for their staff; Forcing the county to relocate to one central school district, affecting every community throughout the area.

Future Potential

Energy is a huge cost for Wallowa County with a large amount of money being sent out of the county to pay for electricity consumption. Wallowa sits in a prime area to create a 100% renewable energy based electricity consumption. Through measures that have already been taken an estimated \$2.4 million dollars stays in the county every year that's 4% of the annual Natural resource GDP. If measures are further addressed this amount could increase drastically and supply more revenue, potentially creating higher wages for the county.

Some measures that could be taken is outfitting businesses with some solar to help with summer demand. Outfitting larger amounts of farms with different types of micro hydro systems, from in pipe systems, to ones that will just temporarily redirect irrigation water without consumption, helping to meet their energy demands for the county. The final that has greatest potential for the county is biomass, if they are able to build upon these systems and supply towns with heat, electricity, and hot water for government and private buildings. They have the potential to create a unique system that will allow for consumption of small timber that is currently abundant within the local forests. While also keeping more revenue within Wallowa and create jobs that could have a good wage potential.

Tourism is a large part of Wallowa counties GDP however it is only available for a short time of the year. If Wallowa was able to create some winter opportunities for tourists to come and enjoy the area from snowmobiling, cross country skiing, backcountry snowshoeing, to even just weekend stays in the snow covered country. They would have the potential to increase the revenue of the area and create some much needed winter time jobs. As a bonus it would attract more people to the area, and revive the community during the wintertime.

Akita Prefecture, Japan

Following studying rural communities in Wallowa we traveled to akita prefecture, japan. And with this I examined the question of; what are the economic impacts of natural resources and are these impacts resilient? Below I have examined the data and concluded or hypothesized what the data means.

Japan relies heavily on natural resources for their religion and cultural lifestyles. However, it does not play a large role in the economy of the nation, with them only being self sufficient for 40% of their food and plans for it to decrease due to the recent Trans pacific partnership deal. They also utilize foreign timber as it is cheaper to import then it is to cut. Japan has a natural resource industry that is very vulnerable in many aspects; however it does have some potential.

Some of the main vulnerabilities are. The agricultural conglomerate of JA it is involved in many aspects of Japanese life, and appears to operate much like an oligopoly. It is involved in the banking, insurance, medical, agricultural, equipment, and education industries to name a few, which is something unheard of in the US. If JA was to shutter operations tomorrow it would shake all economic industries and destroy many rural communities in Japan. As the equipment would no longer be available, financing would cease, and the main buyer and market for many agricultural commodities would shrink. However this would give rise to some new industries and markets, but the initial effect would be devastating on the Japanese citizens.

In Japan the government appears to heavily subsidize every industry, for example the natural resource industry is subsidized, this helps to provide some new techniques and practices, but the largest benefit is the fact that it ensures a stable price and profit for the farmers. A few examples are if you were to enlarge your fields you will receive a large subsidy for this, it also makes it easier to operate equipment within these larger fields and corporations to start. Another is if you were to reduce your rice field to approximately 60% in size and planted other species in the remaining 40% you can receive large subsidies that can create large profit margins. The forestry industry is also subsidized with thinning being the best example, for this you receive between 100 to 200,000 yen per ha, however this industry does also have some constraints as the only mill in akita prefecture is the plywood mill.

Some examples of subsidies for the agricultural industry are;

- Per bale of rice 15,000 yen
- If you change to 60% rice you'll receive 75,000 yen per ha
- 350,000 yen for soybeans per ha
- Also you can receive 200,000 yen per ha for growing soybeans
- And if you switch to livestock feed you could receive 800,000 yen.

With such large subsidies there is a great potential for this to end immediately as Japan has nearly 1,242,000,000,000,000 yen in debt, this results in it having the highest debt to GDP ratio in the world at 238%, leading even Greece in this ratio. If these subsidies were to end tomorrow it would devastate every rural community in Japan and shake every industry including ones established in cities, potentially driving Japan to seek international help. It would also result in many more fields and forestland becoming abandoned in every prefecture. However many communities are trying to become independent of these, as they realize it won't continue indefinitely. Although it would still devastate many small farms as without these subsidies they will be losing more money than they would make from the industry.

Another constraint for the future of the prefecture is the aging population, in the farming industry which is now considered mainly a part time industry, is operated by farmers

Developing Resilient Rural Communities in the United States and Japan

65 years plus with the youngest in the industry in Akata being around age 45. With the passing of generations this could result in the loss of what Japan identifies as its culture and the ideal Japan life. While also resulting in the loss of the caretakers for the natural resources and potentially affect the livability of Japan without artificial sources of these products. Without farm successors Japan is very vulnerable to lose their cultural ID, and if this was to happen we would see an increase in imports and a loss of what is regarded as the Japanese lifestyle. While also losing ecosystem functions, potentially affecting their entire island and having an effect on the world in general. However, a few communities in rural akita are creating innovations to attract new farmers to the area, such as, larger tracts of farm land.

Loss of youth is another vulnerability affecting japan, as many youth leave rural communities they tend not to return, this is due to a few main reasons. For many the work is too hard, and for low pay that is unable to support a family on, without working multiple jobs. If the rural areas continue to lose youth their will not be any rural successors, and corporations would become more likely to control the agricultural industry.

Japan is unable to be self-sufficient, this is due to the fact it retains a small land base and the population is the 10th largest in the world, with this it would be unable to survive without the help of foreign imports. This accounts for nearly 60% of their food supply, and their commercial lumber supply, due to costs of producing these items on their own land. Without some self-sufficiency if foreign imports were to slow Japan would certainly face starvation and loss of many industries in their society, resulting in a huge economic depression for the country.

The forests of japan are another constraint for natural resources as they appear to be plantation forests, which are monoculture in species with one major age class. These tree species are dominated by Sugi cedar that were planted post-war and are now at harvestable levels. Which when harvest begins could result in a flooding of the market lowering prices, and with harvest it is largely unprofitable, due to the land area being divided into small strips among the individuals in the edo period. The final constrain t this has is the potential for these trees to host a large scale infestation or disease, which could devastate nearly the entire nation of japan.

The Trans-Pacific Partnership is a source of high stress currently for the Japanese economy as they are not sure of the effects it will have on the nation's industries. For example rice tends to be cheaper to produce elsewhere and import, as well as many other items, which with reduced tariffs will become more likely to be found in japan driving the demand for Japanese products lower.

The final and largest strain for natural resources is pollutants, which can eventually impede the growth of japan and its industries. Some examples of this is the road building and sedimentation that can occur from unconsolidated road bases, which can affect the water quality and ecosystem functions. Another example is the litter that covers the coastline along the Sea of Japan, with this it creates uninhabitable environments for marine life and avian species, while also limiting the attraction for tourists to visit the coasts. The final constraint is the system of canals that rural areas use to water their fields and provide drinking water. Being solid cement structures these can impede the infiltration rates to recharge aquifers, while also limiting the ability of the system to filter pollutants that are carried from fields and travel towards the Sea of Japan and eventually concentrating in river deltas.

However Japan also has some possibilities, which in the future can result in a more resilient nation. Through expanding their job diversity, to the TPP deal, and even the niche marketing that occurs for products made in certain prefectures.

With so many rural farmers operating in many capacities and jobs they have a diverse set of skills that will allow them to continue on their livelihoods, even if an economic collapse was to occur.

Developing Resilient Rural Communities in the United States and Japan

To give rise to and expand their current infrastructure many rural communities are taking advantage of the government subsidies available and using these to create buildings for the sixth industry to grow in and community centers to keep their cultural traditions alive. This infrastructure will continue to exist even if there was an economic collapse to occur.

With such large swaths of forest land being planted at the same time timber harvest has a large potential to become an expanded industry. These large volumes of timber has a potential to increase the export of quality timber and also enable them to grow their biomass industry.

There is a large potential for niche markets to grow, from the rice that is considered the best in Japan, to the Sake that is considered the greatest as it is produced from the base of mount Chokai. This could also lead to global niche marketing due to the TPP deal, which could create new markets for their specialty products and increase their value, while also creating new markets.

Most would regard the loss of rice fields as a downturn for the agriculture industry. However; I believe there is potential to create fish farms in some old rice fields, while also potentially create new markets for various plants that can grow in wet environments. I.e. pond plants, or prized flowers and fruits. They have also started consolidating farmland which in the future will make it more worthwhile to farm as you will farm more land.

Another industry that Japan seems to have just started to access is the renewable energy, which has great potential for such a small land base. For example they could install hydropower in their irrigation dams and also in the canal systems, while also using solar power that could be captured on the roofs of many houses. Wave power could also be a great energy source along the coastlines, along with the potential for wind energy that can be created from oceanic wind currents. With these sources Japan has the opportunity to create energy sources to service their needs that will result in fewer impacts on the land, and could decrease the potential devastation if a disaster was to occur.

Japan has a lot of future constraints that hypothetically can occur and disrupt the nation. However their small size and location also enables them to have much potential for their natural resources. Even if many of these constraints were to occur something that has not been taking into account is how Japan has existed throughout various stressors of time. I hypothesize that if Japan was to create and use these industries and markets to their potential they will grow in self sufficiency in other industries, but not in food.

A large cross cutting issue that occurred in rural Japan is the gender issue, as communities continue to shrink it appears many barriers are shrinking. Such as women now being able to be heads of businesses and are now allowed to run some farms in these communities. However; tradition is still a large part of their life so there are many roles that communities frown upon women pursuing.

Japan has exhibited two out of the nine keys to resilience they are as follows.

- **Innovation**

- Through government subsidies it is encouraging change and new ideas to come forth and diversify the rural lifestyle in Japan. By creating potential for expansion of products into the sixth industry, and also new agricultural commodities being produced.

- **Overlap in Governance**

- The national government sets out an outline of rules for the people to follow however the individuals further establish these rules or customs so that their communities can reap the benefits. While also under the guidance of JA and the regional governments to best utilize and manage their resources.

However the majority of the keys to resilience are not exhibited and I will hypothesize why

they aren't.

- **Diversity**

- This is not exhibited currently in the agricultural societies or the timber industry. With rice being the majority crop, the transition to other commodities is limited, and the forest species tend to be dominated by a single planted species of tree, the sugi cedar.

- **Ecological Variability**

- The ecosystems of Akita, Japan have been heavily controlled, especially following post-war era. This includes the channelization of rivers and installation of flood dams to control and predict the water of the area. Monoculture forests is another system limiting the variability of the system. The final is the cropping of the valley lands, and leaving few if any of these areas to retain natural functions.

- **Modularity**

- The fields are connected to each other through canals; these are also cemented to restrict the loss of water. While, also the nation's agricultural industry is heavily subsidized, with the main supplier and buyer being JA, connecting all resources to one or two main entities.

- **Tight Feedbacks**

- Through such heavy control of the nation's natural resources they have slowed many of the tight feedback loops that were previously available. However I hypothesize as time continues on they will experience negative effects from this loss of feedbacks. Such as the loss of filtration to remove pollutants and also the impairment of the ocean industry from water pollutants occurring in the Sea of Japan.

- **Social Capital**

- With most villages beginning to experience a better revenue of social capital I hypothesize that there still is a lack of this being available. This could result from their lack of willingness to change, while also losing the next generation to cities, limiting the continuation of their traditional lifestyle.

- **Ecosystem Services**

- With such control over their ecosystems Japan has lost many of the key services this would provide to a community.

- Water filtration
- Sediment deposition
- Animal diversity
- Fuel and fire protection
- Food diversity
- Spiritual
- Climate regulation
- Pest and disease prevention
- Soil biodiversity

As can be seen the resilience system in Japan appears to be heavily impaired and potential can face many constraints and challenges in the future, while also being able to provide some new opportunities for the nation to explore. There are many issues facing the

rural communities but the main one they need to find a way to fix right away before other systems are impaired further is the youth out migration. Without a future generation to be caretaker for the land this could result in the land being cultivated by large individual corporations whose main goal is profit and could harm the ecosystems even more than what has been done.

Compare and Contrast

While Wallowa county, Oregon and Akita prefecture, Japan may seem like very different cultures they face some of the same issue while other issues are very distinct. I hypothesize that some of the more common themes affecting these two rural areas are likely to occur elsewhere around the globe in rural settings.

In both communities the age base for the population is increasing, they also recognize how this can affect the community and its future. Wallowa has recognized that they need to create innovation to attract the younger generation. This has been done through new ideas prospering in the community and the creation of jobs, which will receive a family wage. While some of the Akita prefecture has just accepted their loss of the youth and making it more enjoyable for the elder population. Others have started innovating to become more attractive towards new families. For example Akata has been establishing larger farming corporations and has built places to attract community members to as well as tourists (i.e. the pizza oven).

The outmigration of youth has been a reoccurring theme in both rural communities, as this occurs and continues it can result in; traditions being lost, and infrastructure being unused. To combat this loss and hopefully reverse it Wallowa County has taken a few steps, Such as the increasing of jobs and wages. They have also created programs locally to help educate youth, and also offering them college credits. Another step they have taken has been to keep schools in each community, rather than one central school. While in Akita prefecture some communities have taken steps to attract youth, majority of them have not. Some of the reasons being they have lost their community schools and now attend a central school, there are few jobs in the communities, and few places in the communities for youth to congregate.

A reoccurring theme between the two communities is the low wages received from agriculture and how farming is a part time job. With this people need a diverse set of skills and will end up working multiple jobs to support their farming lifestyle. Both communities seem to recognize this deterrent and are trying new ways to either increase wages or supplement incomes. Such as wallowa's new biomass center, or akata's farmers market are just a few examples of the new ways they are trying to increase their wage.

To also supplement their incomes and create new industries, niche markets have been created. For example; Gentian flowers in Akita prefecture along with their specialty rice and saki that is currently under development. While in Wallowa they have created demands for grass fed beef and specialty corriente beef, while also having an international market for their high quality hay that is produced in the valley.

A big part of these communities has been innovation to produce and utilize their regions resources. In Wallowa county this has been ideas that come from the NGO's, such as, the integrated biomass campus. Or the new marketing of their meats and products in Portland, capturing the followers of the Paleolithic diet there. While in akata they have built a processing facility to add value to products they grow, and have built a pizza oven to attract tourists and teach them how to make pizzas, there are also plans to build a biomass facility in the prefecture that will create more jobs and revenue.

However one theme that has been occurring is how the innovation for Japan is rather small and not very diverse as what is occurring in Wallowa County. For example Wallowa is also expanding their renewable energy sources while Akata seems to be mainly focused on food production.

Both places seem to place a lot of money in subsidies, however, Japan seems to place

Developing Resilient Rural Communities in the United States and Japan

more subsidies currently in communities and to limit price fluctuation, these are generally received directly from the government. Infrastructure is subsidized to create opportunities for the community individuals to more easily enter the 6th industry. Crop commodities are also subsidized currently, this is in order to create a price barrier while also attracting farmers to try new industries and diversify themselves. The final subsidy is thinning which without it thinning would be hard to practice as the costs for it is so substantial you would end up losing money to thin your forest land.

Wallowa County does receive some subsidies for certain crops however their main subsidies seems to occur around returning areas to “wild” settings, which are funneled through NGO’s. This is done through river restoration, and the management of forests for a diverse set of animals, it is also by resting farm fields to allow them to restore ecological functions that may have been disturbed through farming practices.

There are also many aspects of these two societies that are different. Such as how they manage their natural resources, to the acceptable gender roles for the society. In Akita prefecture their natural resource base, appears to be heavily managed, and restricted in what is considered natural processes. For example, they have created canals and dams, which control the loss of water, as well as the flow and timing of flows. Their forest ecosystems are also managed as a large monoculture for a large part of the forest land, through the growth of sugi trees.

Wallowa has a different approach to this they prefer what is regarded as a more natural wild setting for their county to occur in, while still being under intensive management. Such as wilderness areas to keep natural undisturbed ecosystem functions, to habitat restoration that restores ecological functions and abilities such as river meanders.

Gender also seems to be another area where the two societies differ. Even though both places seem to be making considerable advances toward more equality there is still considerable differences. For example in Wallowa County what occurs is still hesitant by some, such as women in leadership positions and pushing new ideas.

While in Japan there appears to be many more fields in which they are hesitant, a few examples of where women seem to be in control are, the farmers market and the processing center. However; these are still overseen by other organizations or under male leadership. These are just some roles however in the US it seems much more accepting for women to take on larger responsible roles then what occurs in rural Japan.

As we have seen these are just a few of the reoccurring themes that seem to be presenting themselves across the globe, with these themes in mind it leaves us with some unanswered questions. Is natural resource based economies able to thrive in the global market? Will age gaps and aging populations result in the loss of rural societies around the globe? If the subsidies for products were to cease would the markets be able to thrive on their own? And finally will rural communities be able to overcome obstacles to sustain themselves and be self-sufficient?

Bibliography

Northwest Area Foundation/1969-2007: Bureau of Economic Analysis, Regional Economic Data, Local Area Personal Income, Table CA34, (<http://www.bea.gov/regional/reis/>); DATE LAST UPDATED: January 22, 2009.

"Visit the Wallowas! One of Oregon's 7 Wonders." *Home*. Wallowa County Chamber of Commerce, 2015. Web. 15 July 2015.

Walker, B. H., and David Salt. *Resilience Thinking: Sustaining Ecosystems and People in a Changing World*. Washington, DC: Island, 2006.

"Wallowa County, Oregon (OR)." *Wallowa County, Oregon Detailed Profile*. City-data.com, 2015.

Developing Resilient Rural Communities in the United States and Japan
Web. 15 July 2015.

"Welcome to the Wallowa County Website!" *Welcome to the Wallowa County Website!*
Wallowa County, 2009. Web. 15 July 2015.

"Welcome!" *OSU Extension Service*. OSU, 1995. Web. 15 July 2015.

Resilient Families in Wallowa County, Oregon and Akita Prefecture, Japan

Holly Rysenga

Question

For this project, my team and I went to Wallowa County, Oregon and Akita Prefecture, Japan to observe the rural communities and compare and contrast them. My research focus was on the families living in these rural areas and what makes them resilient or not. My question is: In what ways are families resilient in rural communities? This question is important because communities would not exist without families, and in order to maintain rural communities, the families need to be resilient. Resilience is the ability of a system to absorb some kind of disturbance while maintaining the ability to keep its basic function and structure (Walker and Salt, 2006). The basic function and structure of families in rural Oregon and Akita means that they are able to support their families financially and continue on the generations. In this sense, I will be looking at how the families in these communities reacted to changes (disturbances), in what ways they adapted, and what key factors make families resilient.

Methods

The data for this research was obtained from going out into these communities, listening to ranchers, farmers, leaders, youth, teachers, and various other individuals, and interviewing a variety of people. The information was supplemented by the textbook *Resilience Thinking* by Walker and Salt as well as information from various websites.

Conceptual Framework

Within this project, a conceptual framework was used to help explain the research on resilient rural communities. In these rural towns, adaptability is very important to maintain resiliency, and depends on each community's adaptive capacity: the ability of a social group, or individual to adjust to change through a process of learning. Learning to think with resilience thinking—also known as systems thinking—can be a helpful tool in preparing for long-term events. Within this thinking system there are three main concepts. The first concept is having a “we are all in this together” type of thinking. Everyone is a part of the socio-ecological systems and depends on them in some way or another; both of these systems are linked, meaning if something happens in one, it will affect the other. When people look at just one system, usually they are excluding themselves and look at the picture from an outsider's perspective. This will not work when trying to apply resilience theory. The second concept is realizing that these socio-ecological systems are complex and adaptive; this means that they do not behave in a predictable way and they can exist in many different forms or states. Disturbance is a natural thing and has the potential to push the system over a threshold where it will exist in a completely different form or state; this can change the way the system behaves and may completely and essentially change its identity. The third concept is knowing that the more resilient a system—or town in this case—is, the better it can withstand a variety of shocks and be able to continue on as it was before (Walker and Salt, 2006).

Wallowa County

The first community that was observed was Wallowa County, Oregon where there is a history of families that were resilient enough to stay and those which were not. Back on May 20, 1862, President Abraham Lincoln declared the Homestead Act which encouraged families to migrate and settle on the West side of America. These families were given 160 acres of land, and if they were successful off the land, they would be able to gain ownership (Homestead Act, accessed July 2015). Much of the land in Wallowa County was settled because of this act, however, much of that land was not adequate to support a living. The evidence of the failed homesteads was old, abandoned houses and even an old rusted bed still bolted to the ground.

The families that failed most likely failed due to a lack of resources such as keeping the houses heated during Wallowa County's hard winters.

Of the homesteads that did succeed, various ranches and farms were created. Many of these landowners passed down the land through generations, and some ranchers currently in Wallowa County proudly boast about how long their ranch or farm has been in the family. With farms and ranches continuing succession in a multi-generational manner, it has been expected that the children stay to help and eventually take over; however, there is a current global shift away from this.

Ever since the settlers came to Wallowa, those families who decided to work in logging instead of ranching viewed forests as a resource to be exploited, and the area developed a timber industry. The residents of this area relied heavily on timber to provide a constant source of income which made them vulnerable to the risk of failure should the industry ever shut down; they did not have much flexibility or adaptive capacity. As time went on, various political disputes started as people realized that the forest, and the species that lived within, would not be able to sustain forever if the mills continued to harvest as they were on public lands. Due to changing government policies, such as protection of the endangered spotted owl and prohibiting timber harvest on public land, the mills shut down. This had a major effect on the families supported by logging jobs. The closed mills were a shock to the system of Wallowa County, and the county crossed a threshold and entered a different state—one that could not support working-class families like it once did. This caused a mass exodus of timber families out of Wallowa who believed that in order to provide for their family, they had to find work elsewhere (Wallowa Resources' Board, accessed July 2015).

Wallowa County experienced a mass exodus of logging families after the timber mills shut down, and less and less people were taking over their families' farms; to live in Wallowa, these families needed to become resilient. A key to resilience is adaptability, and to be adaptive, one must be able to be diversified. There were different types of jobs that allowed more diversity than others—those who had land, and those who did not. With the family-wage timber jobs gone, this has left mostly seasonal, low-paying service jobs brought by tourism. The families that stayed had to become more innovative with the resources they had; the families who did not have a ranch took up more than one job in the area. The families who did not have land were more vulnerable than those who did. This was because those who did had land were able to develop it and make a profit off of the land. Those who did not, were more likely to be in poverty due to lack of money and resources. The seasonal unemployment of this county was in the top three of the state of Oregon.

On the other hand, those who had land and the capacity to be innovative were more successful. A good example of a successful, multi-generational family business is 6 Ranch run by Liza Jane who had land and thus more able to be diverse and innovative. Liza Jane was lucky to inherit this land since all four of her older brothers, who would have priority of the inheritance, let Liza Jane take over. She felt strongly that diversity was the key to resilience saying "Don't put all your eggs in one basket," meaning that if a system is diverse enough, a shock to the system will not put it over the threshold of losing everything—a definition of resilience. Liza Jane was the leader of this ranch, but allowed her children to bring their skills and interests into the business. Her daughter Adele was interested in working with the niche market of Corriente cattle, while Adele's brother was working on creating a fish and game bird hunting guide business to draw people to the Wallowa valley. This ranch also had a farm stand and herb garden that was based on the honor system of payment. Anyone could come by, take what they wanted, and were trusted to leave payment; however, Liza Jane said that it was not a big deal if someone truly needed food and had no means of payment—it was her way of giving to the community and she wished more people had farm stands around Wallowa. This ranch is a very good example of adapting and increasing resilience.

Another example of a resilient family business would be the Hawkins Sister Chicken

Ranch. This family business demonstrates the ability to be resilient through diversity and adaptability. One of the three sisters, Mary Hawkins, used to come to Wallowa in the summer as a little girl to her grandfather's farm and raise chickens. She went to high school in Portland, and college at Brown University; by coming back to Wallowa to run a chicken ranch, she also brought back a lot of knowledge that was helpful with innovation. Her main business on the ranch was selling broiler chickens for meat; however, she was also working with various other ideas to diversify her income. She mentioned filling niche markets and selling to upcoming trend diets. She sold her chickens to local restaurants as well as marketed her chickens for those wanting to eat a strict paleo diet. One of her niche market specialties was selling capon chickens: castrated roosters that become very large and give a tender, fatty meat—she was taking a risk to create this market in the hope that this market will grow in Wallowa. She was also working on processing her own feed to sell to other local chicken ranchers and even leased out part of her land for cattle ranchers to use for grazing in the summer and calving in the winter. She did not just work as a chicken rancher but had another job; it was common for people in Wallowa to “wear many hats.” Mary Hawkins has a diversified ranch that supports local businesses and ranchers. She herself had a diversification of income by working more than one job.

The more resilient families had access to capital, land, and even education. Kids who had families with more money had increased access to opportunities because the families could afford them—like sending their kids to college. The success of Liza Jane was due to inheriting her land, and Mary Hawkins had land that had been in her family for a while, education, and probably money since she went to an Ivy League college—these gave these families a cushion, or the adaptive capacity that not all families in Wallowa could benefit from. Not all families in Wallowa County were as resilient as Mary Hawkins' family or Liza Jane and her family.

In order to help the lower-income families improve their lives, the Stewardship Center was created. The Stewardship Center was a non-profit, community supported, service provider that was made up of a combination of organizations that collaborated to aid those families who may not have the opportunities that others do. One of the organizations, Building Healthy Families, focussed on helping every member of the family—from new-born babies to the parents—be successful. Their mission statement was to give these families access to success by connecting them to services usually unavailable to them. These families were often ones with low-income that did not have the money to leave and were in need of help; most of these families only had minimum wage, seasonal service jobs when tourists come in the summer. According to Lindsay—a shared employee between Wallowa Resources and the alternative school—a challenge low-income families faced was that frequently the adolescence were not even qualified to work at the jobs in the area that were available. Building Healthy Families had programs that worked on developing their human capital in order to make them more qualified. A few of the support systems that Building Healthy Families offered were free childcare from ages zero to three, alternative education, helping teenagers start their own businesses, and even parenting education. These resources contributed to the success of families in order to maintain resilience.

An example of help that Building Healthy Families provided was the alternative education school for kids of the area who did not fit into the regular high school. These kids may not have had the best attitudes initially, not have had much support at home, or may even have been homeless. This alternative school provided them a safe place to be as well as opportunities for a brighter future. Some of the kids who have gone through this program have graduated and left for college. There are follow up programs that make sure these kids have a plan for after high school, whether that means college or securing a job. They hoped that if they set up these kids for higher education and success, then if they returned to Wallowa, their new skills would help to grow the community's resilience. Maria, a teacher at the alternative school stated, “If you don't [help] at a personal level—then the community can't become resilient.” She believed that in order to make a family resilient, each individual

Developing Resilient Rural Communities in the United States and Japan
needed to be set up for success. Programs such as the alternative school offered individual attention to students to contribute to this idea.

Due to the lack of funding within Wallowa County, all schools have a four-day school week. As a result, Wallowa Resources created a program to teach the students about natural resources in the area on Fridays. Lindsay stated that "Exposure is an important thing to kids in order to open doors for them." After being asked how these families would be able to be successful, she responded by saying that access to as many resources as possible, the knowledge of said resources, and where to find them was most important for helping these kids and their families become resilient. By working with Building Healthy Families, the alternative school, and Wallowa Resources, she was able to help these families network, find jobs, and expose them to as many opportunities as possible; she believed that this would help the families become resilient and in turn, help the community in Wallowa.

Wallowa was a community that once thrived as a result of the timber industry but crossed a threshold when the timber mills shut down. The families who stayed in Wallowa had to adapt and become diverse in order to be able to keep living there. Examples of family businesses that have done this were 6 Ranch and the Hawkins Sisters Ranch. These families had resources that not all families in Wallowa had access to, but people like Maria and Lindsay who worked with Building Healthy Families program, did their best to help those who do not have those resources find other resources and teach them skills. Education was a key point in helping families become resilient, and it was said by more than one local in the Wallowa County that knowledge is the key to being successful here. For the youth, this meant having the ability to bring back new ideas to increase the adaptive capacity and help the community become more resilient. This research would be more conclusive if given the opportunity to come back in a few years to see how Wallowa has changed, and what the families are doing in order to adapt to the changes.

Akita Prefecture, Japan

After studying Wallowa County, Oregon, research continued in Akita Prefecture, Japan where four communities were studied: Arawa, Kayagasawa, Tenjin, and Akata. From the small amount of time that was spent in each area, there were some hints about the degree of resilience each community had. Although my research question is still about how families are resilient in rural communities, there was more focus on village communities as a collective than individual family units. In this part of the paper, I will focus on the ways families/village communities are resilient or not in rural Japan and why. A theme that kept coming up was how to bring outsiders into the communities in order to increase the resilience of the community.

The first village that was observed was the village of Arawa. Since Arawa is located on the Omono River, it was once a major area for material accumulation for Akita City as well using the Omono to transport goods to and from the area. This used to create jobs and income for the families who lived there. Once roads and bridges were made, this way of transportation ceased to exist. Evidence of the decline of the town was apparent in the abandoned houses and shop fronts. Some people still live in Arawa for the jobs; for example there was a father-son business that made hand-made tatami mats, but most who still lived there commuted to Akita City by car. There was not as much public transport as could be found in other communities since most households owned at least one car; they had a community bus service, but even so it was hard for people to go in or out of Arawa without a car. This meant that it would be hard to invite new families in if they had no convenient means of transport. The elementary school was also going to be shut down in the next year; when asked if there were any plans for change to get people back into Arawa, the village guide said that there were no new plans, and if there were, they were not very popular or effective. There seemed to be this attitude of, "There is nothing we can do about it, so let's just wait it out;" it almost felt like hopelessness. Arawa seemed to be crossing a threshold that might end up as an abandoned town since no newcomers were coming in, and there was no attempt of

Developing Resilient Rural Communities in the United States and Japan
making change to gain resilience.

The next village, Kayagasawa, was located fairly near to Arawa and faced similar problems. Most who lived in Kayagasawa also commuted to Akita City for work, and of those, some were part-time farmers. Within the last 10 years, however, there was a severe decline in the population, no new babies had been born, and the population was becoming elderly. The village of Kayagasawa had a traditional lion dance with music called Bangaku, and they have tried to keep it alive by teaching youngsters, girls, and outsiders the ritual when before, only men were allowed to do it. There was an attempt at collaborating with elementary kids to learn the Bangaku tradition and perform for the community, but once the kids went to middle school, not many continued with it. There was also a program that let schools take a field trip into the surrounding forests to collect beetles for pets. Aside from this, when asked if there was any plan to attract people back to Kayagasawa, the vice leader, Ikeda Tadashi, said there were no new ideas, but that he hoped the outside would help. The most important thing for the village was not to change for future generations, but rather to keep the existing villagers to stay and be happy. There was not any innovation to be seen in this community, and without any adaptive capacity, Kayagasawa also is running the risk of becoming an abandoned town.

Based on the limited interviews and time spent in the county of Yurihonjo, the village of Tenjin seemed to have a better attitude than the previous two because it showed signs of resilience and was more open to change. The local government was even trying to make a “U-Turn/I-Turn” project to attract people back. This area is hard for people to live in because of the harsh winters; it is also hard to get people to return to these rural communities if they do not have old roots or relatives in the area. However, there was one family who did return.

The community of Tenjin was trying to become diverse and use the resources available to them in order to develop their community. Japan’s central government is trying to help rural Japan be more resilient to the changing global economy by being more diverse. One example of this would be the gentian flower farm owned by Mr. Ishida. Since it was a new niche market to fill, the government subsidized this project by funding one-third of the cost, all the needed equipment, paying a support amount of income if it was not bringing in enough, as well as making gentians a higher priority over rice. Mr. Ishida further diversified his income by also selling chrysanthemums and Texas bluebells; all three types of flowers are popular for Buddhism events. This farm was also helpful to other families in Tenjin. Mr. Ishida’s flower farm employed around 30 people from the area who were part-time workers, housewives, or retired women who needed the extra income. In the winter, he goes to the city to deliver gasoline so that his family can stay in Tenjin; during this time, his wife and kids mainly study and clear away the snow. Mr. Ishida was helping the resilience of other families by employing them, but as for his own family business, Mr. Ishida had three kids, and none of them plan to take over the flower farm. He explained that kids today do not want to come back to farm anymore.

Another person who has contributed to helping the families in the Tenjin community was Mr. Sato—the leader of the Sato Timber Company. There were other private timber industries in the area, but Mr. Sato worked to get his registered as a company with the government in order to provide his workers with a good wage and benefits. Because of this, he had also created a way for his family to be resilient since he too gets a good wage. Tenjin used to have a lot of construction business, but that ended when the economy declined; thus, many lost their jobs. Some who lost their jobs joined Mr. Sato’s company; he currently has 35 locals working in his company—this was a lot of employment for this small community. This industry was one that can work all year long—even in the harsh winters so there was an income for families all year long. The leaders of Tenjin are hopeful that Mr. Sato’s timber company will be a new way to support the community. Not only will Mr. Sato be helping the community, but his son plans to take over his business so the family business will continue on helping resiliency.

Developing Resilient Rural Communities in the United States and Japan

Even though Tenjin was making progress to adapt and make changes to develop the community, it was hard to do so without the funds to make the changes possible. Of all the districts in Yurihonjo, Tenjin was lowest on the priority list for government funds. They recently got a subsidy to make a farmers market and processing facility which will hopefully bring more income and diversity to Tenjin. In fact, the processing facility had eight to nine registered groups of women—mainly local wives—who get together and make snacks to sell for extra income. Unfortunately, Tenjin has to wait for the government to get around to them again if they want to be funded for any new projects.

The last community that was researched was Akata community which is also located in the Yurihonjo County. Akata is split into three areas, upper Akata, middle Akata, and lower Akata; the majority of the research was spent in middle, and lower Akata. Akata, like many other rural communities throughout Japan, has the issue of aging populations and out-migration of youth. A big focus that was seen in Akata was in what ways the community can become innovative and diverse to increase the community's resilience by bringing people in.

The Akata community got funded from the government for a variety of projects. Akata applied and was chosen by the Yurihonjo City government to be a "model community" for the "G.B. Power-up project"; this project focused on helping the elderly share skills and find a new ways of making a profit. This was how the Farmer's Market came to be. In addition to that, thirty-one students from various universities around Japan came to research aging communities and created a plan to revitalize Akata. The central government gave funds to help develop these communities. The leaders of this community were part of the local, community government which was known as the Neighborhood Association. This association is the main decision-making board and was the one to decide to bring in the college students. With the action plan that the college students proposed, changes such as the processing facility and the pizza oven were created thanks to central government's subsidies.

One of the new ideas for the community that would help its resilience was the creation of the Farmer's Market and the processing facility. The Farmer's Market was opened to take advantage of the human capital in the area because some villagers made soba or grew vegetables as a hobby; the processing facility made it possible for these products to be packaged and shipped all over Japan. After asking some older women about the changes in Akata, they felt that it was very beneficial that the Farmer's Market gave them the opportunity to socialize with others and the youth. They said that after machines came in during the 60s, planting rice was no longer a social event but became a job one could do alone. When the farmers market opened, not only could they interact with the community—something that they felt was very important to one's health—but also it gave their families another source of income. They now grow extra vegetables in order to sell to the market.

Another new idea that was implemented for increasing the diversity of Akata was the creation of a pizza oven. This was created to give the community experiential learning; not only did it create another way for the community to come to a central area to communicate, but it also brought outsiders in to learn pizza making. After some of these ideas were put into place, villagers were starting to be more vocal about their ideas that could help the community grow and become more diverse.

A theme that was inherent to the resilience of a community was strong leadership. Mr. Endo, the leader of Akata, recognized that the community would not be able to be resilient if there was not any change. He pushed for new ideas, but people in Akata at first were unsure and wary to change. Mr. Endo went from house to house talking with those who were unsure to try and help them see the benefits of change. There was a point where even though not everyone in the community agreed, Mr. Endo went ahead and made the changes anyway. Sometimes a good leader needs to make the unpopular decision in order to help the community. Now, after some of the changes like the Farmer's Market or the pizza oven, 70% of the community agreed that the changes were beneficial to the development of the

community. Another way that Mr. Endo shows strong leadership is his ability to communicate. He made sure that upper, middle, and lower Akata were aware of the community events that were going on, did his best to draw people from outside Akata in, and in doing so, created an attractive, welcoming atmosphere.

After talking to two older women from the community, they gave insights to what it was like to have a family in Akata and the changes in the family dynamic that were changing with everything else. The two women were Mrs. Hachi and Mrs. Ito. Mrs. Hachi started by talking about how she knew her husband from a high school club, and even though it was not love, at 21 years of age they married because they knew each other; some speculation would be how involved the family was in this arrangement. She married him because she knew that they could both work together on the farm and that was important; she said that if she was not from a farm, his family would not have accepted her. Mrs. Hachi had three kids, and her eldest son, his wife, and their children are currently all living with Mrs. Hachi—this was the traditional way households used to be all over rural Akita, but that might be changing. Mrs. Hachi may not always agree on how her daughter-in-law is raising the children, but she said that she cannot tell her what to do. She even said that it was hard to live with her daughter-in-law because of different traditions and ways of thinking of the younger generations, and at times she would even avoid the kitchen if her daughter-in-law was using it; regardless, she also said that they look out for each other. She sat back and laughed about that in the old days, the wife that married into the family used to be the ones to endure the elderly, and now it was the other way around.

Mrs. Ito met her husband from a youth association group, and just like Mrs. Hachi, she married because she knew him, not out of love. Also, like Mrs. Hachi, she married into his family and was expected to care and wait on his parents, grandparents, and her husband. This was common in older, traditional households in Japan; Mrs. Ito said that she always had to be aware of everyone, always stressed, wished she could have been able to eat more, and never got to sit in a warm place—she always had to sit on the outskirts of the room behind the men. One benefit to this multi-generational family is that when the mother had to go out and work in the fields, the grandmother would care for the children. There was not the issue of finding a daycare. Mrs. Ito currently lives with her daughter, her son-in-law who was adopted into the family, and their two children. She said that she had a bad first impression of her son-in-law because he came into the house in jeans, and Mrs. Ito had a strict idea of how he should have dressed to meet her; however, she said that it was love between her daughter and son-in-law, so there was no separating them. Mrs. Ito also mentioned that she and her daughter have disagreements about how children should be raised. She agreed that the way of thinking is already changing and said, “I would be hit if I slouched!” These examples show a shift in the way of thinking between two generations. Resilience will come with successful change, and here we see a change of mindset. Holding on to old ways of doing something increases vulnerability; in this case, to change the old way of thinking will be more inviting for the younger generations to stay in the community.

Another woman that was interviewed—Atsuko Kato—gave her perspective on families and how to get young people back; this woman was in her late 20’s or early 30’s. Atsuko was from upper Akata, currently lives with her family on their farm, and commutes to her job in Honjo City. When asked if she would take over her farm, she hesitated and said how she would like to, but she also has a different idea for her future career, and it is hard to do both. She told about a new trend in regards to youth and families. Before, many kids wanted to leave their rural homes and get jobs in the big cities of Tokyo or Sendai, but now Atsuko says the new trend seems to be that kids are wanting to stay in the rural areas and commute to Honjo for their jobs; however, less and less people are wanting to live in the multi-generational household style that was tradition. They would rather live alone or just with their spouse and children instead of the mother/father-in-law as well. Atsuko believed that this new way of living would be more attractive for the younger generations, and that the elderly populations would need to change their way of thinking about the structure of families.

After hearing from Mrs. Hachi and Mrs. Ito, it seemed like the mindset was indeed changing. As for bringing people back to increase resiliency, Atsuko believed that young people need to have a positive feeling when coming to Akata so that they would want to stay. She even confessed that before the changes happened, she did not plan to return, but because of seeing her father's generation making the effort, the atmosphere has become more hopeful. She agreed that she has seen an increase in tourism. Atsuko felt that Akata is a perfect area to live since even if her generation is not farmers, they could live in Akata and commute to the city and still enjoy nature.

Compare and Contrast

There were some main similarities and differences between rural Oregon and rural Japan in relation to the resilience of families. One similarity was that it was easier to be resilient and adaptable if families had economic capital. In Wallowa, this was evident with 6 Ranch where Liza Jane inherited her family's farm and Mary Hawkins, who had another job, inherited her family's land, and possibly enough money to fund her new ideas. In Japan, Tenjin was lower on the priority list for government funds, so they had to wait for any money to fund any new projects that would aid the development of the community. The Akata community was chosen by the government to be a model community for change; thus, it was given enough funds to create the new ideas suggested. On the other side of this, the low-income families in Wallowa were not able to be as resilient since they did not have the capital to risk trying new ideas, and in rural Japan, the communities that were not getting funds from the government or waiting on funds were not able to make as many changes as Akata.

Another similarity would be innovation. A key to resilience is adapting to change and trying new things. Wallowa County was an incubator of innovation. The capon chickens that Mary Hawkins was raising were her way of trying to fill a new niche market in the hopes that it would catch on in Oregon. On the 6 Ranch, Liza Jane let her kids bring in their ideas to diversify the ranch. In Akata, the Neighborhood Association was always trying to think of ways to bring people into Akata to help the resilience of the community. This was evident with the creation of the Farmer's Market and the pizza oven. Both Wallowa and Akata had a hopeful atmosphere due to the positive changes being made.

A third similarity would be that in both places, strong leadership was an important key to the resilience of the communities. Nils Christoffersen was the head executive of Wallowa Resources which provided the information and connections of subsidies for new projects, creating potential for new projects, and encouraging new and innovative ideas to help Wallow thrive. Nils was the man who made sure that everyone had access to as many resources as possible for success. In Akita, Mr. Endo from Akata did much of the same. He encouraged new ideas, made them happen, and did his best to involve everyone inside and outside of Akata with these projects. Mr. Sato from Tenjin created a company that employed many in his area while also giving the workers benefits.

Even though both communities are rural areas in developed countries, there are some differences as well. One difference that was evident was government help versus non-profit organizations. In Wallowa, there was more of an emphasis on non-profit organizations to help families become diverse and resilient. Wallowa Resources and Building Healthy Families were non-profits that focused on helping people find opportunities, and give them information and education to help their futures. There were some government subsidies, but they did not play as big of a role as subsidies from the government in Japan did. In Japan, the government was the one to encourage the community development of Akata and gave them the funds to do so. Even on farms that were trying a new market, like Mr. Ishida's flower farm, the government prioritized that market and heavily funded it. The resilience of the rural Japan was more supported than in Wallowa where non-government organizations did more of the community support.

Another big difference was families versus community. In Wallowa, to be resilient, it

came down to the family business, how diverse and successful it was, and then about how each family might be able to give back to the community. In Japan, however, the focus was less on the families as an individual unit but more of families as part of the community. Instead of families as individual units being diverse and resilient, it was more of how everyone could come together to make the community diverse and resilient. Where Wallowa had more families that could give to the community, Akata had focus on community that would in turn help the individual families. While there is always disagreements and not everyone probably felt this way—there were still farmers wanting to stay individual—community resilience was a general trend. One possible contributor to this could be that multi-generational families in Wallowa dated back, at best, to the Homestead Act; whereas in Akita Prefecture, their multi-generational families could have dated back more centuries than anyone in Wallowa. One Japanese man said that his family could be traced back 20 generations. Since both countries had a different history of development through the years, so too developed a different way of seeing a community. Where America's families have developed resilience around individual independence, Japan has found success working together to increase resilience for families. There are merits to both ways.

Last but not least, another difference was the welcoming attitudes and the help that was given to new families. Both Wallowa and Akata were welcoming, but in Wallowa, it was hard for one to start up their life there if they did not network and make connections initially. If one did not have old ties to the area, then it was harder to have a voice; those who had a lot of respect in the area were those families who had land dating back for generations. The same could be said about other rural areas of Akita as well, but as for Akata, three new families returned and the people of Akata sold parts of their land for these new families to build houses on. Not only that, but these new families were included in the Neighborhood Association so that they would be connected in to all of the communities' activities. Perhaps they did have old ties to the area that made this possible, but that data was not collected during the research.

Conclusion

Both Wallowa County and rural Akita, Japan gave insights to what it means to be a resilient family in a rural community. In both Wallowa and Japan, families were resilient if they had economic capital, were making changes, and strong leaders. Resilient families and communities were successful if the families were supported financially and new generations were coming in. There were overlapping themes that were similar in both areas as well as some differences, but by studying both places, it is evident that making change is one of the most effective ways a family can be resilient. It would be interesting to return to both of these communities to see if the changes they made did indeed contribute to being successful resilient families.

Works Cited

- "Homestead Act." *Primary Documents in American History*. The Library of Congress, n.d. Web. 5 July 2015. <<https://www.loc.gov/rr/program/bib/ourdocs/Homestead.html>>
- Walker, B. H., and David Salt. *Resilience Thinking: Sustaining Ecosystems and People in a Changing World*. Washington, DC: Island, 2006. Print.
- "Wallowa Resources' Board." *Wallowa Resources' Board*. Wallowa-Whitman National Forest, n.d. Web. 15 July 2015. <<http://www.wallowaresources.org/index.php/who-we-are/board/49-general-wr>>.

The Attraction Based on the Natural Resources

Kasumi Toshima

These days, some people say rural areas in United States have serious problem to be viable. According to Stauber (2001), the rules exist in rural areas in US are neither thoughtful nor developed. In addition, he said sometimes people in rural area tried to apply the rules made for urban areas, not for rural areas. Some people says the idea of resilience, the capacity to accept the difficulties and keep its basic function and structure, is necessary for rural community to be viable (Walker & Salt, 2006).

At the same time, rural areas in Japan also have serious problems. Actually, most of rural areas in Japan have difficulty in keeping population (Oshima & Quinones, 2011). One of the reasons is moving out of young generations. Since the pre-war period, people in rural area have moved to urban area because of the urbanization (Traphagan & Knight, 2003). According to Ouchi (2010), because urbanization usually makes one big market of commodities, labor, land, and so on, rural areas tend to be sources of supply for the central. During the wartime, urbanization was really worked to gain the national power; however, nowadays it gives serious effect on rural areas. Another reason is aging population; because many young people move out to urban areas, the percentage of elderly people automatically grows. According to Oshima & Quinones (2011), high portion of elder people leads to high rate of death. In order to stop the depopulation, many rural areas are looking for the solution.

Although there are a lot of rural areas that faced serious problems in US and Japan, our project team researched on natural resource-based community at this time. Although the two project sites are in different countries and have different culture, they have some similarities because they are surrounded by plenty of nature and both of life structure is based on natural resources. Through the project, I mainly researched based on the question "how does natural resource-based community prevent out-migration of people and attract the young people outside?" The reason why I chose this topic was because I already realized the severe situation in Akita prefecture. When I was born, my hometown, one of the rural areas in Akita prefecture had more young people than now. Nowadays, there are few school students and a lot of elderly people (over 65 years old). Because the average age of community members is terribly high, the desirable age of the leader in my hometown is also high. For example, although he is already over 50 years old, people in my hometown think my father is too young to lead the community. Therefore over-65years-old man usually takes a leadership for community and decides everything according to the customs. In addition, because most of young people are work in the company on weekdays, elderly people tend to use young full-time farmers as a driver, a helper of the farming, and so on. It means one or two young farmers have to take care of most of elderly people on weekdays. I was always thinking this system and custom was not fair. In order to make the situation in rural areas, like my hometown, better, I thought the community should get more young people to share their work. Therefore I researched on this topic and looked for the solution for the problems.

Research method

This time, I researched by interview. At first, I asked about interviewee's birthplace and hometown. If he/she is born in the project site, I asked the reason why he/she chose there and the favorite points there compared with urban area. If he/she is born in urban area, I asked the reason why he/she chose to move there compared with other rural areas.

In order to measure the level of resilience in the community, we use Complex Adaptive System; the graph consists of how people are active to get the capital and how much the capital connected to the situation, and the three factors: risk, vulnerability, and adaptive capacity (Walker & Salt, 2006). Risk is the possibility of untoward change impacting something negatively. One of major risks these days is environment or climate change. Vulnerability is the ability to be harmed by something or someone. In order to reduce vulnerability, it is necessary to make effort to be resilient and have more options to satisfy

basic needs. Adaptive Capacity is the ability of a social group to adjust to change through a process of learning. It must be the opposite of vulnerability.

Tourism

Tourism is now one of the biggest industries in the World. It can not only attract tourism, but also create a job. Actually, lacking of job opportunities is one of the reasons why the young people cannot come back or stay in their hometown. When I interviewed a high school student girl in Enterprise (June 23, 2015), she said she desired to come back to Wallowa County after she graduate a university in urban area, but it was very difficult to get a job there. It depends on the situation, but she expected she would not be able to come back without a job. I also headed about the situation in Akata community from ex-city governor (July 10, 2015) and he explained about the ministry of Marugoto Urikomi (PR) in Yuri-Honjo city government. He said this ministry had a lot of work to advertise the city, to get young people into the city. According to the website of Yuri-Honjo city government, the ministry of PR has job creating section, and it makes effort in order to keep young people in the city. Therefore, people think tourism is important to create a job in rural area.

Landscape

Then, what can be the attractions for tourists? One of the attractions which national resource-based community has is beautiful landscape. These days, because of the people's attention towards environmental issues, eco tourism became popular all around the world. Eco tourism is, according to the international ecotourism society (1990), "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education". In order to learn something from the nature, eco-tourists travel various natural resource-based communities. In addition, outdoor activities, such as hiking and camping, also can be say the attraction. In Wallowa County, there are Mt. Howard and Wallowa Lake that compose the landscape there. I interviewed some young people who participated in the farmer's market in Joseph on June 20, 2015, said they decided to live there because their hoppy was outdoor activities. They said they went to Wallowa Lake or Mt. Howard as leisure when they had free time. According to them, such good environment to do outdoor activities is the reason that they want to stay there. In Akata community, there are Goho-zan (五峰山) and sea, and people can see Chokai-san (鳥海山). A young worker in Kato Timber Company said he was very glad to live there because he really loves the environment there.

The vulnerability of the landscape in Wallowa and Akata is the possibility of the lack of successors. I asked about the maintenance of forests and mountain to the leader of Wallowa resources and the president of Kato Timber Company, and both of them said it became difficult to keep the forest beautifully because there were few people who could do it. Both Mt. Howard in Wallowa and Toko-san (東光山) in Akata have a lot of non-maintained woods. If the number of such tree become increasing, sea also get serious effect on its quality. Thus, there is possibility to change the landscape badly if we do not do anything about that.

In order to preserve the good forests on the mountains, it is necessary not only to get the managers of the forests for the future, but also to promote how to maintain the landscape. According to an office worker in JA hospital in Akata (July 13, 2015), in the past, people did not care about the environment and the role of the forests; therefore, they cut the trees on mountains as much as they wanted. As a result, the forest lost the system to keep the waters using roots, and the sea near the mountain became dirty. Because sea lost its quality, the number of fish reduced. Then, people understood the trees on the mountain were very important to keep the environment there. After that, she said people made effort to replant on the mountains. Thus, understandings from the citizen sometimes help to maintain the environment and to save the landscape.

Art

Art is one of the unique developments of Wallowa County. According to a farmer in Wallowa County (June 19, 2015), Wallowa County attracted the artists by the nature. He also said after the movie theater that was the only one for the area closed, art became one of the major entertainments for the people in Wallowa. In cities in Wallowa, there are some ateliers that show the works of local artists. In roads in Wallowa, there are a lot of copper statues. Thus, the nature in Wallowa County attracts a lot of artists from other area and their art works also attracts people who are interested in.

The vulnerability for the future is the possibility that the artists move out from Wallowa County to look for new place to make their work. If they do so, Wallowa County loses not only the citizen, but also some attractions for the tourists who love art.

In order to get more people and provide new place for making works to artists, some organizations have made effort. According to the farmer in Wallowa (June 19, 2015), Western writing support organization is one of the organizations, which encourages writers to make their works in Wallowa. For example, this organization holds annual event for the writer to offer the best place to write. Through the camp experience, participants get ideas and write new works. Finally, the works that made in Wallowa can be new attractions for people from outside and entertainment for people inside.

Religion

From the past, Japanese people, especially in rural area, take responsibility to maintain the sacred place in the community (Hendy, 1987). Usually, every community has at least one sacred place, and it tends to be on the mountains. According to Uchiyama (2010), Japanese people regarded mountains as sacred place. In fact, when people build shrines, "Okumiya", the rear shrine on the mountains is needed to build with main shrine. People put Okumiya on the sacred place, which people cannot visit so often, and only once a year, during the festival of the shrine, people climb the mountain and pray in Okumiya. Goho-san, the mountains in Akata community is also regarded as sacred place for the Shintoism trainees in the past. According to the staff in Toko-kan (東光館) (July 8, 2015), in Akata Community, there was famous monk named Zesan. He trained in Goho-san and contributed a lot of religious things to Akata community. For example, when he visited the shrines in Kyoto, he came up with the idea that share the sacred power of the shrine in other area with Akata community. Therefore, in Akata community, there are 33 holy grounds which Zesan monk built. In addition, Zesan monk also built big Buddha statue. This Buddha statue is Hase-style, and there are only 3 statue of Hase-style Buddha in Japan. Therefore the big Buddha statue in Akata community is very famous. These religious remarks in Akata still attract a lot of tourists to Akata.

The vulnerability for the future is the possibility of declining of the religion. According to Crabtree and Pelham (2009), Japanese people seemed to have less religious compared with the people in other countries. Because religious things are existed by the believers it is difficult to survive without religious piety.

These days, in order to attract not only the believers, but also the others, people try to promote such religious things by reality. For example, the staff in Toko-kan (July 8, 2015) explained that the temple that the big Buddha statue located in hold annual festival, but the festival is combined Buddhism and Shintoism. Religion-mixed festival is very rare not only in Japan, but in the world, so it can be strong attraction even though the tourists are not interested in the religion. In addition, as I mentioned above, Akata community has very rare style of Buddha statue. It also can attract tourists.

Comparison Their Uniqueness: Art and Religion

Compared with attractions in Wallowa, attractions in Akata seem more "tradition-based". While Wallowa County looks for new way to utilize the community

resources, Akata community looks for new perspective to see the community resources more attractive.

Leadership

In order to spread new idea, leadership is necessary. For example, when I worked with ministry of environment in Costa Rica, the staff of the ministry chose some influential farmers in the community to spread new method of farming. At that time, I asked why they took such way and they said the community member preferred to learn from the leader in the community, not the government staff. They said it was difficult and took time to spread the idea in the rural area in Costa Rica because the farmers could not trust their recommendation at first. Therefore, first, they needed to pursue the influential persons to spread the idea. Actually, I think this is same in every rural area in the world. It may be difficult to trust completely and follow the government's recommendation or new trend by individual. Therefore, people need the person who can take leadership and encourage them to challenge.

Wallowa Resources

"Wallowa resources" is a NPO in Wallowa, which aims to develop, promote, and implement innovative solutions that help the people of the Wallowa County and the intermountain West sustain and improve their community and their lands (Wallowa Resources, n.d.). Mainly this organization works for jobs and business development, utilizing renewable energy, stewardship and restoration, and youth and college education. One of their activities is outdoors expedition camp, which the organization collaborates with another organization and held in summer. A teacher who belongs in an educational NPO "Building Healthy Family" (June 23, 2015) said most of the students in Wallowa were not good at science because there were no science-major teacher in the schools. Therefore, the organization incubated this camp, which helps the students to understand science and ecology through the real rich nature in Wallowa. In addition, the organization encourages the students to teach what they learned in the camp to the students who did not participate in the events. She said it was really helpful to determine how much they understand the contents of the study. Moreover, by dint of the camping experience, the students can develop their leadership. Usually, the number of the classmates in the school is less than 10 people; however, in this camp, the students in three schools in Wallowa gather at the same time. Sometimes, it is maybe difficult for them to cooperate with such large number of the students, but it must be good opportunity, which they cannot get in school life.

I think such activity is very good solution for the problem which the community member have. For example, through the outdoors expedition camp project, this organization solved not only the education problem for students, but also lack of job by utilizing community natural resources.

Chonai-kai (町内会)

In Japan, most of community has Chonai-kai, the neighborhood association. This is the organization ran by the representatives of the community members. Because Chonai-kai has authority to decide what will the community members next, how will the money collected from the members, and so on, it is very important for the representatives to take a leadership. In Akata chonai-kai, current leader is very positive to accept and try new idea to revive the community. According to the leader of Chonai-kai (July 9, 2015), Akata community is now suffering from depopulation and aging population. In order to make the community active, he thinks accepting new people and try to new things is important. One of the projects of Chonai-kai after he became a leader is building farmer's market. In rural areas in Japan, people rely on *sansai* because it is grown naturally and easy to harvest (Japan special forest product promotion association, 2005). People in Akata also harvest and eat *sansai* commonly and it is very helpful food because it does not cost. Actually, in the past, *sansai* is just the food only for the people who live near mountains, but nowadays, because of the revival of regional special products and healthy food, *sansai* attracts not only the people in rural areas, but also

the people in urban areas (Japan special forest product promotion association, 2005). In order to make profit by *sansai*, Chonai-kai decided to sell *sansai* to the supermarket in urban area and to build the farmer's market to sell to the tourists who come to Akata (the leader of Akata community, July 10, 2015) They got a subsidy from national and prefectural government and started running farmer's market. In order to build the farmer's market, Cho-nai kai made effort not only for getting subsidy, but also bringing the community members' skills, knowledge, and properties together. The leader of Chonai-kai said it was almost impossible to complete the farmer's market without the cooperation of the community members. This facility help the community members not only making profits by *sansai*, but also making opportunity to communicate each other through the work (the worker in the processing center, July 10, 2015).

Through the various projects to revive the community, Chonai-kai suggested many solutions for the problem to the community members. For example, through the building farmer's market project, Chonai-kai could offer the opportunity for elderly people to make profits, to communicate among the members, to promote about the rural area to the people in urban area and so on. Moreover, after Chonai-kai built the farmaer's market, they became able to have specific goals. For example, the leader of Chonai-kai (July 10, 2015) said the next goal for farmer's market is to prepare more varieties of products. I think this is great development because many communities in rural area do not know what they should do to make the community better.

Conclusion

Our project sites, Wallowa County and Akata community, work a lot to prevent out-migration and attract people. Their activities are not to become young people-favorite area, but to capitalize on their strong point: natural resources. Using community natural resources, they developed the beautiful landscape, artist activities, religious remarks, leadership and so on. All of them are really attractive for me, and I found some of newcomers there were attracted by them.

Through the research, I found the difference of the thinking method toward "living" between the people in Wallowa and Akata. In order to get more people, people in Wallowa seemed to offering better place to live for the new comers. For example, Wallowa resource has made effort on creating job opportunity, using biomass energy to save fuel costs, and so on. In addition, some new comers in Wallowa County said they decided to move here because they wanted to do farming and Wallowa was suited to do it. It means, people in Wallowa County think that economic capital is more important to pull the people into the community. On the other hand, people in Akata often mentioned about the relationship among the community members. For example, a women worker in food processing center regarded talking with other workers was more important than getting profits through the work. In addition, in order to make the new comer to feel easier to move to the community, the leader strongly recommended them to the neighborhood association as soon as possible. He believed that being a member of the neighborhood association must be helpful to live in the community. It means people in Akata think that human capital is more important to pull the people into the community.

References

- Abrams, J. (2010). Land tenure and use history of Wallowa County, Oregon. Unpublished draft of dissertation chapter, Department of Forest Ecosystems and Society, Oregon State University. p.22, 38, 39.
- Crabtree, S. & Pelham, B. (2009). What Alabamians and Iranians have in common - A global perspective on Americans' religiosity offers a few surprises. Retrieved from <http://www.gallup.com/poll/114211/Alabamians-Iranians-Common.aspx>
- Hendry, J. (1987). Understanding Japanese society. London & New York.

- The International Ecotourism Society. (1990). Retrieved from <https://www.ecotourism.org>
- Japan special forest product promotion association. (2005). 山菜—健康とのかかわりを科学する. Retrieved from <http://nittokusin.heteml.jp/sansai/index.html>
- Kelly, E. C., & Bliss, J. C. (2009). Healthy Forests, Healthy Communities: An Emerging Paradigm for Natural Resource-Dependent Communities? *Society & Natural Resources*. p519, 533.
- Oshima, N., & Quinones, C. K. (2011). Akita's land, people, and economy. pp.4-5.
- Ouchi, Masatoshi. (2010). Rural development strategies in Japan. p.207.
- Sorte, B., & Tanaka, J. (n.d.). Wallowa County's Economic Structure: An Input- Output Analysis. *Oregon State University Extension System*. WallowaFinalInputOutputReport.pdf. Retrieved from <http://extension.oregonstate.edu/wallowa/sites/default/files/>
- Sorte, B. (2009). Wallowa County's Economic Base. *Oregon State University Extension System*. Wallowa_County_Economic_Base.pdf .Retrieved from <http://extension.oregonstate.edu/wallowa/sites/default/files/>
- Stauber, K. N. (2001). Why Invest in Rural America—And How? A Critical Public Policy Question for the 21st Century. pp.9-10.
- Traphagan, J. W., & Knight, J. (2003). Demographic change and the family in Japan's aging society. pp.11-13.
- Uchiyama, S. (2010). 共同体の基礎理論. 農山漁村文化協会.
- Walker, B., & Salt, D. (2006). Resilience Thinking: Sustainable Ecosystem and People in a Changing World. Washington, DC: Island press. p.Xiii.
- Wallowa Resources. (n.d.). Retrieved from <http://www.wallowaresources.org/index.php>
- Yuri-Honjo city (n.d.). Retrieved from <http://www.city.yurihonjo.akita.jp/www/toppage/000000000000/APM03000.html>

Developing Resilient Rural Communities in the United States and Japan

Management and Utilization of Forests in Eastern Oregon and Akita Prefecture, Japan

Maya Giddings

For this project, our group's focus is on forestry and natural resources. We came up with a general question, which is: What can Natural Resources Provide for the Community? From this broader question I focused my individual topic on forestry. Specifically, How can Forests be Managed and Utilized in a Successful Way to Create Value for the Community? In this paper I am defining success to mean the various ways the forest is used to benefit the community; value to mean the benefits that people get when using the resource; and community to mean individuals or businesses in the two rural areas who are affected by the forest. In this paper, I will be comparing forestry in Wallowa County, Oregon to that in Akita Prefecture, Japan.

The methods that I used to collect this information include interviews and lectures from the various community leaders. The different outings we went on such as the biomass facility. I also used some information from the readings and pamphlets I collected, as well as online resources to use for supplementary information.

Throughout history there have been many communities who have emerged and also collapsed. The word resilience is defined as "the capacity of a system to absorb disturbance and still retain its basic function and structure", and this contributes to why some of the oldest cities are still standing (xiii, Walker & Salt, 2006). This concept has also led to a systems thinking approach where complex adaptive cycles create new thresholds, which change the behavior of a system. In order to be sustainable, the community needs to know where the thresholds are and manage them in that system. The complex adaptive cycle shows how a system operates based upon four phases: rapid growth, conservation, release, and reorganization. In learning about Wallowa County and Akita Prefecture, through history and observations, one can see that they have effectively been able to use human capital, community relations, and shared knowledge to become resilient communities.

Wallowa County is unique in that a strong culture and environment exists. Since the decline of the timber industry in the 1990s, this community has been able to create a successful turnaround through niche markets and a diverse array of jobs to support the economy. With the help of the non-profit organization Wallowa Resources, which has been a catalyst for innovation, this area has been able to use its natural resources to its advantage. By fostering this organization, strong willed leaders have emerged, which is a big part of the success of this region.

Akita Prefecture, specifically Akata, has been able to create a similar village that is successful. They have been able to use their knowledge and shared experiences to help build a community with a lot of human and cultural capital. Additionally, this rural area has been able to use their natural resources as a way to help support and foster growth in the city. Through the leadership guidance of Endo-san, and the four universities in Japan giving suggestions on developing the community, as well as innovative ideas, this community has been able to endure hardships and grow into a thriving area.

After spending some time in Wallowa County and Akita Prefecture, there have been many similarities and differences involving natural resources, such as a strong sense of community and the enactment of new ideas. In the rest of this paper, I will discuss a few of the main themes that emerged and how they relate to communities being resilient. This will include how land tenure has changed over time, and how the forest resource gets used.

The United States and Japan have an abundance of natural resources that have a long history of changes in ownership and land management (see table below). In the beginning, Native Americans were one of the first owners of the land in the United States and cared for the land up until the late 1800s and early 1900s, when white settlers came in and took the

Developing Resilient Rural Communities in the United States and Japan

land away from them. Then, during the years that followed, the land was split. Several owners emerged and took control including the federal, state, and city governments, private individuals, and private companies. Over time agreements have been created, the land was sold, and new owners took over.

<u>Changes in Land Tenure Over Time</u>	
Wallowa, OR/USA	Akita Prefecture/Japan
Native Americans cared for the land <i>[Pre – early 1900s]</i>	Edo Period <i>[1600-1868]</i> <ul style="list-style-type: none"> - People register forest land to clan/lord → pay tax - Gave land to Shogun depending on how well they did in the war - Places where people shared property, but land still owned by lord
White settlers moved and took land away from Native Americans <i>[Early 1900s]</i>	Meiji Period <i>[1868-1912]</i> <ul style="list-style-type: none"> - Land split into small strips → individual property
Land owned by several parties <i>[Since settlers came and today]</i> <ul style="list-style-type: none"> - Government - Individual - Corporations (TIMOs) - Non-profit organizations 	Today <ul style="list-style-type: none"> - Consolidate land again <ol style="list-style-type: none"> 1. Public land - National forest 2. Private land - Prefectural forest - City forest - Iriai forest - Individual forest

A similar situation occurred in Japan. It started during the Edo period when all the land was owned by the shogun. Then during the war the land was separated with some parts given to warlords, while other areas were shared property, but still owned by the lord. Land was split up in Japan again during the Meiji restoration and this is when individual properties emerged. Leading up to today, land tenure has been multiple times, but is now once again consolidated, and many owners have emerged including national, prefectural, and city governments, iriai, and individuals. Through all of these changes, tenure rights have been damaged, resisted, misunderstood, and mistakes have been made, such as in how the iriai was split up. But, each time there has been some progress, and both Wallowa and Akita are communities that have been adaptive and have been able to withstand these changes.

With turnover of owners, management also changes, and this is especially true with

the forests. In the United States, shortly after the white settlers came and into the early 1900s, the forest was seen as an infinite resource with the most valuable trees being clear-cut to generate money. Then, from the period 1900 to 1985, the practice of silviculture was applied in America that created a one-size fits all approach whose goal was to “preserve and protect the forests” while also providing “a continuous supply of timber” (523, Kelly & Bliss, 2008). Following this came the drastic change in management that aimed to preserve the natural resource. Policy changes in 1991, with the lawsuit and protection of the endangered spotted owl, prompted the creation of the Northwest Forest Plan, which was adopted in 1994 and whose goal is to manage the forests in a more ecological and sustainable way.

In Wallowa County, after the Northwest Forest Plan was enacted, the community was greatly affected because roughly 58 percent of the land is federally owned (Wallowa Resources, 2008). After timber harvesting was prohibited on federal land, this caused a huge spike that “resulted in a 90 percent decline in logging” and eliminated more than four hundred jobs in Wallowa County (2, Boag et al., 2015). In Japan, they also had that mindset of protecting endangered species as well. In 1986 they created the Wildlife Protection Division, which led to the creation and publication of all the threatened species. After this, the way forests were managed would change slightly because if an endangered animal were found on a timber-harvesting site a certain area, 1 to 3 km, would be closed off. But this law did not have as much effect as what happened in the United States, and this may be a result of no large disputes emerging, and the national government having more power with the management of natural resources.

Although the intention of the Northwest Forest Plan’s was good, it “has become inflexible in its application and led to management timidity on publically owned lands” (525, Kelly and Bliss, 2008). As a result of inadequate management, this has resulted in forests being under harvested and under managed, and also created frustration between citizens and the federal government. A survey was conducted in 2011, and results show “more than 60 percent of Wallowa County residents think forests are less healthy” (Wallowa Resources 2012). In an interview with Jim Henson, who serves on the board for Wallowa Resources, he said this problem has occurred because the United States Forest Service has a finite budget and with an increase of fires they pull the money out of maintenance, which causes management, particularly thinning, to decrease. Problems in Japan have also emerged about lack of management in community forests, but because of different reasons. As a result of Japan’s changing lifestyle, aging population, and decrease of young people in rural areas, has contributed to the downfall in management of iriai forestland. Also, the falling price of Sugi timber contributes to the forests not being thinned, pruned, or having the grass cut.

Some other ways that the land is managed is shown both in Japan and the United States. In Japan, one observation is natural resources being heavily controlled by the government. For instance, the Japanese government has huge regulations over the land and works closely with the forestry operations. In Kayagasawa, Sato, the timber specialist, mentioned that his company harvests timber at the government’s request. Similarly in Akata, Kato, the CEO of Kato Timber Company, said that he contracts with the government when a certain area of land needs to be harvested. In fact, some of the land that is harvested by Kato is from thin strips of land, back when the land was split up and given to individuals. But the problem with this is the cost of getting into the small strips are costly, and there is little profit made. One solution to this problem is people merging parcels of land together to make larger areas, which the government suggested, and the government encourages this by giving out subsidies. The government also works with Kato before harvesting and does surveys on the land as well as choosing specific trees to cut. There are also various subsidies given out, such as with Kato who receives money to purchase equipment for his operations, and other people help manage the forests through thinning.

Wallowa has a different way of managing as well, however this is done through timber investment management organizations (TIMOs). These are companies such as Plum Creek or Hancock Timber, which are no longer required to remain forestry companies but

instead are Land Management Organizations. TIMOs manage the land by first acquiring large areas of timberland in which they get timber flow for about ten years, and then they break up the land into smaller properties that they sell at an increased rate (Ravenel et al., 2002). In fact, Nils mentioned that in Wallowa County there is property that is up for sale by one of the TIMOs and one of the possibilities that could happen is the community working together to buy up the land. However, the problem is that there is not enough money to buy the land outright, and other scenarios might play out such as foreign investors coming in or people from the southwest moving in since they are having water crises. But if Wallowa does manage to buy the land, the ownership and management might be similar to the way Japanese iriai forests are managed; people help maintain the land either by contributing money or working together, having certain rules and responsibilities for utilizing the land, and also fair distribution of the benefits, such as if timber is harvested.

The other major theme is the various ways the forest is used. This has been shown both in Wallowa and also Akita. In both areas, the forests are being used for timber production and harvesting. However, most of the timber harvesting done in Wallowa is on private lands because of the government restriction on public lands, whereas the timber production in Akita is occurring on iriai as well as individual owner lands. When the timber harvesting is done in the community forests, this not only utilizes the forest resource but also provides some income to the individuals or families that belong to the iriai. Also the use of timber has changed since it was previously used in Japan to make houses as well as for fuel to make firewood and charcoal, especially during WWII where much of the timber was cut to use as an energy source. But nowadays people use natural gas or electricity to heat their homes and timber from Akita is used in the plywood or paper market, with the rest of the slash being used as nutrients for the soil and to support roads.

Today in Wallowa, since the creation of the Integrated Biomass Energy Campus (IBEC), most of slash from thinning on private lands is sent to the biomass center. At this facility, they make post and poles, wood chips, and firewood. In Japan, some villages such as Akata have also been talking about a biomass facility being built in the near future. After completion, the majority of the tree from timber harvesting will then go there to be made into chips for fuel, instead of leaving the slash in the forest. By utilizing the byproducts from forests and converting them into high value products, the city of Wallowa and soon Akita Prefecture, has developed a new market to use the forest resource.

In regards to timber harvesting, at this point in time Japan is different from the United States because they have a rich resource but not enough need or value for the trees because the price of Sugi has decreased. From talking to Kato, he also mentioned that the region also determines the quality of the wood. In the north part of Akata the Sugi grows slower and thus the wood is harder, which increases the price of the timber because the wood can be used for housing. But in the southern area of Akita the tree grows a lot faster so there is less quality and as a result the price of the wood is lower and gets used in a lower quality plywood market. In addition to this, Japan has also chosen to import a big portion of wood from other countries and this might be because the cost is cheaper and that Japan does not want to exploit their resources.

There are additional ways that the forest can be managed to provide other benefits. In Wallowa County, the forestland covers 1,085,000 acres and of that, 185,000 acres are privately owned (Oregon Forest Resources Institute, 2013). This is managed partially by individuals who use the forest resource for custom lumber or sell it to timber companies. Similar to Wallowa, in Japan some families also use individual forests to create custom woodcarvings. In a conversation with Mr. Kato's daughter during the outing to the Akata waterfall, she mentioned that her family was cutting down trees on their property because her grandfather makes furniture for their house. She also said that her grandfather has donated a bench to her high school, which helps to benefit the community.

Forests are not only being used for their economic benefit from timber, but also for

other values. Every year Wallowa County brings in many tourists to the area such as hikers, hunters or people who enjoy the scenic beauty of the land. Akita Prefecture also brings in an array of tourists every year to not only see the beautiful landscape such as Mount Chokai, but also to visit the shrines and temples. In fact, there are many people who also use the forests as a spiritual place, and there is a sacred presence with the trees. From the tourists, villages such as Akata get outsiders coming in and buying some of their products, which provides support for their community. Nowadays the forests in Japan are also being used for their mountain vegetables, such as mizu and mushrooms, and in Akata this is being sold in the Chiba market, which also contributes to the increase in the communities diverse market and source of income. In talking to the Taguchi family during the homestay, they also mentioned that a certain type of wood is used to make some calligraphy ink.

Another way the forest is being used is for feeding livestock. In Oregon, farmers such as the Krebs family use the federal forests for grazing, as the costs are considerably less. This has also been common in Japan when farmers used livestock as a tool, before mechanization happened, and even today. In Tenjin the cattle farmer, Mr. Kuguchi, said that he takes some of his cattle up to his private forests where they graze. Additionally, forests are also being used for education. Wallowa Resources teaches youth about the importance of the natural resources, like the forest and rivers, and this increases the community's human capital because it helps develop local talent, which contributes to the resilience of this area. Likewise, in Akata, they are starting to use their natural resources and other attractions to develop a tour guide. This way they can educate people about their community and this is one example of a way that this community has become more adaptive and from this a significant amount of tourists come to the city each year. This also provides some of the elderly population with more of a purpose because they can now use their expertise to educate and connect with tourists.

After spending a limited time in Wallowa County and Akita Prefecture, some of the major speculative themes that have emerged include the issues around ownership and management of the lands, and how the forests create value. These have all had a profound affect on the communities and shape where they are now. There have always been and will be changes within these topics. Even after this research has been conducted, there are still some unanswered questions, such as how the global market will affect forests and timber in Japan, and if there will be a large economic market created. What is the best management practice for each area that benefits all parties and helps the community and ecosystem, and have we found it yet? If the government were not so involved with the land, what would happen to the forests? What if certain changes in policy did not occur, such as the government prohibiting timber harvesting on federal land, or if Japan used the forest resource instead of importing timber? Only time will tell how the answers to these questions pan out, but so much can change in the world that they may vary significantly from our hypotheses. Since comparing these two communities, they have exhibited much diversity in their use of natural resources and how they manage the lands. Both places have exhibited adaptive capacities concerning forests and their resources, and this is a driving force, which contributes to the community's ability to be resilient.

References

- Boag, A., Hartter, J., Hamilton, L., Stevens, F., Ducey, M., Palace, M., Christoffersen, N., and Oester, P. (2015). *Forest Views: Shifting Attitudes Toward the Environment in Northeast Oregon*. The Carsey School of Public Policy at the Scholars' Repository. Paper 238.
- Hartter, J., Hamilton, L., Stevens, F., Congalton, R., Ducey, M., Campbell, M., and Maynard, D. (2012). *Research Uncovers Social Attitudes Toward Changing Forests*. Wallowa Resources.
- Kelly, E., and Bliss, J. (2009). *Healthy Forests, Healthy Communities: An Emerging Paradigm for Natural Resource-Dependent Communities?* Society & Natural Resources, 22(6), 519-537.
- Knoble, N. (2008) *Land Stewardship: How Can We Preserve Wallowa Lake's East Moraine?*

Developing Resilient Rural Communities in the United States and Japan
Wallowa Resources

- Northwest Area Foundation. (2006). *Great Strides Award Winners 2006*. Northwest Area Foundation.
- Oregon Forest Resources Institute. (2013). *Wallowa County*. Oregon Forest Resource Institute.
- Ravenel, R., Tyrrell, M., and Mendelsohn, R. (2002). *Institutional Timberland Investment : A Summary of a Forum Exploring Changing Ownership Patterns and the Implications for Conservation of Environmental Values*. Yale Forest Forum, School of Forestry and Environmental Studies, Yale University.
- Renewable Energy Solutions. (2009). *Renewable Energy in Wallowa County: 2009*. Wallowa Resources

Developing Resilient Rural Communities in the United States and Japan

Building Human Capital Capable of Disequilibria in Rural Communities

Ryoko Idea

Introduction

With every tick of the clock the world is changing, and countries are facing a new era of drastic economic, communal, and demographic change. As globalization takes over, such aspects as universal trends, national policies change and introduce new markets and demand for nations. By so, rural communities are met with new difficulties and opportunities. From family structure to basis of individual income, urban life styles and international trends are spreading, and rural regions are starting to change their pictures dramatically. Rural communities are in midst of realizing their role in the global market, and innovation has become a key concept for survival. Then what is needed order to start innovation for those regions? Margaret Mean once said, “[n]ever doubt that a small group of thoughtful, concerned citizens can the change world. Indeed it is the only thing that ever has.”(Lutkehaus, 2008). When changing an old structure to be more resilient, the role of human capital is vital. In this paper the writer would like to explain the key roles of leaders and individuals in communities, and how education is an underlining issue of resilience.

What is a resilient community and how does human capital play a role in it?

“Resilient thinking presents an approach to managing natural resources that embraces human natural systems as complex systems continually adapting through cycles of change.” (Walker and Salt, 2006)

The ideology of resilience has been frequently introduced in its numerous aspects into the academic fields recently. In biology it points towards recovery and elastic forces. In Psychology, it has been considered as a method to rehabilitate after a shock. This idea is different from just recovering something that has been destroyed, but more close to soften the shock before it puts effect upon the community, and then swiftly dealing with it. A community needs to be capable of change in order to be resilient.

Robert Reich (1991), who was the former secretary of the U.S. Department of Labor in the Clinton administration, explained that human capacity is the key factor for community wealth. Then what is the definition of “human capital”? In this paper, human capital is referred to as individuals who have the capacity to contribute to the well-being of not only the community and its inhabitants but also to their own well-being as a healthy citizen. This capacity could be special skills, leadership, education, financial strength, and so on, but in this paper the main focus is his or her ability to find resilient solutions for the resilience of their region. As Reich argues, money and skills can be easily be brought into the community whilst human resources takes much time and preparation, but also is the main strength of a community. In order to be a wealthy community, human capital seems to be a must component.

What prevents communities from being resilient and developing human capital?

Change can be costly. In order to build a resilient community, it has to have local backup for there are four issues that block the center motivators. They are;

1. Starting new businesses and methods of farming is too high risk for low income farmers
2. Children from low income families have difficulty pursuing higher education
3. The younger populations needs to be optimistic about coming back to their communities.
4. Lack of strong and efficient leadership

5. Often rural communities are resistant towards change

For people with less than others, change can be highly risky, and in such times of economic restraints, there should and has to be a place for people to go in order to gain their needed investment. Without help, risk averse population can grow, and a community will be less likely to be open to try new methods. As so, poverty is often a major issue concerning innovation and growth. Equal accessibility seems to be vital in restoring community well-being, and the poorer a region is, the harder it is to achieve that line.

In order to start achieve resilience, there needs to a certain amount of people who acknowledge and are well concerned about this concept. In order to do so, a pool of educated human capital is needed. If a family has some wealth or stability, this is not a barrier impossible to cross. However, education, in particular universities and colleges, is expensive in both Japan and in the United States. For many low income families, many see it as an inherently difficult or impossible options, or some don't even have any opportunity to get exposed institutions or the sense of need for education in their daily lives.

Another challenging notion is that some of the youth generations who left the community to be educated in larger areas needs to come back. Many rural communities do not provide better employment selections, career achievements, income, and environment. Adding to that, small, tightknit communities can socially restraining many younger people. A number of them have a somewhat strong negative opinion to their home towns, and resist coming back.

The lack of strong leadership could especially be emphasized on the Japan part. During the fieldwork the writer encountered regions in Japan where the basic elements that construct the foundations are similar, but the leaders lacked the power to push the community to change of take advantage of their resources. In the U.S., it seemed that although a community may have a leader, individuals were still positive and aggressive towards making personal contributions or involvement in making change. However, in Japan, it could be seen that even though individuals were optimistic about innovation, many seem to wait for the government or a leader to encourage them or take action to make change. Therefore, if the key person or leader is passive or lacks power to change, even if the residents have a wish to make improvement to the community, transformation of that region could be extremely difficult.

Connecting to the issue of leadership, the last concern is how rural communities are often reluctant towards change. In Japan and in the US, the research team saw how changing people's ideas towards innovation was a strong concern, and the role leadership played in it. According to how leaders were able to handle their regions, the opinion and optimism towards change varied greatly. The encouragement of investments towards new businesses, crops, and infrastructure could fail, but also may bring opportunities to communities, and locals of the regions need to be capable and aware of these innovational ideas. Without change, resilience cannot happen.

Rural Oregon

Wallowa County is located in rural Oregon in the United States, and in the past few years it has received many academic and government attention due to its resilient activities and innovative groups as well as individuals. The research team especially focused on Wallowa Resources which was one of the key base for innovation and sustainability for the area. Wallowa Resources is a nonprofit organization run by funds from foundations and the government.

In Wallowa, after the fall of the timber industry, the community and its individuals have faced decline of its economic power and rise of the poverty population (United States Census Bureau, 2015). The county has been steadily showing stability now, however, many live under the poverty line. From the experience of reliance on such volatile agricultural system, a number of farmers have started to doubt repeating the same style their ancestors have, and

they have started to develop a more sustainable and resilient use of natural resources. When expressing the “old style” farmers as being less concerned about nature and more profit based, there are “new” farmers who are more ecologically concerned. They seem to be less profit motivated, and have a higher concern in establishing a style that more co-exists with nature than see it as a mere tool.

Leaders in Wallowa County (1)

The research team was greeted by Mr. Nils Christoffersen who was the executive director of Wallowa Resources. Mr. Christoffersen came to Wallowa County in 1999 with his family in order to start the Wallowa Resource field programs. Before coming to Wallowa County, he has had experience in community based natural resource management in various different countries. After enrolling himself in a ten month leadership program organized by the Wallowa County’s Chamber of Commerce, by 2002 he became the Deputy Director. In 2007 he was promoted to Executive Director. He has become a well-established leader in the county, and a key motivator for innovation in the area.

One of the main projects Mr. Christoffersen works on at the moment is the creation of a public land management policy which is more comprehensive and cooperative with the National Forest. In last twenty years, the timber industry went downhill quickly and unemployment spread through Wallowa County. One of the major reasons why the industry collapsed was because of the environmental laws which prevented logging companies from harvesting trees on public land. Mills were shut down and there were strong disputes between the County, its people, and environmentalists. Using his experience of large land forestry work in Africa, Mr. Christoffersen’s project build a company based on the marketing of smaller trees which would be used for biomass and also making such products as luxury firewood for urban dwellers. By adapting to this method, he aims to provide more employment to the community as well as avoiding conflict with environmentalists. Also, this method of cutting small tree and thinning contributes to prevent wildfires by lessening fuels in the forest.

Mr. Christoffersen explained;

“Leadership in Wallowa County is rewarding and relatively straightforward. As a small community with a tradition of helping each other, it’s simpler to get to know local concerns and opinions, explore creative solutions, and build partnerships. There’s also pretty good accountability built in. People know quickly if you’ve erred or underperformed, and many try to give constructive feedback to help you improve. There’s also pretty good positive feedback when deserved.”

It seemed that the sincere effort he has been making to the community has built a positive relationship and reputation not only for him but Wallowa Resources in general. This was surprising for the writer since it is often thought that community leaders often succeed due to regional ties and long term relationships with locals from decades ago. However, Mr. Christoffersen was able to build this trust and respect by locals with little more than one decade. From this experience, it could be well said that the potential for further leadership development in decaying communities may be found.

Leaders in Wallowa County (2)

One method Wallowa County has introduced to tackle the second issue was the NPO “Building Healthy Families” (BHF). This organization has made significant contribution to the growth of younger generations wanting to pursue college education and exposing them to new possibilities. Wallowa County has a high child poverty rate, and there are many invisible homeless children who gain mere shelter by couch surfing. Many of these family have parents who both work, and children are often left alone by themselves. Adding to that, the majority of the population is Caucasian and conservative. BHF’s mission is not only to provide better educational environmental atmospheres for children, but also support the parents as well by

Developing Resilient Rural Communities in the United States and Japan helping them with tax revenues, holding seminars for parents, and so on (Building Healthy Families, 2015). It serves as a receptacle for troubled youth and their families.

Mrs. Maria Weer, who is the executive director of the organization explained, “we want to make children feel there’s people who watch over them and ensure them that they are not alone. Will that make kids like the community and come back? Maybe.” BHF has succeeded to put 25% of their children in care into higher educational facilities, and Mrs. Weer still keeps contact with them even after they move out of Wallowa. Since schools in Wallowa have a 4 school days systems due to budgetary cutbacks, saving heating fees during wintertime, and long distances to the schools, BHF offers free or cheap educational or physical activity courses so that children can experience different learning environments from their local schools, and also makes sure that they are not alone in their homes. They also provide alternative high school education for children who cannot fit into the local schools.

Mrs. Weer had a house in Portland, however, came back to Wallowa County to inherit her grandfather’s land. She explained how although her income is in the poverty line whilst living in Wallowa, her quality of life was not low, and she could save extra expenses that would cost her if she lived in the city. She has become a leader in BHF, and has made significant contribution to improving the educational environment and family lives in Wallowa.

Leaders in Wallowa (3)

The research team was able to meet a local rancher who ran a unique farming method as well as environmental improvement of the land. Her name was Mrs. Liza Jane McAlister, and she was the business owner of the 6 Ranch farm which was run by her and her daughter Adele.

Mrs. McAlister key mottos were resilience, integrity, and quality of life. One of aspects about her farm which made it so special was her cattle. The McAlisters chose to grow a special type of cattle called the Corriente Cattle which is a Spanish breed. Those species grow slow and small compared to other cattle, however, they have distinctive characteristics such as tough survival instincts against predators, no necessity for vaccines, and being strong “athletes” which is suitable for being used for rodeos. Mrs. McAlister is also careful about how she grows them too. She uses no pesticides for the feed because she believes in the idea of “you are what you eat”, and that everything in nature is connected. In order to raise cattle that produces healthy meat, adding of chemicals had negative effect in her mind. Adding to that, she also tries to preserve traditional ranching methods by using a herding dog which is extremely rare these days.

Her business style is another aspect that makes her ranch unique too. She has diversified her income source by producing various products from her cattle and herb garden, opening an honor system stand, collaborating with other locals in order to spread her variation of market, training dogs and horses, expanding her sales to urban areas, and so on. She also had a strict business relationship with her children too, in which she explained as “I have a boss hat, a mother hat, and a friend hat which I would put on accordingly to what we talk about.” While Adele was in charge of the ranch, the son was in charge of the fishing guide and teacher which efficiently divided individual tasks so that there will be less or no conflict in future management of the ranch. However, she also did not strain her children to be tied to the ranching business. Adele explained that that gave her more motivation and will to try new things, see the world more, and flexibility. In a way, she was able to choose to become a rancher with her own will giving her a more positive attitude towards their business.

The research group not only saw her strong concern in nature and innovation in her cattle ranch, but also with the river project which she was collaborating with the government. Mrs. McAlister was receiving subsidy from the government on her project to meander rivers on her land. This was in order to restore the natural state of the rivers from before when they were straighten in the 1900s for more efficient river transportation and larger farming land

but causing the fish to disappear from the rivers. In order to restore the river, careful construction was done with many layering of soil and wood as well as restriction on how long machines used for the construction were allowed in the river to prevent potential negative effects on the nature. This project which Mrs. McAlister provided land and certain amount of self-funding received strong objectives from her age group in the community because it was not profit based and the usage of land will become less efficient. However, interestingly her daughter received approval from her generations.

Mrs. McAlister showed a different side of community leadership to the research group. She started various activities and methods which were not always met with applauses by the community members. The meandering of the river was one major example since it "spoiled" good land for farming and ranching. She explained herself as being thought "crazy" by others, but that such reputation was good for her since it allowed her to do whatever she wishes. On one hand, Mrs. McAlister was a free spirited rancher with good will and motivation to carry out any plan she thought was best for her, her family, and the environment. However, it should not be mistaken that she is cut off from the community. She and her daughter have made effort to connect and make a group with fellow ranchers in order to cooperation and make better communication within the region. She is also highly concerned with the status of female ranchers since, as many rural regions are, Wallowa County is a highly male dominant area. She explained how the "old boys club" is still strong and that many activities in the county goes through them. She even talked about occasions where other ranchers and farmers would not come up to talk to her about her own animals in her ranch but instead went to her husband to discuss issues when he had no charge over them. Mrs. It seemed to the writer that McAlister has become a key motivator and role model for community/environmental innovation and gender equality.

Leadership Education in Wallowa

Currently, in Wallowa there is a ten months leadership program run by the Ford Family Foundation (The Ford Family Foundation, 2015). The classes consist about twenty-five students per program ranging from high-school students to retired seniors with various backgrounds. This was what took over the Wallowa County's Chamber of Commerce leadership program which ended ten years ago. The program allowed its participants to take a closer observation on Wallowa County's various aspects such as economic or social structures and services providing deep understanding of the community and regional operations and history. It also takes students to official meetings and help develop strong networks not just in sectors but also organizations.

Innovative Individuals in Wallowa County

In entering the county, the writer has been greeted with a number of successful locals who were well educated, innovational, and open-minded. One of the member, Mr. Clint Krebs, who is a rancher owning one of the biggest sheep herds in the county, explained as he showed his book of wildflowers which he constantly added information from his personal research every year;

"I familiarized with all the wild flowers in my ranch. I keep track of how my livestock grazes, and if I see that they have eaten the same grass twice, I know I've been grazing on the same place for too long. I move so that the grass can regrow. Some people from urban areas come to my ranch to complain that I'm hurting the environment. But these grass need grazing to be able to grow more. They're better getting chewed a bit rather than being on holiday all year long"

These methods Mr. Krebs has adopted from by thorough research and experience. Mr. Krebs was originally not a local of Wallowa County, but had a farm in a region in Boardman which his son now ranches. He came to Wallowa and bought a large amount of land which he researches every year. His son Cameron Krebs, who was educated in Oregon State University like his father was, has studied agricultural economics. He explained "I knew that I cannot do

just what my father did.” Young Cameron Krebs exclaimed the writer his original ideology behind ranching which he obtained in his university education. He also said that he pursued higher education in order to come back to his father’s farm, and that he was he was proud to bring back his skills and knowledge to his community. The same opinion was observable from many other young members in the area who have all come back from receiving higher education. The Krebs family was a great example of an innovative individual of a resilient community, and in order to increase more innovators the county has been moving vigorously for the past few decades.

Fieldwork in Rural Akita

Leaders in Akata (1)

Japan is facing a new wave of globalization, and one strong future impact coming close by is the introduction of the Transpacific Partner Agreement (TPP). The TPP is met with strong opposition by the majority of rural communities and the JA. Despite that fact, the government policy has already fixed its direction towards accepting TPP, and due to the nature of the local people, little opposition movement has been seen by individuals in the areas the team researched. However, on the other hand JA has become their main spokesman for farmers nationwide, and has shown strong opposing arguments towards the government. If TPP is inevitable, communities need to form a new structure of a resilient system. This task could be extremely difficult in rural areas since change is almost always met with strong disagreement with conservative residents which is usually the majority. Akata was able to go through change and adapt flexibility in their community because the present leader knew well how to change people’s minds. Mr. Teruo Endo, the leader of the Akata Neighborhood Association explained:

“At first everyone disagreed with everything I say because it’s something new to them. But nothing can become better if everything is kept old and still. So I would get mad and shout at those who disagree with me, and ask them to leave. But I know they won’t, which means they’ll most likely agree with me. I understand in my heart that this method is a bit forceful, but if I don’t do it nobody else will, and we just have to wait for everything to go downwards. I think I’m doing the right thing though. I mean, now I’m getting a 70% approval rate from the community.”

From the interviews with the community members, indeed there seemed to be some who feel Mr. Endo’s way of pushing new ideas into the policies a little too much for their taste. But it was also a fact that almost all of them agreed that nobody is suitable for a leader other than Mr. Endo. Mr. Endo showed great potentials for community growth. Mr. Endo was able to manage such situations because he had a background as a coordinator for hospitals, and as a working background he was used to convincing medical officials to change policies which takes significant efforts. Adding to that, Mr. Endo had a well-established background in the community since his father was also one the head of the Neighborhood Association.

Leaders in Akata (2)

In rural Japan, official power and the National Federation of Agricultural Cooperative Associations (JA) is rooted deeply into each regions and its farmers. From the interviews conducted in Akata, six out of seven farmers answered they were not in the favor of being so dependent on subsidies and outside sources. However, out of those seven people, five of them also answered they had no other choice since they needed funding nonetheless. Mr. Junichi Taguchi who is the representative of the Akata Farm Corp. explained that there is a structural problem in Japan where communities have no other choice than to turn towards others for help. Therefore his vision for this cooperation in the future is to gain enough strength to grow into a joint-stock company by using the government and JA subsidies and then become completely independent. So as the leader of a community, independence was his aim. Then what about the individual members?

Akata Farm is composed by thirteen farming members, and it also borrows land from over twenty non-members from within the region. One of the individual members explained that in a perfect world Akata Farm being completely independent from subsidies. Despite this wish, he also said he has to be more realistic, and explained that this dream of independence is too dangerous and foolish. Indeed, under the current situation of the national government changing subsidy policies every few years on which agricultural products to encourage, it is difficult for farmers to have long term visions for their productivity of their crops. Soybeans are a good example of this issue. Three years ago, soybean production was protected by the government, and therefore for 1000m² of land the price was 70,000JPY. However, today the price has dropped down to 30,000JPY/1000m² due to the cutting of the subsidy by 50% (as stated by Mr. Taguchi). Thus, although the demand for soybeans are higher than the supply at the moment in the market, Akata Farm is making barely any profit to contribute the expansion of their cooperation. Adding to that, since they bought machines for the soybean production, it is difficult quitting its production.

Through interviewing Mr. Taguchi, the writer saw traits of leadership skills that he gained from his former career as an environmental specialist in an electronic company as well as the leadership education he received from Mr. Endo. Mr. Taguchi was very concerned about environmental aspects of this community. At the moment he is trying to adapt the rice he farms in this cooperation to eco-rice which uses about fifty percent less pesticide than regular harvesting methods by combining less types of chemicals together. He also had future plans to lessen even more of the pesticides. He also explained in the end that the true leader of Akata Farm is not him but Mr. Endo. He exclaimed;

“At first I wanted to change my management style of my land because I was concerned with the wellbeing of my family’s future as well as myself. Then Mr. Endo came, and he directed me towards being a leader who helps not only their own family but as many individual lives as possible in this community I cherish. He is truly the great leader, well, at least I want to ‘yoisho’ (butter up) him for that in front of you students.”

Mr. Taguchi showed a slight view that he was not always completely in favor of the main community leader’s ideas, however, she showed great respect in terms of how much Mr. Endo has improved Akata.

In the process of making the Akata Farm, there were many objections in the beginning. By becoming a constituent member of the cooperation individuals had to let go of their individual harvests since group farming meant all the rice will be gathered as one brand, the “Akata Farm Rice”. Also, from an income system will change to exchanging directly the amount of labor one is able to provide as in return for his or her remuneration. Mr. Endo and Mr. Taguchi faced this issue by explaining that unless the members were to join from the very beginning of the establishment of the cooperation, they will not benefit or have the right to join it in the future. By checking if the individual wills to join were certain, the cooperation started with thirteen member, and now has fourteen members. However, Mr. Taguchi also said that if individual truly wanted to join now after seeing how successful they could be, he cannot decline that wish. He told the writer, “I feel sorry for all the people who are losing profit. Ultimately my goal is to rise the wellbeing of each household, so if people change their minds, I won’t resist them.”

Leaders in Akata (3)

Another highly important leader the research team was able to meet in Akata was Mr. Akira Kudo. Mr. Kudo and his wife Mrs. Yasuko Kudo were former employees of JA, and he was in charge of establishing and supporting Akata Farm then. Now he is retired from JA, but works in collaboration with the Yurihonjo city hall as well as the representative of Toko Farm which is located in another part of Akata. He also explained the writer how he was picked up and educated to become a community leader by Mr. Endo. He provides the link and networking between the JA, city, and prefecture to Akata. Also, he is now trying to use the

historical and natural resources as tourist attraction with Mr. Endo and the historical research team in Akata.

Although Akata has a strong religious atmosphere, Mr. Kudo has emphasized the fact that the community has been making it more flexible for people to have more freedom in religion. It still seemed that openly expressing religious beliefs was still a little difficult, however, it has improved much more than in the past. Mr. Kudo and the others are now trying to use this historical and religious assets the community has as a tourism attraction, and indeed, they have succeeded to bring 30,000 visitors to the main Buddhist temple in the region.

Talking to locals and members of the Akata Farm, the JA was perceived with mixed feelings. As Mr. Taguchi refrained from criticizing JA in front of Mr. Kudo, JA seemed to be a threat to independence for some, and Mr. Kudo was seen as a representative of that common "enemy". However, many residents of Akata nonetheless looked up to Mr. Kudo as a somewhat different leader compared to Mr. Endo and Mr. Taguchi, and talked with a sense of respect and admiration. One reason could be because Mr. Kudo spent his youth in Akata, and many of the locals know him from when he was in school. Another could be because he is starting new businesses and beginning innovations. However, those did not seem to be the only reasons. While Mr. Endo and Mr. Taguchi were seen as a rather strong, pushing, and powerful leaders of the area, Mr. Kudo was seen to be in the same category too, but more of a supportive role as well. In mentioning this, the role of the wives seems to play a significant part too. One of the local women who used the processing factory in the Toko-kan explained, "Mr. Kudo and his wife supported me and listened to me in rough times when I almost lost my farm. They are one of the only people who listen to my problems so sincerely." Mrs. Kudo seemed to be one of the connectors of the regional women, and she too was an employee of JA until last year. The writer must confess that she did not have enough time to investigate or know more about the families of the other members of the community, however, another clue to the role of leaders in rural regions seemed to be visible here. It was observable how strong leaders and supportive leaders were making a positive attitude for the people of Akata, and from Mr. and Mrs. Kudo, a sense of compassion was visible, although Mr. Endo and Mr. Taguchi also showed that side in a different dimension.

Leadership Education in Akata

The main leadership programs observable from Akata and around were mainly;

- 1) Individual training by community leaders
- 2) Yurihonjo City Regional Improvement Program
- 3) Akata Farm Committee
- 4) JA regional leader meeting

For 1), Mr. Endo was offering to personally train any individual, preferably a local, who was willing to learn. 2) The Yurihonjo city has a five months extendable program, which is similar to the Ford Foundation Leadership Program in Wallowa, where they would educate anyone who is willing to move to Honjo City about the community, provide places to exchange ideas with locals, teach regional revival skills, and so on. However, the main issue about this program is that it fails to provide employment for the trainees, and therefore many leave the region looking for jobs after it is done. 3) Currently, Akata Farm has six board members in which 2 of them have fulltime jobs. One of the cooperation's current main practices is the education of future leaders of the farm. The elder members who are over 60 are now trying to provide a better employment condition for the future members too. The main issue here is that they still don't have enough capacity to expand the company and achieve enough asset to be able to attract and employ younger generations for the company. Therefore, this expansion plan is still a dream for them. However, they are planning to do so in the future when the cooperation expands possibly to a stock-based company and there are already preparing

ways to educate young people. 4) The JA provides programs and events for farmers in every region to meet successful farm or agriculture cooperation owners and give advice to innovate their farms. Every year the participants are increasing, and Mr. Taguchi himself learned the asparagus farming method from this program.

Innovative individuals in Akita

One of the first people the group was able to interview in this research was Mrs. Ikuko Asano who was the owner of the famous local farmer's restaurant in Akita, "Yuunaya." She grows her own vegetables, processes it in a small self-funded factory, and markets it by opening her restaurant as well as selling her products online. Mrs. Asano was originally a rice and tobacco grass farmer, but by learning soba making and Jew's mallow harvesting skills, she was able to start her own business.

Since she was a woman and Akita prefecture is more male dominant than other places, starting a business of her own was not fully approved by her husband. However, her strong, independent will and enough self-funding assets, her restaurant has grown so much as to attract people from all over Japan. She has become also successful with her six industry business, and her son helps her run the factory too. She explained in her interview that she is able to work with pride serving healthy and good food to the people compared to when she was making tobacco leaves which is harmful to the human body.

Comparison of U.S. and Japan

One of the most positive point about Wallowa County was that many successful people were willing to share their knowledge and were putting great emphasis on becoming strong leaders to lead the people to economic growth. The United States Department of Agriculture has stated that they would help the "poorest of the poorest" (USDA, 2010). However, it may sometimes be dangerous to force innovation to low income people for if they do not succeed they would lose their livelihood. In order to support them, large land owner ranchers and farmers would often open free seminars and tours for low income farmers and give advice or demonstrations on how they were able to become successful (as stated by James Henderson, Wallowa Resources). This is done through the nonprofit organization Wallowa Resources. Change can be difficult, but it is more successful if people knew what they needed to do exactly. A similar system was observable from the Akita case too. With a community which is put together by strong bonds, local farmers frequently exchange ideas and methods. In Kayagasawa, Arawa, and Tenjin, this communication between farmers were conducted frequently, however, the idea of innovation seemed to be less emphasized. The Toko-kan has become a central spot for communities to exchange ideas and meet people within and outside the region. Such event as pizza making experience which was organized by the Neighborhood Association invited a wide age and variety of people to the community and also became an important factor in creating community optimism. The JA played a significant role too, since the meetings for community leaders it held trans-regionally seemed to motivate farmers to start new business. The asparagus farming in Akata started with the JA's introduction of regional leaders too. Wallowa Resources in Oregon, and the JA and the government seemed to contribute as a source for providing learners a base to achieve their needs and knowledge for innovation, and using them to the full extent showed rural development.

Optimism seemed to be a strong point for community revival since first of all, the more optimistic and open minded the region is, the more inviting it is for younger people to settle in. Hence, in Akata, after the renovation of the community, three new families have moved to settle in the region. Mr. Endo believes that maybe the fact that they have made effort in making the community a better place to live for themselves have resulted in attracting more people. Indeed, during the research, many of the members of the class have felt a sense of acceptance and want come back to the region thanks to the heartwarming welcoming. This was the same in Wallowa County too. The team was greeted by members of the community with open hands, and therefore received a positive impression towards the community. This

optimism will be crucial for gaining human capital for regions to educate and thrive. Also, in Wallowa County, almost all of the young people the team met have expressed how the senior members of their household and acquaintances encouraged pursuing education and being appreciated for bringing back knowledge led them to be keener to innovation. This educational optimism was not so quite observable in Japan, however, the writer believes it could be. Many of the leaders the team has met had long ties and backgrounds in training through employment in urban areas and other local regions. At the moment the Tokyo black-hole phenomenon is thought to be a trend that should be stopped to get younger people back to communities. However, the writer believes that young people leaving regions is not always the worst case for rural communities. Back in the late Edo era to Meiji and Taisho era, many young people in rural areas, even women, would leave communities for a while and gain experience elsewhere to bring back to the community (Torikoshi, 2007). This connects to the optimism issue since eliminating the stereotype that rural areas are highly conservative, religious, or lack innovation and change will be essential in retrieving young generation. Also, many of the key members of the community the writer met in this research had some sort of background in higher education, high statuses as an employee, or trans-regional training. Developing skills and knowledge outside the community could bring back higher quality human capital to the rural regions. Looking from another aspect, it could be said that forcing young people to stay in a region merely for their local background seems to spawn negative attitude and insights, and could even be called arrogance for third parties to push such ideology. Miss Adele McAlister exclaimed how her mother not compelling her to stay in Wallowa County made her feel positive about her home town, and that she was able to choose to come back which is almost always better than being forced to. Mr. Kudo's second son, who still lives in Akata, also explained with a small laughter how he liked the region, and that it would be one of the perfected places to stay if his parents stopped nagging him to marry. This peer support for gaining more knowledge and skill from outside seemed to be more strongly emphasized in Wallowa than in Akita. If populations must move out, then the writer believes that the younger generation needs more encouragement and optimistic support from the local regions even if they were to move out.

In rural communities both in Japan and in the U.S. it seemed that maintaining relationships is essential since it connects directly to the individual access to resources and basic needs. At the same time rural region's relationships can become a strong connecting point for sharing benefits, common interests, and connecting to individual households or groups within the area too. From the Wallowa and Akita fieldwork, the writer believes this could be a key point that could be shared as a way for leaders to grow in regions without the tie of locality. Any individuals with the will, skill, and effort should have the opportunity to become a respected member of a community, and even a leader as Mr. Christoffersen has become. Being able to gain and use this social relationship and exchanges can merge community aspects together more easily it seems, and create a self-importance in the region for individuals (Daley and Pierce, 2011). In rural Japan, since regional ties are rather comparatively even stronger than in the U.S., this may be a more challenging aspect. However, Mr. Endo explained that as long as an individual is willing to do "baka-dukuri" (act crazy), even if he or she is an outsider, there is strong possibility that they could become key persons to change communities. In other words, this could be said as being the same thing Mrs. McAlister did in Wallowa. She acted in her own way which she acknowledged as being seen as "crazy" by others in the region, but by doing so she was able to bring innovation and soon even respect by younger generations. The term "act crazy" may bring some misunderstanding and chaos, so it could be reworded as a spirit of trying new ideas which have potential to bring progress to the wellbeing of the individual and their community, but may also be seen with both opposing and welcoming views, and thus requires courage to accomplish.

Each region needs a leader who is most fit and understanding out its people and culture. In Wallowa, the respect for individuality and independence for those who have will to innovate seemed to allow change, and leaders seemed to encourage and seek those human capital in a more assisting method. In Japan, a centralized group led by a few strong leaders

pushed the area to try new methods and change. However, flexibility and passion to change was a common characteristics, and a shift of leadership from a strict control and domination picture to more supportive and comprehensive style seemed to be strongly valued today. The people of Wallowa seemed to be supported by the latter type of leader, and whilst in Akata, strong leaders did seemed to be valued, Mr. Kudo and the others were still compassionate, supportive, and showed sincerity which was also a factor that allowed them to gain popularity by the locals.

Conclusion

In this one month, the writer was able to encounter several regions which were either waiting for change, following the flow of time, or struggling for change. It was a very short program but intensive program which gave insight to how rural communities should change in order gain resilience in the globalizing world. Although it was an eye-opening class, many of the fundamental aspects for resilience seemed to be also basic attitudes of flexibility, transformability, and optimism which is making innovation. Nonetheless, the community efforts to make a more positive, open, easy to live atmosphere has not only made a better region to be a citizen for locals, but also outsiders. As human capital becomes even more essential, this effort and innovational needs further investigation and time to see its effects. This long term research and adventure has just began for the writer and the future generation.

References

Walker, B. and Salt, D. (2006). *Resilience Thinking Sustaining Ecosystems and People in a Changing World*. Island Press

Daley, M. & Pierce, B. (2011). *Educating for rural competence: Curriculum concepts, models and course content*. In *Social Work in Rural Communities*. Alexandria, VA: Council on Social Work Education

Lutkehaus, Nancy. (2008). *Margaret Mead: The Making of an American Icon*. Princeton University Press

Reich, Robert. (1991). *The Work of Nations: Preparing Ourselves for 21st-Century Capitalism*. *Vintage Books*.

The Ford Family Foundation. Retrieved (2015.7.14) from <http://www.tfff.org/what-we-do/vital-rural-communities/ford-institute-community-building/rural-leaders/ford-institute>

Torikoshi, K. (2007) むらの社会を研究するーフィールドからの発想. 日本村落研究会

United States Department of Agriculture retrieved (2015.6.30) from <http://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being/geography-of-poverty.aspx>

Water Resources Importance to Resilience within Food and Agricultural Production in Rural Communities

Tiffany Netz

Introduction

Rural communities can be found all across the globe. These small communities are generally isolated from urban areas and the amenities that are associated with them. As many of these communities appear to be struggling to survive in today's large global system, an enquiry of their resilience can be formulated. Resilience is defined as "the capacity of a system to absorb disturbance and still retain its basic function and structure" (Walker and Salt, 2006). Each rural community can be thought of as its own system within the resilience theory. They can be vulnerable to changes in that system or they can have a high adaptive capacity and overcome change. Because of the limited scale of rural communities, they have a smaller pool of individuals to draw from to build adaptive capacity through human and social capital. In order to be adaptive, communities need to have individuals that have skills, knowledge and experience, as well as networks that allow community members to act together to pursue shared objectives.

A common objective for all individuals is obtaining the food and water resources necessary for survival. Following the industrial revolution, agricultural practices became the primary way in which this objective is met. As the global population continues to rise, the resilience of agriculture and food production can have major consequences. In many cases, the rural communities are responsible for providing food supplies to urban, high population areas. For this reason, the resilience of these communities is essential to understand.

Within the broad topic of agriculture and food production, there is one resource that is tied to nearly every process: water. Water is utilized by plants, animals, and even as an energy source. As speculations of global warming, water shortages and droughts have risen, the question of how to minimize vulnerabilities to decreasing water supplies becomes imperative. For these reasons, a more in depth interest was taken in investigating the role of water resources, leading to the research question: how are the water resources within rural communities utilized in terms of agriculture and food production?

Wallowa County Case Study

Wallowa County is located in the remote North East corner of the state of Oregon. Within this area, there are three main towns: Wallowa, Enterprise, and Joseph. Over the course of one week, a research study was conducted in the area to investigate rural communities, focusing more specifically on food and agriculture.

The area now known as Wallowa County has long been a part of the Nez Perce homelands. These people were a big proponent of managing the resources so that they would continue to provide year after year, in a sustainable manner. Joe McCormack of the Nez Perce Tribe Department of Fisheries Resources Management told of how families were designated by the river that they lived alongside, but during the summer, they would all come together as a community in Wallowa County. These rivers were not only their designation, but also their livelihood. According to the 2008 Kelly and Bliss article *Healthy Forests, Healthy Communities* "the relationship between the Nez Perce and the land was one of co-evolution, involving adaptive human behavior that favored certain plant and animal species" (Kelly and Bliss, 2008, p.522). It can be hypothesized that one of these favored species was the salmon, a major staple of the Nez Perce diet. As Jaime Pinkham, a member of the Nez Perce tribe, stated "fishing was not much less necessary to the Native Americans than the atmosphere that they breathe". The national average fish consumption rate is 17.5 grams per day, while for tribal members that is significantly increased to 389 grams per day (Pinkham). From this evidence, it can be speculated that the rivers were a very important resource to the Nez Perce populations as a food resource.

Moving to the present, the Nez Perce tribal descendants are still able to fish the rivers that were the “usual and accustomed places” for their ancestors, due to the 1855 treaty (McCormack). They also have fisheries that allow them to scientifically monitor and manage fish populations because “you don’t have a treaty right if there’s not a resource” (McCormack). A significant portion of the funding for the Nez Perce fisheries program comes from the Bonneville Dam Authority. Due to the intrusion to salmon populations that the dam created in the Columbia River, the Bonneville Dam Authority is required to work towards sustaining salmon populations. One way in which they meet this charge is to fund projects such as the Lostine River Trapping Weir that implement scientific knowledge and hatcheries to increase salmon populations. The weir facility’s program produces approximately 250,000 smolts each year to meet their strategy of providing fish with nursery benefits that lead to higher juvenile success rates, producing more fish (Shane). In addition to the nursery program, the fishery also tag fish that come through their trapping system, allowing them to be tracked at every dam they pass through (Lostine River Trapping Weir). The fish trapping system is only one of the Nez Perce tribal fisheries programs; additional programs include working with irrigators to help them afford more efficient irrigation systems that draw less water from the river leaving higher water levels for fish. As a test, a system was placed at a ranch in the area that reduced the irrigation water removal from 7.5 cfs to less than 4 cfs (Lostine River Trapping Weir). In the Lostine River, there are 14 different locations where irrigation water is drawn. By implementing these improved irrigation practices, the fisheries hope to conserve up to 30 cfs of water from leaving the river, which would provide for more adequate fish habitat during the dry summer season (Lostine River Trapping Weir).

In addition to Native fishing rights, sport fishing as an attractant for tourists, has also gained a place within Wallowa County. At one of the century ranches within Wallowa County, 6 Ranch, the business *Cast and Blast* provides guided fishing and hunting opportunities (6 Ranch). Another attractant for sport fishermen is the Kokanee population within Wallowa Lake. During the fish running season, world record fish can be caught, drawing in large crowds estimated at 700,000 visitors each summer (Krebs Ranch BBQ).

The Kokanee within Wallowa Lake are only one of the lake’s influences on the community. Wallowa Lake has a dam that was installed by the local community of farmers and ranchers in 1910 and is still under their control today through the Associated Ditch Companies (Nils Christoffersen). According to Wallowa Resources executive director Nils Christoffersen, 75 percent of all irrigation within the county comes from the lake, which is fed from glacial melt throughout the spring. By having control over the dam, water can be released at a much more managed rate to allow for both irrigation and flow of the Wallowa River during the driest parts of the summer, which keeps crops and fish from lacking water. Issues are present with this system however, as the dam has blocked sockeye salmon from reaching the lake, and it is in need of repair and cannot hold its legal capacity anymore. This has created a challenge in regards to balancing river water levels for fish needs with the agricultural needs of the area (Christoffersen). The sockeye salmon used to be a native fish of Wallowa County, but as a part of their lifecycle requirements they need to spend a portion of their time in a lake. When the dam was placed on Wallowa Lake, the sockeye could no longer gain access and were lost as a resource (Lostine River Trapping Weir). Although solutions have been proposed, including a water rights trade with Umatilla County and a partially government funded plan including significant improvements such as fish ladders and hydropower generation, no resolution has been reached. The implication was made that a possible cause of this hesitation to accept government funding may be from fear of losing control of the dam in the future. Throughout the study of Wallowa County, there were enough recurrences of the idea that accepting government funding means a loss of power or control, that it can be hypothesized that it is a theme and value within this community. The people within these communities seem to place a high value on self-reliance and maintaining control of their own communities without interference from the government. For example hospital CEO, Larry Davy stated “if you take government money, you have to do what they say” (Davy). By turning down government funding, the people seem to be hoping to maintain the power

Developing Resilient Rural Communities in the United States and Japan
that they have to manage their water resources according to their own desires and wishes.

Although the management of the water resources at the large scale of the lake is an important feature of the community's utilization of water, many community members are taking a much more individual approach to sustainable water use. For example Wallowa Resources conducted a project with a local community member, Vern, to install a microhydro power plant. This project utilized the irrigation system that was already in place for crops, so "the neat thing about this project is it doesn't take anything from anybody" (Vern). By implementing projects such as these into the agricultural irrigation network, an improvement can be made upon the economics of farming and small businesses and keep money locally within the county rather than outsourcing to Pacific Power (Christoffersen).

Another example of water management can be found in Clint Krebs' projects. With the help of a grant from the Oregon Watershed Enhancement Board (OWEB), Krebs installed a 1500 gallon tank on his property to collect the natural seepage of water through the soil. Instead of allowing the water to run underground where he lacks access to it, Krebs is able to capture the resource, pump it up to a trough and water 150 head of cattle per day (Krebs). In addition to this project, Krebs has recently built a 290,000 gallon reservoir, to store water, and is in the process of laying a pipe network to transfer that water to various troughs across his property.

Another rancher, Mike Williams, discussed projects he was working on to optimize water use and efficiency in irrigation. Big advancements in this area come from the use of center pivots and ground sensors that detect the water levels in the soil, so no more or less water is utilized than needed (Williams). The utilization of underground pipe irrigation networks was also mentioned by another rancher as a way to be more efficient in water use (Joe). By transporting water in sealed pipe systems rather than open canals the water is not open to the atmosphere and cannot evaporate.

Based upon the compilation of evidence, it can be speculated that this community is highly dependent upon the water resources within the county, and that due to that dependence, the food production and agricultural systems' resilience is vulnerable to changes in the water system. A portion of the community does appear to be aware of this vulnerability and some community members seem to be attempting to utilize technological advancements to practice more sustainable water use management.

Themes

Throughout the research conducted within Wallowa County on food and agricultural practices, some overarching themes and cross-cutting issues emerged. These themes appeared to be important to the culture and value systems within Wallowa County. In addition, these ideas are not necessarily true, but reflect the limited understanding that was gained during the short case study timeframe.

Diversification of Income

On multiple occasions the phrase "don't put our eggs all in one basket" was mentioned by individuals within Wallowa County. In context, this meant that they were wary to focus all of their attention on a single business venture or source of income. Many people within the county work multiple part time jobs to provide for their families, many of which involve water resources. Examples of this include Mary Hawkins, who runs Hawkins' Sisters Ranch and works for the Nez Perce Tribal Homelands project, Vern, who owns an automobile repair shop, a greenhouse, and is conducting multiple microhydro projects within his irrigation network, and 6 Ranch, who raise cattle (for use in both rodeos and for slaughter), have a roadside farm stand, greenhouse, u-pick herb garden and a "Cast and Blast" business, conducting guided fishing trips on local rivers. The variety of income sources within the community may in part be an adaptive capacity and a vulnerability. In some sense, the variety of income sources shows that the people of Wallowa County have the ability to shift their

focus as they are faced with challenges, therefore being able to adapt and survive when their environment changes. With many of their jobs revolving around water resources, environmental changes such as global warming could drastically affect their viability, so having a variety of income sources provides more opportunities for remaining viable when faced with challenges. From another angle, the people of Wallowa County have a large number of part time service industry jobs that require households to work multiple jobs to get by. When the timber industry within Wallowa County shut down, there was a replacement of full-time, well-paying sawmill jobs with part-time tourism and service jobs that pay much less (Christoffersen). Due to the tourist season, the economy of the area has a very short calendar, generally considered to be Memorial Day to Labor Day (Christoffersen). These jobs are highly dependent on the tourists coming to view Wallowa Lake, leading to the hypothesis that this income source is vulnerable to any drastic changes in the lake. Due to the short tourist season the people who are working in the tourist industry do not make much money the rest of the year, and many stores shut down during the winter, due to the heavy snow.

Due to this mixture of findings, it can be speculated that the diversification of income sources is a good way for the county to improve its adaptive capacity and increase their resilience to changes in the system, but that the low wages within the service and tourism industry can be a vulnerability. With further research, it would be interesting to see if the county continues to diversify its income sources to rely on more industries that are not as dependent upon water and what some of the broader effects this will have on the county's economy.

Multigenerational Large Land Inheritance

In meeting with the local ranchers within Wallowa County, there appeared to be a connection between power and the passing down of large land areas with an abundance of natural resources from generation to generation. The majority of the individuals that have a voice within not only the Wallowa County community, but also as global representatives of the ranching industry were the individuals that were most eager to share their stories. These people had access to the network of the community and were able to gain time to influence the research that was being conducted. It can be hypothesized that the power and respect that these individuals have within the Wallowa County community comes in part from the large land area that they occupy, the availability of natural resources such as water, and also the power that comes from having a family presence on the land from generation to generation. On the first day of research within Wallowa County, a group of ranchers gathered to discuss their lives with the research team. As they made their introductions, every person mentioned either how long their family had been in the area, or mentioned that because they weren't from the area originally that they should not be given much credit or thought. From this, it can be speculated that the ranchers themselves place the emphasis and power on having practices passed down, and discredit those that have not been in the area for multiple generations. Having a long lineage is not necessarily enough to have power though; as was heard at the Building Healthy Families program, there are families that have been poor in Wallowa County for generations too. Having access to a parcel of land with an adequate water supply provides families with the ability to generate an income stream, with which they can gain respect and power. As this land is passed down from generation to generation, the power is also transferred.

Land Tenure: Private vs Public Land

It was stated that approximately 70% of all livestock within Wallowa County touches public land at some point in their lifespan (Cameron Krebs). The national public forest sells grazing permits that provide a cheaper food source for livestock than utilizing private land or purchasing feed (Krebs). This also provides ranchers with the ability to utilize water sources on public land for their cattle to drink, and can be an important resource for lands lacking in adequate water supplies. This subject was found this to be a complicated legal issue with the potential for shifting politics. The people within Wallowa County seem to be wary of what the

government may do in the future and are concerned with the possibility that they might discontinue allowing ranchers grazing and water rights. It is impossible to know how this is going to play out in the future, but due to the dependence of the county on the utilization of these public lands, any changes would have a significant impact on the community. Due to this, it can be hypothesized that there is a vulnerability of the county on the utilization of public lands for grazing and as a water resource.

Akita Prefecture Case Study

Akita Prefecture is located on the North West portion of Honshu Island in Japan. Over the course of two weeks, a research study was conducted in a few towns within the area to investigate rural communities, focusing more specifically on food and agriculture. The main villages visited within the research period were: Arawa, Kayagasawa, Tenjin, and Akata. The more in depth interest taken in investigating the role of water resources was continued from the research conducted in Wallowa County, Oregon.

Similar to the Nez Perce Tribes of Oregon, the Japanese people have lived off of the land for a very long time. Unlike the Nez Perce, however, the people of Japan were not conquered and removed from their homelands and still occupy the lands of their ancestors. In Akita Prefecture, the history can date back to at least 20 generations. Comparable to the Nez Perce utilization of abundant Salmon populations in Wallowa County, Oregon, the people of Akita Prefecture had abundant populations of the hatahata fish (Kasumi). This fish was a major staple for the Akita population and despite decreased populations is still eaten with the population today.

The river network within Akita Prefecture was not only utilized for fishing, but was also used as a means of transportation of goods and people from the rural communities to the Japan Sea. In the Arawa community, the funatskiba, was a major shipping dock along the Omono River before cars and trains (Tanemura). This was such an important part of the lives of the people in this area that 500 years ago there was a dispute over taxes on the river called the daihojo incident that resulted in a 100 year feud between clans.

Overlooking the landscape of Akita prefecture, the first thing that becomes obvious is the prevalence of rice within the lives of the farmers. Rice paddies are abundant within the area and rice seems to be an important part of the culture in the area. An example of this cultural value of rice is that on top of Mt. Takao, a viewpoint within Akita Prefecture, there was a large plaque telling the legend of a demon and a local young woman known as "the rice girl". The importance of rice was also expressed by one of the local leaders as "we were blessed with good water and good rice" (Kato). The 5 mountains surrounding Akata valley provide the 95 ha of rice fields with approximately 7,000 tons of water (Endo). In the rice production process, having a large amount of fresh water is important. Rice paddies are created having walls surrounding them to allow them to be filled with a layer of water. The paddies have irrigation networks that provide standing water within the fields the majority of the time. Due to this, fresh water and irrigation networks are important aspects of rice production within these communities.

The irrigation networks within the Akata village are managed and maintained by a local group of farmers called the land improvement association. This group is responsible for the local reservoirs and irrigation canals, including maintenance, release of water, and cleaning the irrigation ditches out once per year. Following World War II dams and irrigation infrastructure was created to provide water for farms and for steady electricity needs (Sugimoto). The irrigation network had been in place for a much longer time period, but was transitioned from compacted soil, which allowed for water seepage, to concrete canals following the war. The rivers and streams within the area were also cemented to keep them from meandering into crop lands (Tenjin Community Center).

While the majority of the water projects were completed during the rebuilding period following World War II, there is actually a new dam scheduled to be built on the Koyoshi River

within the next few years near Momoyake village. The people from this village will be forced to move, but they will be paid compensation for their land from the government. The purpose of this dam is not for power generation, but to act as a water reservoir for villages further downstream. This water will be used as drinking water, flood control for the plains area during the wet season, and for irrigation during the drier seasons (Sato Tomi). It was expressed that the people upstream where water is abundant have to look out for the people downstream. When fresh water is lacking, salt water from the sea comes inland and can contaminate rice fields. If rice fields are infiltrated with the salty water, the crops can no longer be used and are ruined (Tomi). By creating this new dam project, the people hope to be able to store water from flooding towns when water is abundant and keep salt water from fields when water is lacking.

In addition to dam creation, another practice that people within Akita Prefecture have been implementing to help with irrigation practices is the consolidation of rice paddies to create larger fields. In the past, rice fields were created in irregularly shaped, small sections. This practice requires an extensive irrigation network to each field, farming machinery for each farm, and is not very economically efficient. In Akata, two agricultural corporations have been created, Akata Farm and Toko Farm. These large farms have consolidated lands from multiple landowners, as well as renting land from other local land owners, to create large fields that are more easily irrigated and maintained. In areas where the irrigation system was not working very well the Akata Farm decided to plant soybeans because they require very little water. In addition to rice and soybean fields, these agricultural corporations have also been utilizing the subsidies offered by the government and the JA Corporation to start growing asparagus, which is a priority product within Akita Prefecture. The asparagus systems also require a large amount of water. The water is currently being prioritized by Akata Farm to water the asparagus first, then the rice fields, due to the specific water requirements. The asparagus plants are watered twice per day for two hours at a rate of 0.4 liters per hour. Unlike the rice crops however, the asparagus cannot survive in standing water, so there was a drainage system built into the asparagus fields. The water appropriation for asparagus requires much more control and maintenance than in rice or soybean fields. While visiting with the leader of Akata Farm, it was expressed that there was a serious concern over low water levels and lack of rain during this year's rainy season. This was such an apprehension that they requested the practice of any prayers or rain dances that were known (Taguchi).

In addition to the utilization of water for irrigation purposes, water also appears to have a religious reverence within Japanese communities. At the entrance to every shrine that was visited, there was a basin for cleansing and purifying the hands and mouth with water.

From the information gathered, it can be suspected that water is extremely important for the continuation of these rural communities' livelihoods. Water rights and availability have been a controversial topic in Akita prefecture for a long time. The Magiyama incident is an example of this in which the Kameda lord and Honjo lord had divided their land along a river and a battle was fought over who had the rights to the water in the river (Kato). The water rights appear to be much less battled currently, but land tenure and rights are still shifting and changing.

Due to the dependence of these rural communities on their agricultural fields, and the agricultural fields dependence on fresh water, it can be speculated that ecological changes that affect the water availability would be a vulnerability to the community, but that the multiple water sources and availability of government subsidies would provide the communities with a high adaptive capacity to overcome these challenges. Some of the potential vulnerabilities to water would include the lack of rain this rainy season, because the villagers are "worried about the future" (Kato), the high level of attention required to water asparagus correctly, the maintenance of irrigation networks with an aging population, the seepage of salt water inland, and the large amount of fertilizers used within the rice fields that only allow the water to be used once. Despite these vulnerabilities, there is evidence of some thought being put into protecting themselves from these challenges. By consolidating their

lands into larger fields, the irrigation network can be more easily maintained and the aging populations can reduce their worries about succession and upkeep of their lands. Additionally, dams and reservoirs are abundant and are continuing to be built to store water, and the farmers are getting help from experts at JA to teach them how to properly irrigate their asparagus fields. Overall, the Akata community appears to have a high adaptive capacity and is in the process of innovating their community to try to overcome some of their vulnerabilities and be globally competitive.

Themes

Similar to the research conducted within Wallowa County on food and agricultural practices, some overarching themes and cross-cutting issues emerged within Akita Prefecture. These themes appeared to be important to the culture and value systems within the communities. In addition, these ideas are not necessarily accurate, but reflect the limited understanding that was gained during the short case study timeframe.

Consolidation of Lands

Throughout both forestry and agricultural networks within Akata there was a trend towards the consolidation of individual lands to larger, community land areas. In the past public use resources, *iriai*, were not registered and therefore did not have set boundaries. Through multiple transitions of land ownership, tenure, and usage rights, the common forest, along with all of its resources, was split up into strips and became private ownership. These strips of forest are very difficult to manage and harvest due to their odd shape, and unfair split of resources, so land owners are now trying to consolidate these lands back to a community forest. In the agricultural sector, individual landowners have combined their small fields to create large community agricultural corporations. This allows for a greater efficiency and a reduction in the number of machines that need to be bought and replaced through time. In regards to water, the consolidation of rice paddies into larger fields also consolidates the irrigation network. Instead of irrigation canals having to reach multiple small land parcels, they can feed into one large paddy. Another example of this is that the Akata Farm knew that the irrigation network was not adequate on one end of their land, so instead of spending resources to try to overcome this challenge, they innovatively planted soybeans, which require little very little water (Endo). As an overall trend the community of Akata appears to believe that by consolidating their landscape to be more community focused they will be more efficient in their use of time, labor and water, and therefore be globally competitive and more successful. Due to the recentness of these land regime changes, it is difficult to say what effects this will have on the community, but the innovation and change appear to have provided the community with a renewed pride and hope that was lacking in communities like Kayagasawa where the most important things to the community leaders were maintaining the number of villagers and maintaining the connections between villagers to they have a “happy life” (Ikeda Tadashi).

Help from Outside Sources

The rural communities within Akita Prefecture appear to have a steady stream of funding coming from subsidies from the national government, prefectural government, city government, and JA Corporation. These funds provide the communities with the adaptive capacity to try new and improved land management techniques and innovative cultural and community projects. The funds are being used to implement land transitions, build new buildings such as the Akata community center and food processing facilities, purchase new cattle within Tenjin, and build the new dam near Momoyake. For example, these funds were utilized by Akata Farm to create new asparagus fields, complete with a complex drip irrigation and drainage system. Due to the water requirements of asparagus, a complex system needed to be built, which likely would not have been possible without subsidies and outside funding. While these funds are a great thing for these communities, they can also be seen as a vulnerability. The Japanese government may not going to be able to support their agricultural

systems forever and the government changes policies, so changing landscapes can lead to losing more than is gained from government subsidies on occasion (Taguchi). With the possibilities of global trade and less government protection and subsidies on the horizon with the Trans Pacific Partnership (TPP), the villagers appear to be quite concerned about the potential threat this could be to their operations. Once again, there is a lot of unanswered questions and missing facts that make this a difficult issue to put conclusions on, but it appears to be a topic to pay attention to in the near future.

Similar Themes within Wallowa County and Akita Prefecture

Strong Leadership

In Wallowa County and Akita there appeared to be a strong sense of leadership that provided a source of innovation for the community members. Wallowa County was spurred forward by the non-governmental organization (NGO), Wallowa Resources, while the town of Akita was being pushed to change by their village leader Endo san. In both of these cases, the strong leadership appears to be a driving force for change and progress within the communities. Within Wallowa County, Wallowa Resources is a driving force providing access to funding for landowners to try new technologies and concepts. Many of these were new technologies to more efficiently utilize water such as microhydro plants, new irrigation systems, and water collection systems. Wallowa Resources also appears to have created a community in the natural resources field by bringing together multiple organizations into one centralized building which allows them to utilize common resources and creates cooperation where none existed in the past. This has allowed them to create programs in conjunction with other organizations such as the Watershed Monitoring Program, and Outdoor School where children get to experience outdoor science lessons related to watershed assessment, and natural resources. Again questions are raised as to how this leadership will be passed down in the future and whether or not their current projects will be successful, but from the small sample of information it appears that both of these leaders are creating positivity and hope within their communities.

Tourism

The utilization of tourism as a possible source of income was present in both Wallowa County, specifically Joseph, and in Akita Prefecture, specifically in Akita. Due to the declining markets that these communities were based on, both of these communities tried to utilize their natural resources, and local capitals to attract outsiders. In Wallowa County, there was an emphasis on tourism to visit Wallowa Lake. Due to this, the community within Joseph created a thriving summer business area where tourists staying near the lake could eat and buy local products. In the winter however, this market is dead, due to the poor weather conditions and heavy snow. In Akita, the community has just started trying to attract tourists to see their waterfall and tried to utilize these visitors as an income source by creating a tourist map giving directions for how to rent a bicycle, pick blueberries, and visit the local farmers' market. It appears that the tourist market in Akita could use more development as it is just starting, but that the waterfall has the potential to be an attractant for visitors to the area. From this the speculation can be drawn that the natural resources within rural communities, have the opportunity to attract people from urban areas that would like to see more natural landscapes, specifically water sources, and this could be a potential source of tourist income.

Management of Valleys: Channelization of Rivers

In both Wallowa County and Akita Prefecture there was evidence that in order to better utilize the water resources within valley rivers, these rivers were channelized and moved to areas where they did not intervene with agricultural practices. In Wallowa, these rivers ended up along the sides of the valley in straight stretches that destroyed fish habitat, but reduced flooding and made it easier to farm (6 Ranch). In Akita Prefecture, a similar river management scheme was undertaken when the rivers were concreted into place following

World War II (Tenjin Community Center). The similarities between this desire to reduce the rivers ability to damage crop fields and impact agricultural practices could be seen as an innovative practice during the time period. In Wallowa County, there are some changes occurring to this system with the river restoration projects being undertaken by Liza Jane at 6 Ranch. By looking back to photographs of the river network prior to the channelization, the project is able to restore the natural sinuosity (Liza Jane). In the short time of researching in Akita, there was no evidence presented that any projects similar to this are being conducted, but there did appear to be evidence of a shift towards more ecological friendly practices. It was mentioned that Akata Farms is experimenting with an Eco-rice brand utilizing less pesticides, and is encouraging individuals to allow the fertilized water from their fields to naturally evaporate and disperse through the soil rather than dumping the chemicals into the river system (Taguchi). Based upon this evidence it appears that following World War II there were very similar approaches taken to make farming in valleys easier through the channelization and movement of rivers, and that both Oregon and Japan are currently shifting towards more environmentally friendly practices.

Differences between Wallowa County and Akita Prefecture

View of Government

A perceived difference between the communities within Wallowa County and Akita Prefecture was the view of the national government. In Wallowa County many of the people that were interviewed implied that a value within the community was that accepting help or money from the national government meant losing control or the freedom to innovate and make decisions. For example, the group of farmers in charge of the dam on Wallowa Lake were offered an opportunity to receive government funding to build a new repaired dam, but refused the deal. The residents within Wallowa County appeared to be much more willing to accept additional funding when it came through a nongovernment organization, such as Wallowa Resources. Despite the fact that a significant portion of the funding from Wallowa Resources came indirectly from the government, it appeared that it was less of an issue of pride to accept this funding than to accept government money. Within Akita Prefecture, the view was quite different in that the ability to accept government subsidies provided the communities with the ability to make changes, and innovate. It appeared that the communities within Akita Prefecture depended quite heavily on the government controlled market prices and availability of government subsidies. From this evidence it can be speculated that there is a value of trust of the national government to direct residents towards good decisions and the belief that the government will take care of the agricultural communities in Akita Prefecture. In regards to resilience, the dependence on government funding might be a vulnerability and a capacity to the people of Akita prefecture. This reliance means that political issues can impact farming practices and cause unexpected changes to their environment. For example, the government decided that a dam was to be built as a water reservoir, at the location of Momoyake village and the people there have no choice but to accept the government compensation and move. The government resources are beneficial however as they also provide farms with a significant amount of funding to put towards innovation and new opportunities that might have otherwise been unreachable. The complex irrigation systems for asparagus are an example of this, as the government funding and JA training allowed them to increase the adaptive capacity of their farming practices and utilize their water resources efficiently.

Conclusion

In conclusion, the rural communities within Wallowa County, Oregon and Akita Prefecture, Japan have a high dependence upon water resources for their livelihoods. They utilize water resources in a variety of ways including fish harvesting, irrigation of crop fields, as a power source and as an attractant for tourists. They are potentially vulnerable to drastic changes within to the amount of water that they receive and this vulnerability could lead to other problems within the communities. The communities do both seem to recognize this

dependence and are in the process of implementing technological advancements such as more efficient irrigation systems and microhydro power plants to increase their adaptive capacity. Although no strong conclusions can be based from the short research time period, the speculation can be made that these communities are in the process of becoming more resilient through their innovative programs and implementation of new ideas.

References:

- Kelly, Erin Clover and Bliss, John C. (2009) 'Healthy Forests, Healthy Communities: An Emerging Paradigm for Natural Resource-Dependent Communities?', *Society & Natural Resources*, 22:6, 519 — 537
- Ouchi, Masatoshi. "Chapter 16: Rural Development Strategies in Japan." *The Next Rural Economies*. N.p.: n.p., 2010. 207-22. Print.
- Traphagan, John W., and John Knight. *Demographic Change and the Family in Japan's Aging Society*. Albany: State U of New York, 2003. Print.
- Walker, B. H., and David Salt. *Resilience Thinking: Sustaining Ecosystems and People in a Changing World*. Washington, DC: Island, 2006.

Developing Resilient Rural Communities in the United States and Japan

**Food Creates Community: a comparative case study of Wallowa county,
Oregon, and Akita prefecture, Japan**

Yasuhiro Taga

Introduction

Generally speaking, one country can be divided in two parts, urban area and rural area. The majority portions of population tend to be concentrated in the urban areas. Centralization of the population and industry lead to urban problems. On the other hand, rural areas tend to decline mainly because of the decrease of population and loss of industry. These issues can be seen in many developed countries. For example, in the U.S., decrease of the number of middle class people and poverty are significant problems in rural regions (Stauber, 2001). In Japan, migration of youth from rural regions to urban regions becomes the trend and aging in rural areas significantly goes on (Japan Policy Council, 2014). As Japan Policy Council (2014) warned, there is a great possibility of processing the loss of rural areas if we do not anything. Although the number of people in rural areas is declining, how do they try to be resilient in their community? In order to consider this issue, I come up with one specific research question: how do people connect in the rural community through food? Food seems to be one of the key factors to understand rural resilience because it is the daily resources in the community. In other words, food is a necessity to live people's daily lives. This paper briefly reviews my answers for the research question, with Wallowa County in Oregon State, and Akata and Tenjin communities in Akita Prefecture as the main case studies.

Looking the situation in rural communities, resilience theory seems to be important. In this essay, the author utilizes several key terms regarding resilience and tries to use resilience as a framework. Resilience is "the ability of a system to absorb disturbance and still retain its basic function and structure" (Walker & Salt, 2006, p. 1). According to the Walker and Salt (2006), "A resilient world would promote trust, well-developed social networks, and leadership (adaptability)" (p. 147). In other words, social capital is one aspect to establish resilient community.

The author stayed one week in Wallowa County, from June 19th to 26th in 2015. Also, he spent one week in four different communities in Akita prefecture: Arawa, Kayagasawa, Tenjin and Akata. The author collected most of the data from observation of the county or community and interviews with local residents. The methods of interviews which the author utilized were mainly informal interviewing and unstructured interviewing (Bernard, 2011).

Research Result

Wallowa County

Wallowa County is located in the north-east part of the Oregon State in the U.S. The main industry was the forestry, agriculture and cattle in the past time. However, the forestry industry was declining now. Today's major industry is agriculture, cattle and tourism. The population in Wallowa County is about 7000, and has been steady for 100 years.

In the County, especially the area which is located out of the city, food seems to be one way of building the neighbor's relationships. The author did a home stay and interviewed the family who lives in the area out of the city. This area was the first city in the county, but declined as the cities moved to near river (Nils, personal communication, June 21, 2015). Therefore, the area does not have many houses and each of them tend to own much land now. Making use of the wide expanse of land, they grow two pigs for eating and two horses for riding. These pigs are mainly for eating on their own, but some of the pieces are sold to a neighbor. On the other hand, they bought some products, such as chicken and eggs, from his neighbor, too (Nils, personal communication, June 20, 2015). His wife Annetta said that eggs from neighbor are not cheap, but they are fresh and safe to eat because they can know the producer (personal communication, June 20, 2015). This buying-and-selling food system may

Developing Resilient Rural Communities in the United States and Japan
support not only to obtain food but also to build good relationships within the community, especially neighbors.

Many non-governmental organizations (NGOs) are active to provide supports to low income, aging and disability people. One example is Meals on Wheels. Meals on Wheels is the system to deliver nutritious meals to people who cannot go outside easily three days a week. By using this system, about 100 meals are delivered every week. Another example is the food bank. Food bank is a facility to store and distribute food for poor people. The food bank in Wallowa County opens five days a week and about five food boxes are provided a day. Food boxes contain healthy food, such as brown rice, vegetable and fruits, so that people can maintain their health. These systems are maintained by mainly donations and volunteers. Therefore, these systems play a role as not only the social capital but also the value of volunteering.

Also, there are some events to help others. For example, in Wallowa, pie sales often take place. In this event, people bake pie and cake by their own and sell them. Some sales are held by auction style. Then, the sales are utilized to help those who find it difficult to spend their lives on their own. The value of supporting others who have difficulties penetrates not only organizations but also to the individual level.

Education is not only the important aspect to make a connection between people but also plays a role in constructing human capital. In Wallowa County, because of the small number of students and limited amount of budget, children go to school only four days. Instead of no official class on Friday, students can participate in variety of activities which offered by an organization. Elementary science program is one example. By taking this program, children can learn where our daily food come from. Camp is also offered by the organization as the Friday program.

The poverty of children is another problem in the County. In Wallowa, it is said that more than 30 percent of children suffer from the poverty. In order to help them, summer lunch program is offered to children. This program offer children to serve lunch during summer vacation. It is supported by NGOs and church.

From a religious perspective, church plays a significant role in creating the place where people can gather. Church offers the service, such as praying, singing songs and listening messages from the priest, every Sunday. After the service, it prepares some drinks and snacks. According to Carolyn, these meal services are offer to create the opportunity of making fellowship by eating and enjoying conversation. On Christmas day, a church offered the special event, which is called soup kitchen. Religious gathering is not only the weekly one. Carolyn participates in the weekly small group gathering. In this group, members (usually from four to ten) assemble one house and talk about the Bible. Discussing Christianity, owner feeds people in the house for the same reason. These events are related to religion, but since all people, even non-Christian, can join them, they are really good opportunity to build fellowship in the community.

The opportunity of local food market is broad in the County. Farmer's market is held twice a week and about ten shops are open to sell their local products. Owner box is another way of connecting farmer and consumer by local products. According to the farmer in 6 Ranch, they set the owner box which was five years ago. Although no one manages the box, there has been no stealing of food up to now. Local food restaurant is also open in the county to create the opportunity of eating local food and buying local products for producers.

Nez Perce is the traditional tribe in this County. They were oppressed by white people before. Although they were oppressed for a long time, after coming back to the area, Nez Perce take place the annual celebration called friendship feast in the community. In the event, not only Nez Perce but also white people are invited in order to symbolize the reconciliation between races. Nez Perce prepares elk, salmon and deer. Also, the participants of this event gather and do traditional dance for three days. For Native Americans, since salmon is the

product which God gave to them, it is respected and serving salmon seems to be the best hospitality.

Gatherings within small number of people in the community seems to be another good opportunities to make the connections. One example is the barbeque party we participated in the first day in Wallowa County. In this party, there are not only our research group members but also some community members, including newcomers. For newcomers, it was the chance to make new connections among the community members because they live in isolated places. Another example is the potluck within neighbors. According to Carolyn, although the number of potlucks holding seems to be decreasing, potlucks still sometimes hold by several houses. (personal communication, June 25, 2015)

From these variety of examples mentioned above, I found that Wallowa County tries to create the strong relationship among people in the community by utilizing food.

One possible value through the community may be 'support for others, especially the weak'. The activities of NGOs and individuals to help aging, disability, poor people and children are mostly made up of the individual voluntary works and donations. This value seems to be created in church. As mentioned above, churches offer the service every week. By this service, people who go to churches may gain the idea that helping those who are in trouble is important. In this point, 'support for others, especially the weak' value seems to be formed by religious power. Also, I can say this value may belong to the high or middle class people because they can afford to do charity. Thanks to the value, there are several social capitals, such as food bank in Wallowa County.

Another possible value seems to be 'the importance of sharing food'. Through looking several cases in Wallowa, I think that sharing food is one of the easiest ways to make fellowship in the community. Friendship feast, barbeque party and potluck may be the good instance of it. For friendship feast, even there was the conflict between races, sharing food can become the cue of reconciliation with each other. By making conversation among people with food, trust gradually grows. Also, small gatherings like barbeque party and potluck are the good opportunity to strengthen relationships and make new ones. By sharing food and talking among participants, people can exchange lots of information and this leads to build trust with each other. However, as we saw in the barbeque party in the first day in Wallowa County, most of the participants were middle or high class people. Therefore, I cannot say this value is adaptable to whole people in the community.

The last value I can consider is the 'consuming the local and healthy food' value. This value may also only fit to those who have enough money to spend their lives. This is because local and organic products usually more expensive than ordinary ones. Therefore, although there are many opportunities to get local food, such as farmer's market, local food restaurant and buying-and-selling system of neighbor local products, the poor cannot access these things easily.

In the interview and conversation, many local people mentioned that people and relationship is one of the characteristics in Wallowa County and this is why they like their community. Through the research in Wallowa County, people relationships in the community is strong because there are three values mentioned above and they help to make several opportunities to develop social capitals. Since the decrease of the population may be the vulnerability, the ability to be harmed, of the county, relationships can be the key to hold back and come back the residents and they may be the capacity. Also, social capital is increasing the adaptive capacity, the ability of a social group to adjust to change because the strong ties can help to try new things.

Akita Prefecture

Akita prefecture is located in the west part of Tohoku region which occupies the northern area of Honshu island in Japan. Tenjin and Akata communities, our main research

fields, are located in Yurihonjo city and Arawa and Kayagasawa communities are located in Akita city. In Akita prefecture, the agriculture is still one of the core industry, but the harvest of some products, especially rice, is declining (Quinones, 2011).

In Akata community, there remains the give-and-take of food as a custom. In the community, most of the houses have at least their own small farms to grow some vegetables which are consumed by themselves. However, depending on the types of products which each house grows, the main products may be different from each other. Therefore, in Akata community, there is the custom that people distribute vegetables which grow in their farms if there is surplus. Since most of the houses followed this custom and still do it, this system become a kind of sharing food tradition. According to Mr. Endo, "We sometimes cannot recognize who gave us the products at first because people leave them in front of our house without any notice" (personal communication, July 11, 2015). Although this kind of situation happens, people finally recognize who distribute the food because they usually talk with each other in their daily lives.

The farmer's market seems to play an important roles in Akata community. In 2012, the farmer's market in Akata was opened thanks to the proposal from university students' team and supports from neighborhood association (*chonaikai*). In this market, the products are carried every day from the farmers in the community. The initial purpose of the farmer's market is to provide farmers, especially elderly people, with an opportunity of selling the vegetables and mountain vegetables. However, after building it, many people can find another benefit of it, the communication among people. In the morning, many farmers gather in the market in order to prepare for selling their products. This time is good chance to make a conversation with each farmers. Also, since there is always one manager in the market, the customers enjoy shopping with talking with the manager. Furthermore, one elder lady mentioned that old and young generations communicate with each other. Many people say that farmer's market contribute to creating the opportunity of communication among not only people in the community but also tourists.

From religious perspective, temples and shrines are significant for local people in Akata community. Akata community still places a special emphasis on the religious events. Every year, five big events are held in these religious places and many people participate in. After each events, the social gatherings with food and drink are given. Actually, the food served in the gatherings is prepared by women in the community. According to Mr. Endo, when the events and social gatherings are held, each districts (upper, middle, lower) usually has the responsibility for preparing meals in rotation. Therefore, not only the gatherings themselves are the opportunity to confirm fellowships in the community with eating and talking, but also preparing the gatherings is the chance to communicate within the districts. This is because women in the districts cook the meals for whole a day and cooking can make the closer relationships.

In 2011, Akata community introduced pizza oven as a part of regional activation policy which proposed by the region revival manager from the ministry of general affairs. In the place where pizza oven was established, there are also several facilities, such as fireplaces for BBQ, benches and tables, electricity and water. In order to make use of these facilities, Akata neighborhood association has the group focusing on managing pizza and soba making experiences. Since pizza and soba cooking is the experience based activity, its members have skills how to make them in order to play a role in teachers. In both pizza and soba cooking experiences, people in Akata try to use local products as much as possible. Most of the vegetables put on the pizza are from local farm and buck wheat is also from the local farms which changed from rice fields. This pizza and soba cooking experiences are utilized mostly groups of people about 27 times per year, except the winter. Endo mentioned that children association in Akata community sometimes utilize these opportunities to have fun among children and learn to consume local products. Since the elementary school in the community closed a few years ago, children association activities like this seem to play a significant role in education of local children (personal communication, July 11, 2015).

There are some supports of meals for those who are called the weak in Akata community. Japan Agricultural Cooperatives (JA) has a strong power and supports a lot for the rural community. One example is the ingredients delivery service operated by the purchasing department of JA called A-Coop. This service is utilized by those who have difficulty going shopping by themselves, such as aging and disability people. This system is delivering not cooked meals but ingredients themselves and recipe so that people who take it need to cook by their own. It offers variety types of plan depending on the number of family members and an age bracket. Although this service needs to be paid to utilize, because ingredients are delivered three times a week (A-Coop, 2015), it seems to be helpful for the shopping refugees. In addition to the supports for those people, the government offers the box meals delivery service mainly for the weak people. According to Mr. Kudo, the former executive of JA, "it is the administrative service which may deliver box meals for free twice a month. It may be utilized by those who are relatively old, cannot walk by their own and are not able to drive" (personal communication, July 10, 2015)

During the field research, we were welcomed by several dinner parties with local residents in both Tenjin and Akata community. Dinner parties and gatherings may be another important factor of building relationships among the community members. In the dinner party, not only much amount of meals but also some alcohol were served. By eating and drinking alcohol, the gathering become the more socializing place than usual.

In Tenjin community, even the work itself seems to be one opportunity to create the relationships among people in the community. For example, in the gentian farm which Mr. Ishida manages, he hires some local elder ladies as part-time workers. Both Mr. Ishida and old ladies seem to gain merits from this employment. For him, he can get labor forces with a cheap price. For elder ladies, according to Ishida, working in the farm is better than staying at home for whole a day because they can not only gain pin money but also make conversation with colleagues. Colleagues working in the gentian farm can make conversation while both working and resting with tea.

One possible values I can find from the examples in Akita is that '*Omotenashi*' and '*Kizukai*', two of the Japanese traditional values. '*Omotenashi*' is a Japanese word which means "The spirit of selfless hospitality" (The Japan Times, 2013). '*Kizukai*' refers to "alertness and caring attention to other's needs or feelings" (Sugiyama, 2004, p. 44). These values may relate to reciprocity. Reciprocity "is the principle of 'do as you would be done by' which is being invoked here" (Hendry, 1987). These are generally taught by parents from the childhood so that education seems to have strong impact to form them. The examples of '*Omotenashi*' may be the offering fruits even during the interview in the farmer's restaurant, dinner parties with much amount of food and homestay. We can feel '*kizukai*' in a weeding asparagus farm as a service learning when the community members prepared cold drinks for us.

Another possible value is 'the importance of sharing food' value. This value can be seen in the social gatherings after religious festivals and give-and-take of food.

Discussion & Conclusion

Comparing with case studies in the U.S. and Japan, both similarities and differences can be seen. Regarding similarities, I can mention several aspects. First of all, gatherings with food and drink are the big opportunity for community members to build relationships with enjoying eating and making conversation. It seems that both community member has the same value, 'the importance of sharing food'. Another aspect is the religious facilities become one of the most important social center to collect people in both countries.

On the other hand, the targets and systems of service offering may be different within two countries. For example, in both countries, they have similar food sharing in neighborhood. There is the selling and buying system, which means people use money to get products, in Wallowa County. Whereas, there is give-and-take of food system in Akata community. However, about the meal service for those who have trouble in going shopping, the U.S. one is

free and Japanese one has to pay. It seems that the difference may come from the existence of the value, 'support for others, especially the weak'.

From the research in both Wallowa county and Akita prefecture, I can find plenty of example about food in rural communities. Considering the roles in food, one of its importance is to create the opportunities of building and strengthening relationships in the community. In other words, food seems to be a catalyst of making connection among people because it helps a lot to induce conversation and communication in people. Once people start to communicate with each other, mutual trust gradually happens as a result of exchanging information and personal stories. Consequently, there is a great possibilities that people in the community work together as a cooperation or interchange within community becomes more active based on trust. In this context, I can say examples mentioned above are developing social capitals because there are common ideas that food brings people together. When social capitals in the community are developing, resilience there is also increasing. This is because even if some disturbances are coming in the future, the community can adapt more easily by utilizing strong ties among people. If residents' ties are strong in the community, it is possible to try to do new things.

Food also leads to innovation and try to make stronger relationships in the community. In both cases, I can see some instances of innovation about food. In the Wallowa, NGOs try to do new things relating to food, such as the education in children, farmer's restaurant and supports for the weak. In Japan, neighborhood association tries to do new thing, such as introducing pizza oven and farmer's market. Innovation itself is one evidence of resilience because innovation have the power to solve problems caused by some disturbance by new ways, such as utilizing the potential to expand the variety of economic capital. However, innovation relating to food also helps to make connection among people as mentioned in the research result parts. Also, cooperation makes the community easier to innovate more. As a result, these new things also become the social capitals and make the community more resilient.

In both communities in Oregon and Akita, people tries to keep creating the opportunity to build relationships. Endo mentions that maintaining residents' ties in the community is one of the biggest jobs. He thought that community will destroy once relationships become weak (personal communication, July 11, 2015). Creating the opportunity to make relationships in the community seems to be important aspect to be resilience in the community. It might be helpful to deal with the vulnerability as depopulation because relationships can try people to keep holding and come back to the community. Therefore, through food, people in the community can tie with each other and community can be resilient.

One further research question may be whether this hypothesis can be applied to the low income people. This time, most of the observation and interview seem to focus on the perspective from high and middle class people. Therefore, I cannot observe and interview enough about the low class people. At the next time, I may set the main target of research to low class people and analyze food and building relationships in terms of increase resilience.

References

- A-coop. (2015). *Shokuzai takuhai – Akita shiten* [Ingredients delivery in Akita branch]. Retrieved from <http://www.a-coop.jp/takuhai/akita>
- Bernard, H. R. (2011). *Research methods in anthropology: Qualitative and quantitative approaches*. Lanham, MD: Altamira press.
- Hendry, J. (1987). *Understanding Japanese society*. New York, NY: Routledge
- Japan Policy Council. (2014, May 8). *Sutoppu shoshika • Chihou genki senryaku* [Stop declining birth rate: The strategy for activating rural areas]. Retrieved from <http://www.policycouncil.jp/pdf/prop03/prop03.pdf>

- The Japan Times. (2013, October 19). *Omotenashi: The spirit of selfless hospitality*. Retrieved from <http://www.japantimes.co.jp/life/2013/10/19/language/omotenashi-the-spirit-of-selfless-hospitality/#.VabfvJUVjaF>
- Quinones, C. K. (Ed.). (2011). *Akita – Beyond the narrow road's end*. Akita: Akita International University Press.
- Stauber, K. N. (2001). Why invest in rural America - And how? A critical public policy question for the 21st century. *Economic Review*, 86, 57-87.
- Sugiyama, L. T. (2004). *The Japanese self in cultural logic*. The United States of America: University of Hawaii press.

8. Reflection

Reflections on the 2015 Summer Study Abroad PBL program in Oregon and Akita

This PBL was a fruitful effort to promote international cooperation and learning in a number of ways. It offered the opportunity for international exchange of ideas and mutual learning in content focusing on rural resilience in Japan and the United States of America, but also the program demanded/enabled international interaction whereby Japanese and US faculty and students worked out the process of the course together. Although such an endeavor inevitably has its challenges, the successes and satisfaction of on-the-ground study, collegial interaction, and friendships far outweighed the difficulties.

Course Content and Study:

The focus of the four-week course was Rural Resilience, approached from the viewpoints of environmental resources and anthropologically inspired experiential learning. Introduction of background material and evaluation exercises occurred at Oregon State University and Akita International University, but the crux of the learning experience occurred in towns and countryside of Akita Prefecture in northern Japan and Wallowa County in northeast Oregon. Because faculty from each country had arranged meetings with leaders of local government, local NGOs, local industries, and local citizens, the students had marvelous opportunities to hear from and question people who were steeped in the history and contemporary practice of both of these areas. In both Japan and the US, the ability to talk to people from different types of communities and in different types of livelihoods added greatly to the richness of the topic. In addition, the students enjoyed homestays in a village in Japan for one night. Thus, the students were constantly interacting with people speaking directly from their daily experiences.

The fortunate result of this situation was that faculty and students were learning and asking questions together, and in reflection sessions, were sifting through information mutually to figure out particular, local meanings of rural resilience and positive and/or negative aspects of each place. Furthermore, faculty and students together were challenged to consider the processes of rural resilience in the two countries as these processes occurred with some similarities in the face of global problems and experiences, yet because of the contrasting histories of the two spaces, possible solutions were quite different. In short, although faculty carried superior understanding of the framework of the problems, the faculty and students were thinking and evaluating together in the face of these particular examples.

We reflect that this was a very rich type of learning for the students. The answers to the questions surrounding rural resilience on the ground were not obvious. They had to listen, discuss, think, and write. In our estimation, this is an extremely challenging kind of learning, yet one that trains students in the creative thinking that jobs in the contemporary world require.

There are of course challenges in this kind of course. Although we used a common framework concerning rural resilience, the particulars of the situations for rural areas in both Akita and the Wallowas were extremely different. While students could talk and write about each area, it was difficult for students to do a contrast-comparison of the two areas. The main problem was that the histories, values, relations between institutions and ordinary citizens, current trends, and expectations of the future differed markedly in Japan and the US. Secondly, the Japanese students carried a much broader understanding of the Japanese situation, as the

Other challenges included the language gap that Japanese experienced in the US and Americans experienced to a far greater degree in Japan. Japanese students all understood English at fairly high level because of study abroad, although even they had a strong fatigue factor after too many hours of English talk in one day. Because there was no interpreting of English talks into Japanese, this was a limiting factor for complete understanding on the part of the Japanese. On the other hand, except for one student who had studied Japanese, American students understood no Japanese; they were completely dependent on the Japanese students and/or faculty person to interpret the talks by leaders in Japanese. This was an even stronger limiting factor for understanding on the part of the Americans and caused some stress for them; simultaneously it presented a stressful situation for the Japanese students and faculty who constantly had to be translating. Nonetheless, this situation was a challenge and opportunity for the Japanese students to improve their communication in English. All speech activities took a long time and ability to take notes was intermittent. Without very high language ability, this is an inevitable problem of such a program. However, as we will see in the next section, this had its positive results.

Of course a class such as this, with extensive field time in rural communities in two different countries presents many logistical challenges. Finding affordable accommodation, arranging transportation, and cultivating key resource people are all time-consuming and potentially problematic considerations. Committed teachers and an effective institutional support system are absolutely essential!

Relations between faculty and students:

One of the most memorable parts of the PBL was the extent to which students from the two countries helped each other to understand the material that was being presented by community leaders and townspeople everyday. This in itself presented a major aspect of cross-cultural experience and learning. While in Oregon, our first stop, students spontaneously began meeting in the evenings to review the talks that they had heard during the day, and in this case Americans were helping to deepen the Japanese students' comprehension. Likewise, while in Akita, students met in the evenings to review the talks heard from community leaders during the day with Japanese students helping to increase the understanding of American students. In short, they had to practice communication across cultural borders and stretch to understand each other. This said, kudos should go to the Japanese students who were speaking in English for the sake of the American students, as well as to the American students who attempted to understand their endeavor.

Furthermore, the students worked together in teams in both the US and Japan to learn about, discuss and evaluate evidence of rural resiliency in both places. Team assignments were made by the faculty with the intention of balancing teams with respect to nationality, academic background, language facility, and so forth. Thus the teams were multi-national, multi-lingual, and multidisciplinary. Teams conducted research together, held evening reviews of assigned readings, took turns helping with daily logistics, and presented their findings with the many citizen groups with whom we met. All of the teams performed well together and did an excellent job both in exploring the course material and presenting it to the communities we visited. Learning to work together in such diverse teams may have been one of the most useful aspects of this course.

It is clear that the students had a strongly positive experience in this PBL (Figure1).

Developing Resilient Rural Communities in the United States and Japan

We are pleased that areas of global perspective, intercultural understanding, intellectual curiosity are rated highly, as these were key areas of learning goals. Although we will try to improve presentation, presentation, and negotiation as we continue, it is also understandable that students felt some disorganization because of the nature of the creative, often uncertain, efforts to understand that which is not spelled out in class that such a cross-cultural experiential learning course entails.

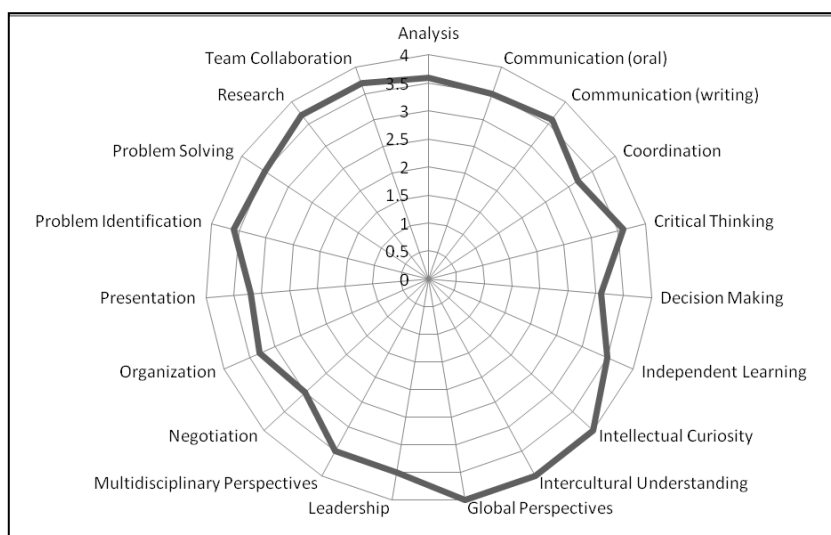


Figure1. Student self evaluations after 2015 PBL (N=8)

(Question: Please indicate to what extent the following skills or abilities were nurtured through participating in this PBL course. 0=Not at all, 1= Very little, 2= Neutral, 3=Somewhat, 4=To a great extent)

Another aspect of the cross-cultural learning was the communication that occurred among the three faculty members—two from the US and one from Japan. Not only were we able to share our perspectives and thoughts on processes of rural resilience in Japan and the US, we were also able to learn from each other in the way that we organized the curriculum and led discussions for the students. We all contributed to grading the final papers of the students—one after the US stint and one after the Japanese visit. This allowed us to see how each of us reacted to the students; with each adding various points that were particular to us, we found ourselves agreeing on the general level of grading. This gave the students more helpful feedback than they would otherwise have received. Lastly, the collegial interchange among the faculty was enjoyable and profitable on academic and personal levels, and will likely lead to more work together.

There were also challenges in interpersonal relationships, as occurs on any long-term study abroad program. These challenges usually had to do with fatigue, lack of familiarity or comfort with cross-cultural differences, and personal characteristics. Building into the daily itinerary adequate rest, recreation, and recharging times is really important.

In summary, one must approach developing an experiential learning course such as this with eyes wide open: it is entirely different from classroom teaching! It is time-consuming, exhausting, and comes with a whole set of risks. However, to the intrepid life-long learner with a passion for discovery and a commitment to supporting student learning, its rewards far outweigh the costs.