

JENESYS East Asia Future Leaders Programme 2011



Food and Agriculture

From June 9th to June 20th, 2011



The Japan Foundation

JENESYS East Asia Future Leaders Programme 2011

Food and Agriculture: Agriculture in the 21st Century

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1. Ice breaker
2. A dairy cow at Mitomo farm
3. Mr. Mitomo showing the health condition of the soil
4. Lovely pigs at Mitomo farm
5. Briefing by Mr. Kikuchi, Mayor of Kunneppu town

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Preface

The Japan Foundation organized another East Asia Future Leaders Program (Youth Exchange) in June 2011 and invited promising young leaders from 14 different countries in East Asia with diverse backgrounds to understand and discuss the various functions and possibilities of agriculture.

The 12-day program under the theme of “Food and Agriculture: Agriculture in the 21st Century” cast how the society should be in the era of over-development and fast-paced globalization and deregulation of trade that prioritizes efficiency and productivity for mass and cheap production and mass consumption.

Truly, the dominant marketing principles now shared by farmers and those involved in agricultural administration might have benefited people’s dining rooms richly and tastefully. However, the East Japan Great Earthquake of March 11, 2011, alarmed the Japanese people, who had forgotten about the constant threat of various natural disasters. This painful warning has led to a question; how can we all achieve well-balanced happiness and affluence? Agriculture, as being very essential and basic for human lives, might be able to provide some simple answer to the participants.

During this short yet intensive period, the participants visited Tokyo and Hokkaido to observe communities that have been struggling for the best through close cooperation. Through field visits to organizations that implement unique philosophies in their agricultural strategies, the program kept asking the participants how agriculture can become ideally sustainable in this century. Group discussions with thoughtful Japanese counterparts also gave the participants a chance to share their ideas and action plans to achieve some possible ways of agriculture in which society, environment, culture, and economy can co-exist.

It is hoped that the participants will further discuss things and do their best to achieve their own ideals in their differing home regions, which have different characteristics and strengths. We also hope the close network of people from the young generation formed through this visit will contribute to the further promotion of mutual understanding and deepening cooperation among the participating nations in the future.

This program was realized with the support of the Ministry of Foreign Affairs; the Ministry of Agriculture, Forestry and Fisheries; Kunneppu Town; Agricultural Cooperative Association Kitamirai; Kitami Agricultural Experiment Station and Konsen Agricultural Experiment Station; Local Independent Administrative Agency Hokkaido Research Organization; Hokkaido Government Nemuro Agricultural Extension Center; Agricultural Cooperative Association Doto Asahi; Mitomo Dairy Farm; Notsuke Fishery Cooperative Association; My Pace Dairy Farm Exchange; Dr. Takashi Nomura, Associate Professor at Hokkaido University of Education, Kushiro Campus; and several other organizations and individuals. In particular, Dr. Yukihiro Asaoka, Professor at Tokyo University of Agriculture and Technology, generously took a role as an advisor in the planning and execution of the program with the great enthusiasm and generous assistance of his postgraduate students, which led to the success of the program.

We wish to express our sincere gratitude to all the parties concerned.

Hiroko Tsuka

Managing Director

Art and Culture Department

The Japan Foundation

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Program Overview

1. Program Description

JENESYS: Japan-East Asia Network of Exchange for Students and Youths

The program was launched by the Japanese government at the Second EAS meeting held in January 2007 in the Philippines. Then Prime Minister Shinzo Abe announced a large-scale youth exchange initiative of US \$315 million to invite approximately 6,000 youths every year, mainly from the East Asia Summit (EAS) member states (ASEAN countries, Australia, China, India, Korea, and New Zealand). The five-year plan was later named The Japan-East Asia Network of Exchange for Students and Youths (JENESYS) and various programs, such as invitations, dispatches, and cultural exchange, have been conducted.

The JENESYS programme aims to deepen understanding of the different facets of Japanese society, including politics, diplomacy, economics, tradition, and culture, and to form the basis of a future vision and to achieve firm solidarity among the East Asia community among the younger generation. Youths who will determine the future of the next generation are expected to gain an understanding of Japan's society and culture, as well as to promote the growth of a close network among their peers and the formation of a shared identity.

About the Japan Foundation

The Japan Foundation is one of the implementing organizations of the JENESYS Program. Established in October 1972 as a special legal entity under the purview of the Ministry of Foreign Affairs, the Foundation aims to deepen understanding of Japan overseas and to contribute to the enhancement of culture and the welfare of humanity in the world through international cultural exchange. It was subsequently reorganized as an independent administrative organization in October 2003. As part of its cultural-exchange scheme, the Japan Foundation carries out personnel-exchange programs to enhance mutual understanding among countries and to contribute to further development and networking in civil society. In this context, the Foundation was commissioned by the Association of South-East Asia Nations (ASEAN) to implement the JENESYS program, under which various programs were outlined. The “East Asia Future Leaders Program” series, along with other JENESYS programs, has been organized by the Japan Foundation, with the aim of promoting cultural-exchange activities among youths in various fields.

JENESYS East Asia Future Leaders Program

The East Asia Future Leaders Program is one of the JENESYS short-term exchange schemes, and it specifically targets young intellectuals and practitioners of particular activities up to 35 years of age. Each program focuses on a specific theme and emphasizes a series of discussions on thematic issues common to the region, and interaction with Japanese experts and citizens with specific backgrounds. Promising youths from the relevant fields with the related expertise visit Tokyo and other localities, sharing every moment of the study-tour program together and nurturing a bond among the members.

In the fourth year (2010/2011) of the JENESYS East Asia Future Leaders program, the “Food and Agriculture Group” was implemented as one of the five batches of the year for the period of June 9th – June 20th, 2011.

2. Background and Concept of Food and Agriculture

In the midst of internationalization and deregulation of trade through agreements such as the FTA, EPA, and TPP, questions arise concerning agricultural policies in the 21st century. With this in mind, the program addressed current issues surrounding food and agriculture for those with a strong interest in the topic in the East Asian economic region.

Various modernization policies from the previous era, including improved systemization of the agricultural and fishing industries on a mass production and mass consumption scale, as well as increased distribution efficiency across larger areas, have increased stability and made a variety of farm products obtainable at low prices.

As a result, whether directly or indirectly, food and agriculture-related industries have developed tremendously, and both producers and consumers have been given the means to lead richer lives. Meanwhile, a number of agricultural management styles and methods aimed at producing diverse products on a small scale have also arisen to address health and environmental concerns, many of them based on local production and consumption (reducing food mileage), organic farming, and cyclic agriculture designs, etc. This has led to an attractive new market (called LOHAS), in which high-value-added products, such as safer and more nutritious foods, are sold. With these various agricultural styles and consumer demands in mind, what needs to be determined is exactly how agriculture can and should be carried out so as to be socially acceptable, economically achievable, and environmentally friendly for us now living in this age of globalization.

In this program, young participants interested in issues pertaining to food and agriculture were invited from East Asia to study and share their views on the situation and future direction of agriculture in the East Asian region, including Japan. Set in Hokkaido, a classic example where agriculture is the key industry, and focusing on dairy and vegetable farming, participants observed and engaged in exchange activities with those in the agricultural field, its administration, institutions, and businesses. They discussed the potential of agriculture for the 21st century after viewing its multilateral values and functions from a number of different economic, social, and environmental perspectives. This program aims to promote solidarity and friendly relations among the participants through discussions on the ideal path for agriculture in society, so that those who live in the same region can achieve mutual happiness and share in its bounty.

3. Map of Japan: Place visited



4. Program Schedule

Date	Activity
6/9 (Thu.)	Arrival Arrival
6/10 (Fri.)	Orientation and Lecture by MAFF Program Orientation :About the Programme, the Japan Foundation, Japan, and Schedule Lecture: Ministry of Agriculture, Forestry and Fisheries about “Agricultural Policy and Internationalization Strategies” by Mr. KITAGAWA Welcome Reception
6/11 (Sat.)	Keynote Lecture and Participants’ Presentation Keynote Lecture by Program Advisor, Prof. ASAOKA , Tokyo University of Agriculture and Technology about “Japanese Agriculture: History and Today’s Situation” Participants’ Presentation & Sharing
6/12 (Sun.)	Transfer (from Tokyo to Hokkaido) and Sight Seeing Transfer: Tokyo→Hokkaido Sight Seeing: Okhotsk Ryu-hyo (drift ice) Museum
6/13 (Mon)	Kunneppu Visit (administration, cooperative association, research institution and producers) and Japanese Inn Experience Courtesy Visit: Kunneppu Town Conclusive Lecture: Mayor KIKUCHI about “Community Design Based on Agriculture in Kunneppu” Lecture: Agricultural Cooperative Association KITAMIRAI about “Roles and Activities of the organization - Farming Guidance & Planning, Developing and Marketing-” by Mr. KAWAHARA Lecture: Kitami Agricultural Experiment Station about “Hokkaido Agriculture and Roles and Technical Support by the organization” by Mr. SHINADA Site Visit: Vegetable Farmers (Potatoes - Mr. MINAMI and Onions - Mr. YAMAMOTO) Transfer: Kunneppu→Lake Akan Experience: Japanese Style Inn
6/14 (Tue.)	Cultural Experience, Transfer and Overall Briefing about the Konsen Area (Betsukai and Nakashibetsu) Sight Seeing & Cultural Experience: Lake Akan Site Seeing Boat & Ainu Traditional Dance Transfer: Lake Akan→Betsukai Lecture: Hokkaido Government Nemuro Agricultural Extension Center & Agricultural Cooperative Association DOTO ASAHI about “Agriculture in Nemuro Region and Roles and Activities of the organization in the Area” by Mr. SAKAGUCHI
6/15 (Wed.)	Mitomo Dairy Farm Visit and Workshop on Sustainable Agriculture Site Visit: Mitomo Dairy Farm with Assoc. Prof. Nomura, Hokkaido University of Education Kushiro Campus Discussion with My Pace Farming Exchange Farmers
6/16 (Thu.)	Notsuke Visit (Betsukai Fishery and Environment Impact on Betsukai) and Farm Stay Experience Lecture: Notsuke Fisheries Cooperative Association about “Fisheries in Betsukai Area and their Planting Activities” by Mr. YAMAZAKI Experience: Planting Sight Seeing: Notsuke Peninsula Sightseeing Boat and Todowara Walk Host Family Meeting Experience: Farm Stay
6/17 (Fri.)	My Pace Farming Exchange Exchange: My Pace Farming Exchange at Moritaka Dairy Farm Observation: View of Large-Scale Stock Farm Village
6/18 (Sat.)	Conclusive Presentation, Farewell Exchange and Transfer Observation & Briefing: Konsen Agricultural Experiment Station about “Experimental Research on Dairy Farming” by Mr. SAIGUSA Final Presentation Farewell Exchange Party Transfer: Hokkaido→Tokyo
6/19 (Sun.)	1 day Tokyo Tour (Traditional and Most Advanced) with Japanese Cultural Experience Cultural Experience & Tokyo Tour (Tea Ceremony, Hamarikyū Garden) Optional Tour (Odaiba and Panasonic Center) Farewell Dinner
6/20 (Mon.)	Departure Departure

5. Program Schedule in Japanese: プログラム日程表 (和文)

日付	行程	訪問地
6月9日(木)	集合：各国から羽田／成田空港へ	東京
6月10日(金)	オリエンテーション、農林水産省 オリエンテーション オリエンテーション・ネイチャーゲーム 講義：農林水産省 北川課長補佐 歓迎レセプション	東京
6月11日(土)	基調講演、参加者発表 基調講演：東京農工大学 朝岡先生 参加者プレゼンテーション	東京
6月12日(日)	移動（東京から北海道へ） 移動：羽田から女満別へ 観光：オホーツク流水館 観光：メルヘンの丘	北見
6月13日(月)	行政、農協、研究、生産者から見る訓子府まちづくり 表敬・講義：菊池町長 講義：きたみらい農協 河原部長 昼食交流会 講義：北見農業試験場 品田場長 視察：馬鈴薯生産者 南さん 視察：玉ねぎ生産者 山本さん 移動：訓子府から阿寒湖へ	訓子府
6月14日(火)	別海概要学習と大規模酪農視察 観光：阿寒湖遊覧船 観光：阿寒湖アイヌコタン古式舞踊見学 講義：根室農業改良普及センター・JA道東あさひ	阿寒湖・別海
6月15日(水)	持続可能な農業についてのワークショップ 視察：三友牧場 ワークショップ 野村先生	中標津
6月16日(木)	別海漁業と環境的観点から見る別海とファームステイ 講義・植樹体験：野付漁業協同組合 野付半島観光船、とどわら散策 ホストファミリー対面式 体験：ファームステイ・搾乳作業 ファームステイ	別海
6月17日(金)	マイペース酪農交流会 交流：マイペース酪農交流会 交流：マイペース酪農交流会・昼食 見学：大酪農場見下ろし 観光：開陽台見学	別海
6月18日(土)	包括プレゼンテーションと交流 視察：農業試験場 三枝研究主幹 包括プレゼンテーション 送別昼食交流会 移動：中標津から羽田へ	中標津
6月19日(日)	都内視察・日本文化体験 観光・体験：茶道体験、浜離宮 自由行動／お台場最先端科学・技術コース 歓送夕食会	東京
6月20日(月)	解散：羽田／成田空港から各国へ	

6. List of Participants: 参加者リスト（和文併記）

Total of 26 participants were carefully chosen from 14 countries. They are from Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, Vietnam, India, Australia, People's Republic of China, Republic of Korea, and Japan.

Brunei / ブルネイ

Siti Maralini Binti Haji Aliamat (Ms.)

Junior Agriculture Assistant

Agriculture and Agri-food Department, Ministry of Industry and Primary Resources

シティ・マラリニ・ビンティ・ハジ・アィアマット

下級農業補佐官

産業一次資源省農業食料局



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Junior Agriculture Assistant

Agriculture and Agri-food Department, Ministry of Industry and Primary Resources

アズリナ・ビンティ・モハマッド・アリ

下級農業補佐官

産業一次資源省農業食料局



Cambodia / カンボジア

Sreng Rithy (Mr.)

Official

Ministry of Agriculture

スレン・リティ

事務官

農業省



Chea Vannarith (Mr.)

Chief of Administration

Ministry of Water Resource and Meteorology

チェア・ヴァンナリット

官房責任者

水資源・気象省



Indonesia / インドネシア

Ratu Putri Ramanti (Ms.)

Technical Officer

Center for International Cooperation, Indonesia Ministry of Agriculture

ラトゥ・プトゥリ・ラマンティ

テクニカル・オフィサー

農業省国際協力センター



Sudirman (Mr.)

Program Coordinator

BAPPEDA, West Nusa Tenggara Province

スディルマン

プログラム・コーディネーター

地方開発企画庁、西ヌサ・トゥンガラ州



Laos / ラオス

Pany Vanmanivong (Ms.)

Integrated Community Development Project Team Leader (ICDP)

Non-profit Association for Rural Mobilisation and Improvement (NORMAI)

パーニー・ヴァンマニヴォン

総合コミュニティー開発プロジェクト・チームリーダー

NPO法人NORMAI



Bouthsakhone Inthalangsee (Mr.)

Technical Officer

Ministry of Agriculture and Forestry

ブッタサコーン・インタランシー

技術事務官（公務員）

ラオス農林省（農業局）



Malaysia / マレーシア

Wan Mohammad Zukarnain Bin Baharudin (Mr.)

Agriculture Officer

Department of Agriculture

ワン・モハマド・ズカルナイン・ビン・バハルディン

職員

農業省



Syed Zulkifli Bin Syed Zainulabidin (Dr.)

Farm manager/Veterinary doctor

Department of Veterinary Services

サイド・ズルキフリ・ビン・サイド・ザイヌラビディン

農園マネージャー、獣医師

農業省



Myanmar / ミャンマー**Naw Diana Htoo (Ms.)**

Managing Director

Kainnari Food Industries & Myanmar Dairy Industries Ltd

ナウ・ダイアナ・トゥ

管理課長

カインナリ食料産業&ミャンマー乳産業

**Tin Tun Oo (Mr.)**

Farm Manager

Myanmar Livestock Federation

ティン・トゥ・ウー

牧場マネージャー

ミャンマー畜産協会

**Philippines / フィリピン****Johnny Tiwatiw Masiong (Mr.)**

Member

La Trinidad Organic Practitioners Multi-Purpose Cooperative (La Top MPC)

ジョニー・ティワティウ・マシオン

メンバー

ラ・トリニダード・オーガニック多目的組合

**Lily Dangla Jamias (Ms.)**

Forester

Cordillera Green Network

リリー・ダンガラ・ジャミアス

森林監督官

コーデリエラ・グリーン・ネットワーク

**Thailand / タイ****Nakorn Limpacuptathavon (Mr.)**

Academician, Activist

Suan Nguen Mee Ma Company (Garden of Fruition)

ナコーン・リンパクッパターウォン

研究者、社会活動家

ガーデン・オブ・フルーイション

**Yavittha Phitakwatchara (Ms.)**

Researcher

Healthy Public Policy Foundation

ヤウイッター・ピタックワチャラ

研究者

ヘルシー・パブリック・ポリシー・ファンデーション



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Programme Officer

Centre for Sustainable Rural Development (SRD)

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チャン・ティ・トゥ・フオン

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ハノイ農業大学大学院



India／インド

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ハルシュ・バルダン

州プログラム従業員

国連開発計画



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Vishwasree Nakka (Ms.)

Young Professional - Community Managed Sustainable Agriculture

Society for Elimination of Rural Poverty

ヴィシュワスリ・ボガ

専門家

ソサイアティ・フォー・エリミネーション・オブ・ルーラル・ポヴァティ



Australia／オーストラリア

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Agricultural Consultant

Private Consultant contracted to the Department of Agriculture and Food Western Australia

ケリー・ロビン・ゲスト

農業コンサルタント

西オーストラリア州農業・食料省コンサルタント



People's Republic of China / 中国**Junfeng Wang / 王俊洋 (Mr.)**

Vice Director (Policy Research Division)
China Center for Urban Development

ワン ジュンフォン

副主任 (副部長)

国家發展和改革委員会 城市和小城鎮改革發展中心

**Republic of Korea / 韓国****Seyeon Park (Mr.)**

Researcher
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パク セヨン

研修員

韓国生命工学研究院

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Graduate Student
Graduate School of Agriculture, Tokyo University of Agriculture and Technology

酒井 佑輔

大学院生

東京農工大学大学院環境教育学研究室

**Asuka, Ishibashi (Ms.)**

Graduate Student
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石橋 明日香

大学院生

東京農工大学 農学府





Lecture Records

Program Advisor: プログラムアドバイザー

Dr. Yukihiro Asaoka

<Professional Experience>

- ・ Professor of Agricultural Research of the Graduate College of Tokyo University of Agriculture and Technology (Environmental Education)
- ・ Secretary-General of Japan Society for the Study of Adult and Community Education (JSSACE)
- ・ Doctor of Philosophy (Education)

<Education>

- ・ Master's Degree in Economics, Niigata University, Niigata
- ・ Doctor's Degree in Education, Hokkaido University, Hokkaido

<Personal history>

- ・ Born in 1959
- ・ Associate Professor of the Faculty of Agriculture, Tokyo University of Agriculture and Technology since 1995

<Outside University>

- ・ Member of the Social Education Board of the Tokyo Metropolitan Area, from 1998 through 2001
- ・ Chief editor of "Monthly Study of Adult and Community Education" published by Kokudoshu, 1998 through 2000
- ・ Executive Director of Japan Society for the Study of Adult and Community Education, 2001 through 2005
- ・ Secretary-General of the Association of Japan Environmental Education, 2005 through 2009



朝岡 幸彦（あさおか ゆきひろ）

国立大学法人・東京農工大学大学院 農学研究院 教授

1959年新潟県生まれ

- ・ 新潟大学法文学部経済学科 卒業
- ・ 北海道大学大学院 博士号取得（教育学）
- ・ 室蘭工業大学講師、同助教授、東京農工大学農学部助教授（准教授）を経て現職

<大学以外では>

- ・ 東京都社会教育委員、調布市社会教育委員、日本環境教育学会事務局長、国立市第四期基本構想審議委員会委員長、府中市総合計画審議会委員などを歴任。
- ・ 現在 日本社会教育学会事務局長（2009年から）、府中市環境審議会会長、府中市廃棄物削減等審議会会長ほか。

1. General Overview

“Significance of Knowing Potential for Another Way”

Using a Japanese word which means “strengths gained from defeat (*haibokuryoku*),” Shunsuke Tsurumi examines Japan and ways in which its people live after 3.11. In a way, in no other times were we urged to learn from failures and defeats so urgently than today. “Strengths are gained from defeat when one recognizes conditions in which one is defeated and when one determines ways to accept the defeat.” We often hear people say that you need to go through trials and errors in order to attain personal growth and that your experiences of failures and defeats will help you widen significantly your perspectives. Put differently, teaching of how to fail and to be defeated “correctly” is an essential part of education, in which learning is organized intentionally and systematically. On many occasions, we became aware of another way (option) because of a failure or defeat we had not experienced before until then.

In this program, we aimed to learn Japan’s failures. As the people of a nation, which we had believed to have attracted attention globally—from developing nations in particular—because of the rapid modernization we achieved since the Meiji era and because of the high economic growth we made after the Second World War, we are prone to overlook defeats we experienced in a period between before and after the war. Even China passed Japan in gross domestic product (GDP), we were still proud of ourselves for being the world’s third largest economy and in one way or the other we believed that growth is *the* evidence of success. True that evaluation would be different were it be the case that the agriculture, forestry, and fisheries industries had been destroyed and weakened intentionally under policy guidance, but otherwise, the reality is that Japan has obviously failed in the promotion of these industries long before the Great East Japan Earthquake hit the country.

We wanted the East Asia future leaders to learn many things from this failure of Japan. The structure of the program itself was well-balanced. We learned about modern issues of agriculture and agriculture policies in Japan from the standpoint of the administration of agriculture and forestry. On the following day, in the keynote address we intentionally focused our attention at failures and came to know that Japan had many occasions in the past to fulfill potential for the development of another type of agriculture. The site visit to Hokkaido to learn about agriculture there, a region, so to say, listed in a honor roll for successful agricultural regions in Japan, was arranged in such a way that allowed the participants to compare contradistinctive perspectives and undertakings by giving them opportunities to hear opinions both from people at an agriculture laboratory and from farmers and both from people practicing large-scale dairy farming and from people running “My Own Way” Dairy Farming.

The most important role expected of this program is to let the participants know that what is needed in today’s agriculture is not to simply imitate successful cases without giving a sufficient thought to it, but to never stop seeking better ways in the field you work without fearing failures. Educational and training events tend to place greater emphasis on success and disregard failure. Actually, however, you cannot learn many from successful cases because good examples are built on specific and particular conditions which cannot be imitated easily. The shortcut to becoming aware of potential for another way, a path different from the one we see now and then, must be to recognize conditions in which we fail and identify ways to accept the failure. It is my hope that the program has provided the participants with an opportunity to “unlearn.”

2. General Overview in Japanese: 総評（和文）

「もう一つの道」の可能性を学ぶことの意味

鶴見俊輔は「敗北力」という言葉で、3・11以降の日本と日本人の生き方を問うている。ある意味で、いまほど「失敗」や「敗北」から学ばなければならない時代はないのではないだろうか。「敗北力とは、どういう条件を満たすときに自分が敗北するのかの認識と、その敗北をどのように受けとめるのかの気構えから成る。」人が育つためには試行錯誤が必要であり、失敗や挫折の経験を経ることで大きく成長するという話をよく耳にする。見方を変えれば、意図的・系統的な学習を組織する「教育」という営みには、「正しい」失敗や負け方を教えることが不可欠であるとも言える。失敗や敗北することで、はじめて「もう一つの道（選択肢）」があったことに気づく場合も多い。

このプログラムで学ぶべきものは、日本の「失敗」であった。明治以降の急速な近代化と戦後の高度経済成長によって世界から（とりわけ発展途上国から）注目されてきたと信じた私たち日本人は、戦前と戦後の間の「敗北」を忘れがちである。GDPにおいて中国に抜かれたとはいえ、依然として世界第3位の経済大国であることを誇り、成長こそが「成功」の証であるところまでどこかで思い込んでいたところがある。しかし、東日本大震災を待つまでもなく、農林漁業の振興という意味では明らかに「失敗」しているのである。もっとも、意図的・政策的に農林漁業を破壊し、衰退させてきたのであれば評価は異なる。

東アジアの次世代リーダーには、この日本の「失敗」から多くを学んでもらう必要があった。プログラムそのものはバランスよく組み立てられているといえる。農林行政の立場から現代日本の農業及び農政の課題を聞いた後、あえて「失敗」という立場から「もう一つの農業」の発展の可能性が過去に何度もあったことを基調講演で学んだ。現地視察でも、日本農業の優等生とも言える北海道の農業について、農業試験場と農家、大規模酪農とマイペース酪農のように、それぞれ異なる視点と対応を比較できるようにしている。

このプログラムでもっとも重要なことは、安易に成功モデルを真似ることではなく、「失敗」を恐れずに絶えず現場で工夫し、模索する農業こそが、いま求められている農業であると気づくことである。教育や研修という場では、えてして「成功」を重視し、「失敗」を切り捨てようとする。しかし、実際には「成功」から多くを学ぶことはできない。よい実践にはそれを支える固有の条件があり、簡単には真似できないからである。「失敗」の条件とその受け止め方を知ることが、いまある現実とは異なる「もう一つの道」の可能性を学ぶ近道となるはずである。このプログラムが参加者にとって、unlearnの機会となったことを期待したい。

3. Keynote Lecture

[June 11th, 2011]

“An Ideal for Agriculture in the 21st Century” In pursuit of Education for Sustainable Agriculture (EfSA)

1. What we want to think about after the Great East Japan Earthquake on March 11

(1) From *Silent Spring* to Fukushima

A silent spring was indeed there when I visited Iitate Village in Fukushima Prefecture on May 7, 2011. As the season changed from static winter to dynamic spring, I looked beautiful trees and flowers in mountains and forests over the village, I saw tiny movements of insects here and there, I heard birds singing, and I sensed animals around. I, however, did not see people, because they had kept themselves inside their house, nor did I see fields being cultivated. I wonder how we can describe a spring figuratively in which only humans remain silent. There I felt as if I saw another image of a world Carson had envisaged.

Can we really feel a sense of absurdity that the people in Iitate Village have when they have no choice but to leave their hometown, which looks just the same as that they had known for many years? The Parties of the Convention on Biological Diversity, in their 10th conference meeting (COP10 / So-called the UN summit on creatures on earth) in October of 2010, agreed on the Nagoya Protocol, an international rule on access to genetic resources of plants and animals used as ingredients of medicines, along with the Aichi Biodiversity Targets, a global target for the preservation of ecosystem. It seems that humans consider that nature belongs to them.

Humans also create many elements of nature that surrounds us in our everyday lives. The richness in nature we see in rice and other crop fields cannot be maintained without humans' involvement. As for mountains we see nearby, humans bring out the strong power of nature not only by thinning, pruning, and mowing but also by planting new seeds in every 20 to 30 years. We develop the waterside so substantially that we can hardly distinguish rivers from waterways. It would be more accurate to say that there are few parts of nature on the earth that see no human engagement.

(2) Sensibility that helps us picture people behind nature

People who are fond of experiencing nature enjoy seeing and interacting with plants and animals, which constitute nature, and are impressed when they see the beauty and wonderfulness of ecosystem sustained by those plants and animals. Humans too are part of nature and I have a strong sense of resistance to changing the structures of nature and destroying ecosystem in the sole benefit of humans. That said, humans' engagement in nature necessarily involves, in some way, influencing nature and changing its structures. The problem is that humans change the structures of nature so considerably as to deprive nature of its ability to bring itself back to original conditions and that they redefine a way life should be in a way that contradicts a way nature should be.

One cannot say a rural village is vibrant and affluent when one sees no agricultural products and domestic animals there. It is now almost 10,000 years since humans started agriculture and stockbreeding, during which they restructured plants and animals so that they serve as foods and means for living. *The Origin of Species* (1859) by Charles Darwin, a proposer of an evolution theory, starts with the chapter entitled Variation under Domestication, written based on the abundant knowledge Darwin gained on the effects of selections by humans. An ideal form of life has been engineered significantly by humans, on behalf of God and/or nature. White Leghorns—hens that provide us with eggs stably every day—are incapable of hatching eggs by warming them by themselves. Holstein cattle, collectively also known as a highly sophisticat-

ed milk plant, are capable of giving 8 to 20 ton milk per year, but they would suffer from garget if humans stop pumping milk twice a day.

In old days, Japanese people used to believe that foxes cheat humans. They, however, have no longer been cheated by foxes since 1965, according to Takashi Uchiyama. Uchiyama identified the following six phenomena observed in Japan's high economic growth era as reasons for that:

- (i) People lost a sense that their lives are maintained surrounded by things that are uneconomic.
- (ii) People came to deny things that cannot be explained scientifically as superstition and fraud.
- (iii) People started relying less on nature for information as telephones and televisions began to become popular.
- (iv) A form of wisdom that disregarded "correct" and "incorrect" answers started to fade as more people advanced into high schools and universities.
- (v) People lost a traditional sense of *jinen* (it being as it is), in which one's death and life were incorporated in nature and in a divine world connected with nature, where gods enshrined in Shintoism and Buddhism exist, and in village communities.
- (vi) Tree trimmings and plantings were conducted nationwide, taking spaces to live away from "old sly foxes that gain spiritual power through their long history of lives."

It can be said that the Japanese people became rich materialistically through a high economic growth at the expense of the sensibility that helped them deeply appreciate their beings being with nature. As Uchiyama says, "In those days, when humans were cheated by foxes, people sensed more strongly lives of creatures in mountains than we do today."

I would call this sense "an ability to be cheated by foxes." The ability is not necessarily unscientific nor is it irrational. Even today, it is not always the case that we relate all aspects of our daily living to economic (market) activities. We all know that there still are many things that cannot be explained fully if we were to rely only on dualistic theory or reductionism— characteristics of science method. Not a few people believe that their lives are given to them—as *jinen* or in nature—hoping to restore their engagement with nature. Perhaps we have not yet entirely lost the ability to be cheated by foxes but we are merely not making efforts to acknowledge the ability and sharpen the sense.

(3) What does it mean to "unlearn"?

Can we never ever regain the ability to be cheated by foxes, that is, the rich sensibility with which we become aware of our connection with nature? In today's world, rapidly integrated and standardized as a result of globalization, more and more people have started reconsidering significance of learning. Considering reading and writing as basic human rights, it is important that we respect everyone's efforts to lead a fulfilling life by gaining knowledge through education. At the same time, I am afraid that the very act of learning, conducted with the purpose of narrowing the gap in knowledge, conversely accelerates globalization, undermining social, cultural, and individual diversities and eliminating potential for another type of learning.

Tetsuya Motohashi translated into Japanese the word "unlearn," a concept by Gayatri Chakravorty Spivak, to mean "to learn and discard." His explanation is as follows. "By acknowledging that you have been able to learn and become aware of things—no matter what the things may be—because you are the privileged and that the knowledge itself constitutes privilege, and by recognizing that your privilege is also your loss, and further by learning that you have lost many things because of the privilege you have, [you need to] dissolve in your hands the privilege the knowledge represents." Kenzaburo Oe associated "unlearn" with "unlearn" and translated them to mean "to teach back" and "to learn back," respectively. Oe seemed to believe that the experiences of making mistakes, which are prone to be made when teaching something to somebody, of being told by somebody to whom you taught something that you had made a mistake and painstakingly correcting the mistake, and of being conversely encouraged by someone to whom you taught something all help people mature. Oe also cited an explanation by Shunsuke Tsurumi, who translated "unlearn" to mean "to decompose and learn." Tsurumi says, "Naturally you need to gain knowledge at university. Memorizing things alone is useless, however. You need to decompose things you have memorized and learn them back in order for them to be integrated with you."

In old days, the process of learning back and teaching back must have been taken for granted in local communities and there must have been many chances accordingly to decompose to learn. That was probably because education was not yet established independently as a social function and because knowledge was not yet dominated by a social device known as school. Now is the right time to reevaluate local communities' capacity for realizing the process of decomposition and learning.

2. Lessons we ought to learn from Japan's failures

(1) From Edo to Meiji eras

The Meiji Restoration (1868) is thought to be an important starting point for the Japanese society, in that it prompted the nation to modernize and to introduce a capitalist economy as an economic foundation of modernizing Japan. In most of the Edo era, which lasted about 240 years, Japan had been sustained by a socio-economic system built on the basis of intra-regional cycle developed as a result of national isolation policy. In that socio-economic system, village communities (*mura*), composed mainly of farmers called *hyakusho*, played an extremely important role. Creation of markets by way of dissolution of the village communities was a precondition for running a capitalist system nationwide throughout the society.

The Meiji government initially attempted to spread widely Western agriculture methods in order to break away from traditional labor-intensive agriculture. The attempt failed disastrously, however. The methods did not adapt to Japan's local climate and were completely different from the ones that Japanese farmers had been familiar with. It was simply impossible for such methods to take root easily in Japan. Subsequently, the government directed its attention at *rounou*—leaders of traditional agriculture methods. The government in a sense shifted the method of instruction on agriculture management from a top-down to bottom-up approach. The agriculture method thus devised is called the Meiji Agriculture Method.

Japan achieved an admirable economic growth after the beginning of the Meiji era (Figure 1).

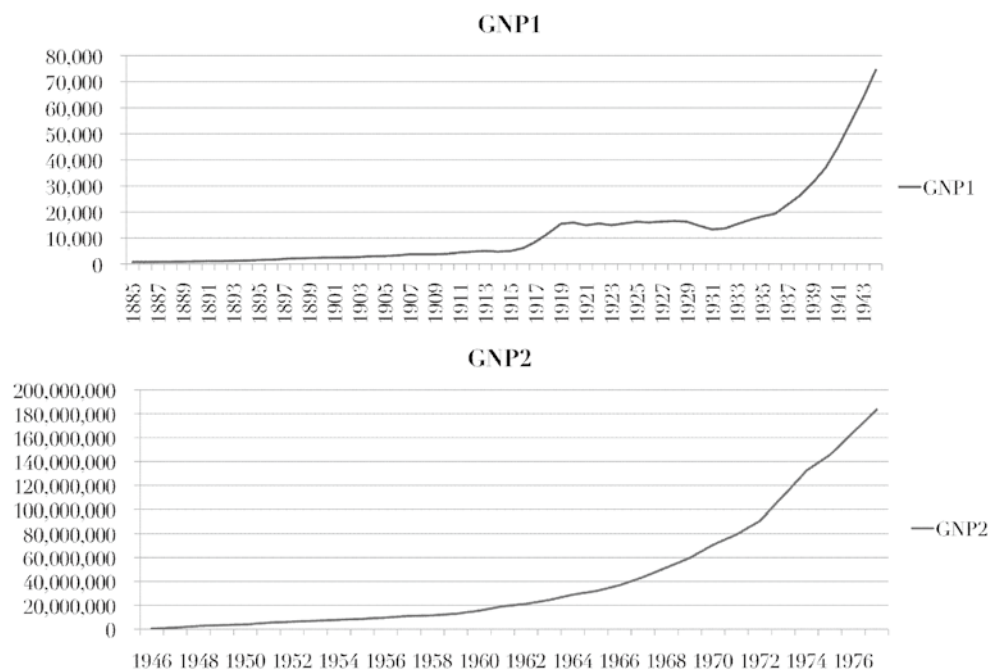


Figure 1. Japan's GNP in the post-war era

Japan's gross national product (GNP) gradually increased after the Shino-Japanese War of 1894 and rapidly from 1915 to 1919 due to the First World War. While GNP stagnated in the absence of special war demands from Europe and decreased following the Great Depression of 1929, this trend reversed in 1931, the year of the Manchurian Incident, and Ja-

pan's GNP soared again with demands from full-fledged wars with nations such as China, the United States, and the United Kingdom (the Shino-Japanese War of 1937 and the Pacific War of 1941). The devastating destruction of Japan's mainland, inflicted by the Pacific War in its last stage, however, prevented Japan from restoring a scale of economy to the level it enjoyed in the 1930s, and this situation had lasted in the post-war period until around 1955. Japan's rapid economic growth resumed with special demands from the Korean War, and with the announcement of the Income Doubling Plan in 1960, Japan entered a high economic growth era. The era continued until 1973.

(2) Potential for post-war agriculture methods (autonomous development of agriculture) in the 1950s

Defeated in the Second World War, Japan saw new potential for its agriculture development. General Headquarters Office (GHQ), which ruled Japan after the war, ordered in 1947 that the Japanese government liberate (reform) farmlands in order to dismantle the parasitic landlordism. The government in response purchased landowners' farmlands at low prices and sold them to farmers who had previously been engaged in cultivation of a farmland owned by a landowner, creating in the 1950s a foundation for the development of a new type of agriculture. Potential for post-war agriculture methods substituting the Meiji Agriculture Method can be said to be apparent in: (a) management of agriculture led by strongly motivated landed farmers; (b) democratization of agriculture villages signified in social education through such means as the villages' youth groups and women's associations; and (c) introduction of a series of small machines, representatively cultivators.

Agriculture, forestry, and fisheries industries were obviously one of the industries that were dominant in the Japanese society since the Meiji era to the 1950s (Figure 2).

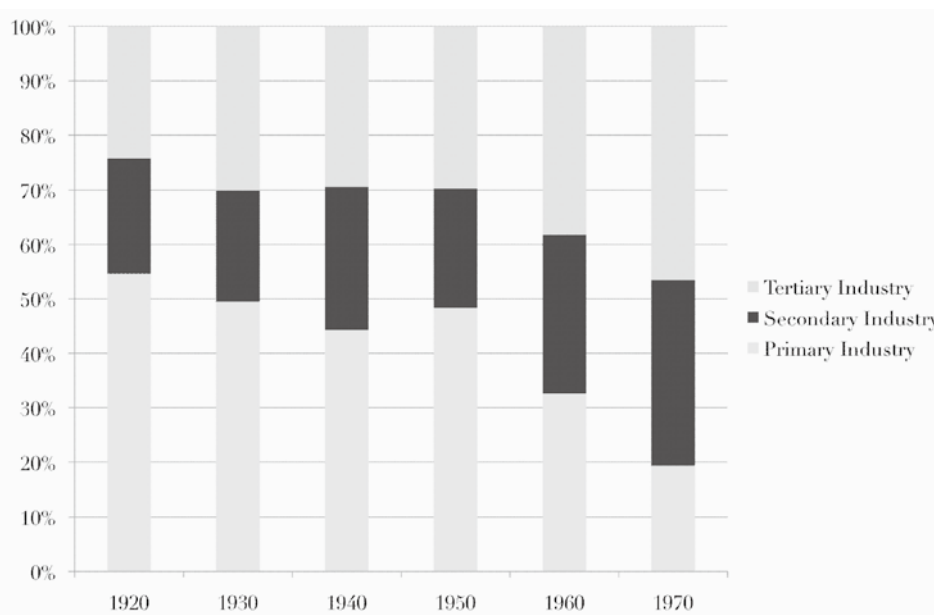


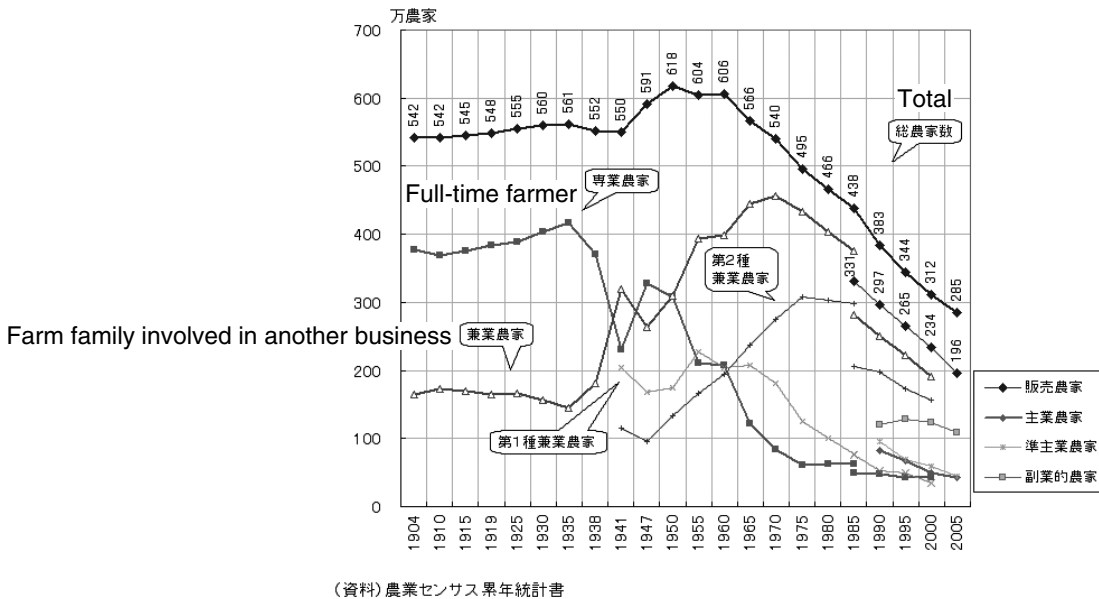
Figure 2. Changes in the industrial structure in the Japanese society

The rate of the primary industry stood around 50% until the 1960s, or more precisely, until the last years of the 1950s, when the rate started declining rapidly. It seems that a high growth of economy, together with industrial (and agriculture) policies supporting the economic growth, undermined foundations for the autonomous development of agriculture in Japan, scrapping the potential for post-war agriculture methods.

(3) Agriculture policies in and after the high economic growth era

While advancing high economic growth policies, the Japanese government promoted, under the Agricultural Basic Act (1961), policies aimed at modernization of agriculture (These policies therefore are called the Basic Act Agriculture Policies). Projects were carried out in many agriculture villages so as to reinforce structures of agriculture, including campaigns to ensure that medium- and large-scale agriculture machines are used universally and development of agriculture fields, and by extension, the government encouraged through policies acreage reduction and crop changeover. As a result, a solid

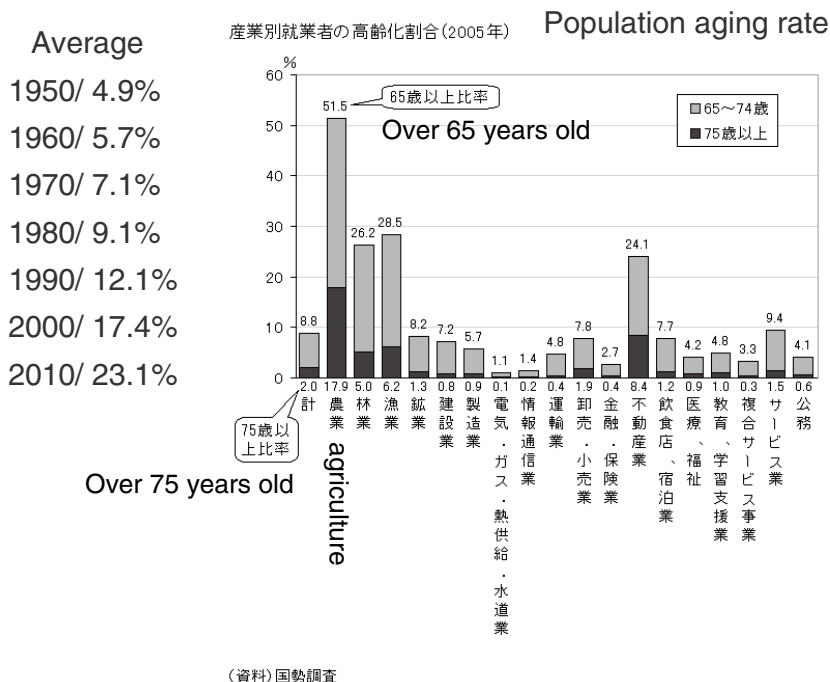
decline in a total number of farm families started in 1960: There were 6.06 million farm families in 1960 but the number dropped by 53% to 2.85 million in 2005 (Figure 3).



(資料) 農業センサス累年統計書

Figure 3. Changes in a total number of farm families

The number of farm families involved in another business, which had kept increasing despite the decline in the number of full-time farmers, also began to decrease after it peaked in 1970, and thus shrinkage and aging of population of rural communities were accelerated significantly. According to industry-specific aging rates calculated based on a FY2005 census, the rate of old workers in the agriculture industry aged over 65 years old was 51.5% (the rate of those aged over 75 years old was 17.9%). This is more than double the rate of old people aged over 65 years old in a total population, which was 23.1% (FY2010). From these figures, we can say clearly that the agriculture industry is aging faster than other industries (Figure 4).



(資料) 国勢調査

Figure 4. Aging rate by industry

Japan's reliance on imports for foods was increasingly strengthened against the backdrop of the decreasing number of farm families and shrinking and aging population of rural communities (Figure 5).

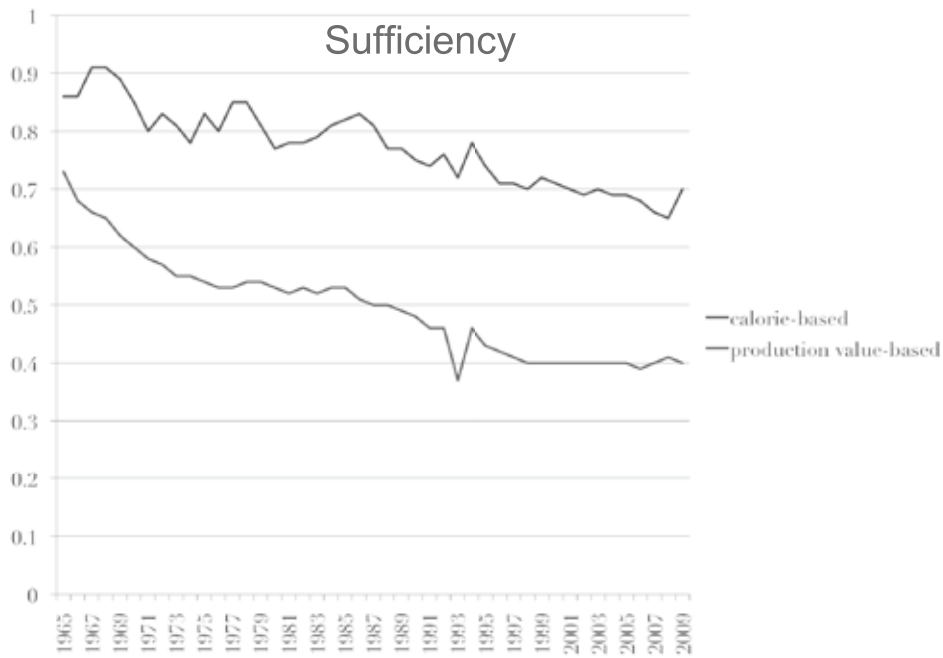


Figure 5. Japan's food self-sufficiency rate

Japan's calorie-based food self-sufficiency rate, which was more than 70% in 1965, dropped to around 40% in 2009.

With the abolition of the Agricultural Basic Act and the establishment of the Food, Agriculture and Rural Areas Basic Act (2009), the Japanese government has reevaluated the value of multifaceted functions of farmlands and agriculture and has been trying to shift its agriculture policies to those that take into account land preservation functions (preservation of the environment). At the same time, the government is still seeking ways (i.e. export-driven agriculture) to enhance international competitiveness of agriculture so that it may survive globalization and they have been proactive in terms of the Trans-Pacific Partnership (TPP), economic partnership agreements (EPAs), and free trade agreements (FTAs). The government must bear in mind, however, a strong sense of anxiety and resistance that people in the agriculture, forestry, and fisheries industries harbor against trade liberalization, and also a stronger demand among consumers in Japan for safer and more reassuring agricultural products. It will take long before reconstruction from the Great East Japan Earthquake completes and the nuclear power plant accident is contained. Because of that, Japan's policymakers are made to make increasingly difficult decisions for the agriculture, forestry, and fisheries industries.

The situation being as difficult as it is, moves seeking another type of agriculture, different from a large-scale agriculture the government is trying to achieve through agriculture modernization policies and subsidized projects, have been attracting wider attention. I would call farmers engaged in this different type of agriculture "professional farmers" and expect them to play a role as today's *rounou* (leaders of traditional agriculture methods).

3. What milk and cheese can teach us

Raw milk is one of few agricultural products in Japan whose self-sufficiency rates reach almost 100%. I would like you to read *Gyunyū to Chiizu ga Oshieru Mono* (What Milk and Cheese Can Teach Us) in *Shokuiku no Chikara* (The Power of Food Education) that I and my colleague wrote (Kouseikan, 2010) and learn how a method of "My Own Way" Dairy Farming is carried out and know in detail ways in which professional farmers engage in agriculture and live their lives.

Education for Sustainable Agriculture (EfSA) can never be realized in a top-down approach. It is not as simple as just imitating practices of successful farmers either. If I were to say, it is about helping famers think independently and act on their initiatives. It is about creating mechanisms to support diversity in their thinking and lifestyle and allow them a process of trials and errors. Ways in which agriculture survives the era of globalization are something to be “unlearned,” not to be “learned.” It is my hope that perspectives of EfSA as an agriculture policy and as a new form of agriculture education will further be expanded as we move forward toward the future.

4. Keynote Lecture in Japanese: 基調講演 (和文)

平成23年6月11日

21世紀型の農業の在り方 ～ EfSA (Education for Sustainable Agriculture) への模索

1. 東日本大震災 (3・11) から私たちが考えたいこと…。

(1) 「沈黙の春」から「フクシマ」へ

2011年5月7日、福島県飯館村の春は、確かに沈黙していた。「山笑う」季節に里山の木々や草花は美しく、虫は蠢き、鳥はさえずり、けものたちの気配も感じる。しかし、人々は家に引き籠り、田畑も手入れされていない。人のみが「沈黙」した春を、私たちはどのように表現すればよいのだろうか。ここには、カーソンが描いた世界の「もう一つの姿」があるように思われる。

しかし、見た目には何の不自然さもない故郷を後にせざるをえない飯館村の人々が感じる不条理を、私たちは「分かち合う」ことができるのだろうか。昨年10月に開かれた生物多様性条約第10回締約国会議 (国連地球生きもの会議/COP10) では、医薬品のもとになる動植物などの遺伝資源の利用について定める国際ルール「名古屋議定書」が、生態系保全の世界目標である「愛知ターゲット」とともに合意された。つまり、人は自然を「自分のもの」と考えているのである。

また、私たちがふだんにする自然の多くは、「人がつくりだしたもの」である。田んぼや畑の豊かな自然は、人の働きかけなしには維持できない。身近な山としての里山も、間伐や枝打ち、下草刈りなどにとどまらず、20～30年サイクルの萌芽更新によって高い自然の力を引き出してきた。河川と水路の区別がつかないほど、私たちは水辺に手を加えている。この地球には、いま人と関わりのない自然はほとんどないと考えた方がよい。

(2) 自然の向こうにいる人を想像する感性

自然が好きなのは、自然を構成する動植物との触れ合いを楽しみ、それらが生み出す生態系の妙に感動する。人も自然の一部であり、もっぱら人の都合だけで自然をつくりかえ、生態系を破壊することに強い抵抗感を感じる。とはいえ、人が自然と関わり合うということは、何らかの形で自然に働きかけ、自然をつくりかえることを伴うのである。問題は、自然がその復元力を発揮できないほどに大きくつくりかえ、自然の本来のあり方とは異なる生命のあり方に置き換えていることなのであろう。

豊かな農山村の風景には、農作物や家畜が不可欠である。人が農耕や牧畜をはじめてから、ほぼ一万年の歳月がたっている。その間に、人は食糧として、生活の手段として動植物を大きくつくりかえてきた。進化論を提唱したダーウィンの『種の起源』(1859年)は、「飼育栽培下における変異」から書き始められており、人による「選抜」の効果から多くを学んでいる。神や自然に代わって、人が生命のあり方に大きく手を加えてきたのである。私たちに毎日、安定的に卵を供給している白色レグホンというニワトリには、自ら卵を温めてかえす能力がない。「高性能のミルク工場」と呼ばれるホルスタインという乳牛は年間8トンから20トンのミルクを生み出すものの、人が日に2回の搾乳を怠ると乳房炎を起こしてしまう。

かつて日本人は、「キツネに騙される」と思い込んでいた。内山節は、1965年を境に日本人がキツネに騙さ

れなくなると述べて、その理由を6点に整理している。高度経済成長期に、①「非経済的なものに包まれて自分たちは生命を維持しているという感覚」を失ってしまった、②科学的に説明のつかないことを「迷信」「まやかし」として否定するようになってしまった、③電話とテレビの普及によって自然からの情報を読むという行為が衰退しはじめた、④高校・大学への進学率が上昇して「正解」も「誤り」もなく成立していた「知」が弱体化していった、⑤個人の生と死を自然やそれと結ばれた神仏の世界、村の共同体が包んでいた伝統的な「ジネン」の感覚を失った、⑥日本各地で伐採と植林が行われて「齢を重ねて霊力を身につけた老獪なキツネ」が暮らせなくなった、ためだそうである。私たちは高度経済成長を経て「経済的な豊かさ」を手に入れたことで、自然とともにあるという「豊かな感性」を失ってしまったとみることができる。まさに「人間たちがキツネにだまされていた時代には、人々はいまよりもっと多くの生命を山の世界に感じていた」(内山節) ののである。

これを「キツネに騙される力」と呼びたい。しかし、この力は決して非科学的で不合理なものであるとは限らない。いまでも私たちは生活のすべてを経済的(市場的)な関係に委ねているわけではなく、科学的方法の特性である二元論や要素還元主義だけでは解明しきれない領域が多くあることを知っている。また、自然との関わりを回復したいと思い、ジネン(自然)の中で「生かされている」と考える人も少なくない。つまり、私たちは「キツネにだまされる力」を全く失ったのではなく、その能力に意義を見出して、その感覚を研ぎすまそうと努力していないのではないだろうか。

(3) 「学びほぐす (unlearn)」 ことの意味

自然と人との「つながり」を意識できる「豊かな」感性としての「キツネに騙される力」を、私たちは二度と取り戻すことができないのだろうか。グローバリゼーションのもとで急速に一体化・画一化しつつある世界の中で、私たちが「学ぶ」ことの意味が問い直されはじめている。読み書きを人としての基本的な権利と考え、すべての人が教育を通して充実した人生を送ろうとする努力は尊重されなければならない。ところが、その格差を埋めようとする「学び」がグローバリゼーションをよりいっそう進め、社会や文化、人の生き方の多様性や「もう一つの学び」の可能性を奪っているのではないか、という疑念がある。

スピヴァックの「unlearn」という概念を「学び捨てる」と翻訳した本橋徹也は、「あらゆることに関して自分が学び知ってきたことは自らの特権のおかげであり、またその知識自体が特権であることを認めること。そのことと同時に、それが自らの損失でもあると認識し、特権によって自分が失ったものも多くあることを知ることで、その知の特権を自分で解体する」必要があると説明している。大江健三郎も「unlearn」という言葉を「unteach」と組み合わせ、「学び返す」「教え返す」と翻訳する。大江は、「他の人間に教えることにありがちな過ちをおかすこと」「教えた相手から過ちを指摘されて、苦しく自己修正すること」「教えた相手から逆に励まされるということ」の経験が、人を「成熟」させると考えているようだ。さらに大江は、鶴見俊輔が「unlearn」を「まなびほぐす」と翻訳し、「大学で学ぶ知識はむろん必要だ。しかし覚えただけでは役に立たない。それをまなびほぐしたものが血となり肉となる」と説明することも紹介している。

かつて地域社会では「学び返し」「教え返す」ことが当たり前であり、それだけ「まなびほぐす」チャンスも多かったにちがいない。それは教育が社会的機能として十分に自立しておらず、学校という社会装置が知を独占していなかったからであろう。いまこそ地域がもつ「学びほぐす」力が再評価されなければならない。

2. 日本の「失敗」から何を学ぶべきなのか

(1) 江戸から明治へ

日本の社会にとって、明治維新(1868年)は国家の近代化とその経済的基盤としての資本主義経済の導入に

向けた重要な出発点であったと考えられる。約240年間にわたる江戸時代は、そのほとんどの時期を鎖国政策によって域内循環を基礎とした社会経済システムで支えられていた。その中でも、「百姓」と呼ばれた農民を中心とした村落共同体（ムラ）の役割が極めて大きかった。国家・社会の資本主義化は、この村落共同体の解体による市場の創出を前提とするものである。

それまでの労働集約的な農業のあり方を転換するために、明治政府は当初、欧米型の農法の導入を積極的に進めようとした。しかし、この試みは見事に「失敗」と言わざるをえない。日本の風土に適さず、農民が慣れ親しんできた農法とまったく異なる農業のやり方が簡単に根づくはずはなかったのである。そこで、明治政府は「老農」と呼ばれる在来農法の指導者たちに注目することにした。ある意味で、トップダウン型の営農指導をボトムアップ型の営農指導に切り替えたのである。こうした生まれた農法は「明治農法」と呼ばれている。

明治以降の日本の経済成長には目をみはるものがあった（図1）。

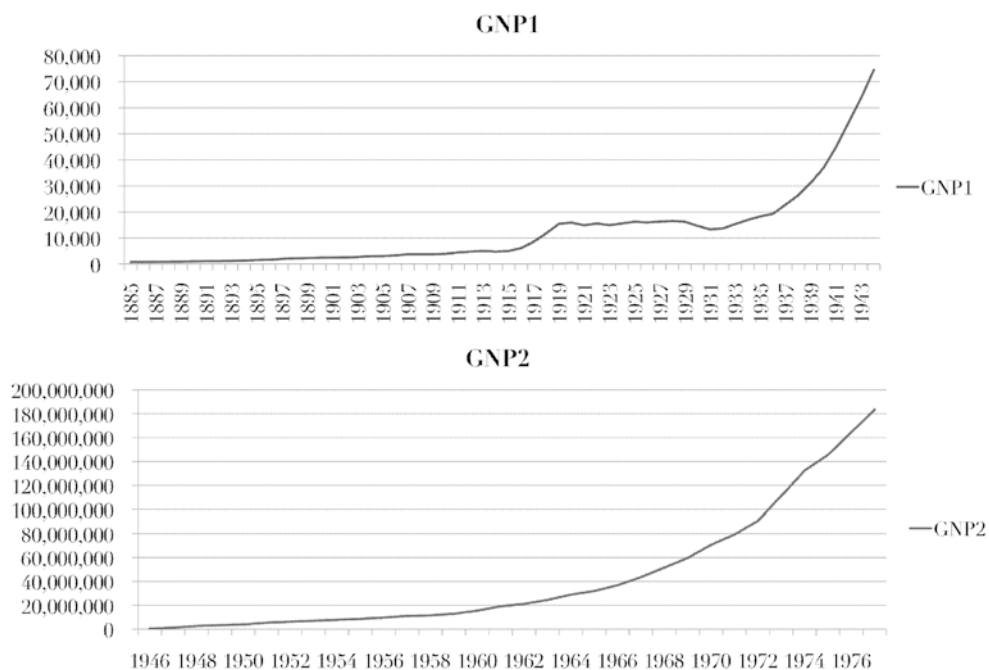


図1 戦後日本のGNP

GNP（国民総生産）の変化を見ると、1894年（日清戦争）以降、次第に伸び始めて、1915年から1919年にかけて第1次世界大戦によって「急増」した。ヨーロッパからの戦争特需がなくなった後に「停滞」期に入り、1929年の世界恐慌によってGNPは減少するが、1931年の満州事変を契機に日本は中国やアメリカ・イギリス等との本格的な戦争（1937年からは日中戦争、1941年からは太平洋戦争）に突入することでGNPは軍需を中心に再び急増した。しかしながら、太平洋戦争末期の日本本土の壊滅的な破壊によって、戦後日本は1955年頃まで1930年代の経済規模を回復することはできなかった。その後、朝鮮戦争による特需を契機に再び急速な経済成長が始まり、1960年の「国民所得倍增計画」の登場によって1973年まで「高度経済成長期」を迎える。

(2) 1950年代の「戦後農法（農業の内発的発展）」の可能性

第2次世界大戦の敗戦によって、日本農業は新たな展開の可能性が生まれた。戦後日本を占領下に置いた

GHP（連合国軍最高司令官総司令部）は、1947年に寄生地主制の解体を目的とした農地解放（農地改革）を日本政府に指令した。日本政府は地主の保有する農地を安値で買取り、耕作していた農民たちに払い下げた。その結果、1950年代には新しい農業の発展基盤が生まれていた。①「自作農」を基盤とした高い営農意欲に支えられた農業経営。②農村社会教育（青年団、婦人会等）に象徴される農村の民主化。③耕運機に代表される小型機械化体系の登場。ここに、「明治農法」に代わる「戦後農法」の可能性が生まれていたと見ることができる。

明治以降、1950年代までの日本社会の産業の一つは、明らかに農林漁業であった（図2）。

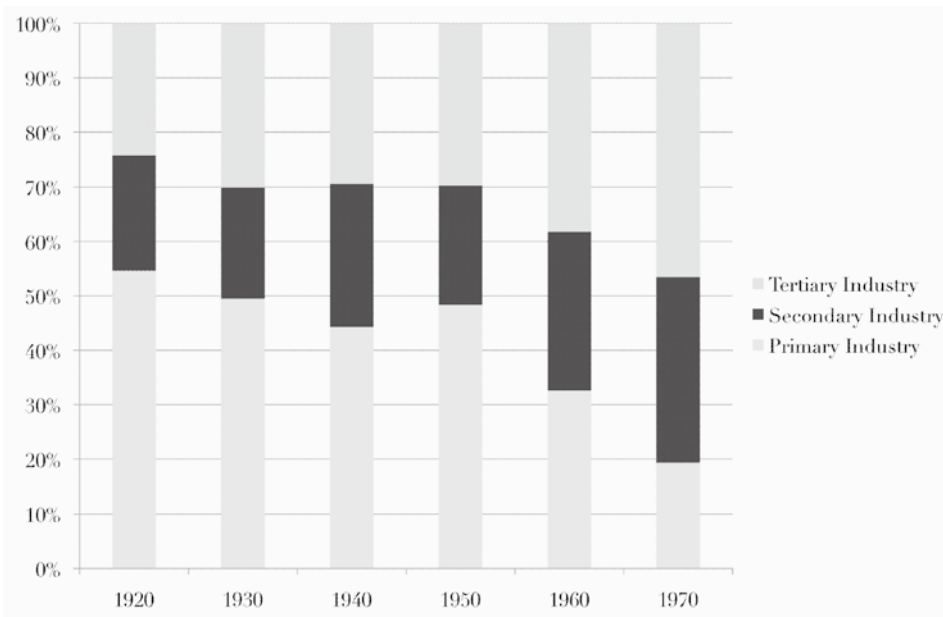
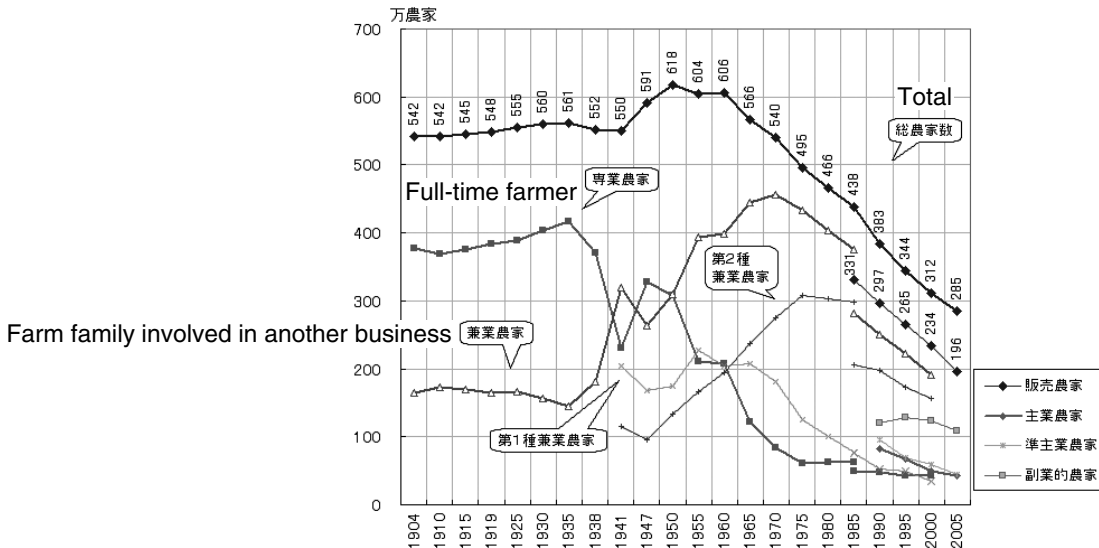


図2 日本社会の産業構造の変化

第1産業従事者の割合はほぼ50%を維持しており、この割合が急速に減り始めるのは1960年代（より正確には1950年代の終わり）以降のことである。いわゆる高度経済成長とそれを支える産業政策（農業政策も）が、日本農業の内発的発展の基盤を掘り崩し、「戦後農法」の可能性をつぶしてしまったと考えることができる。

(3) 高度経済成長期以降の農業政策

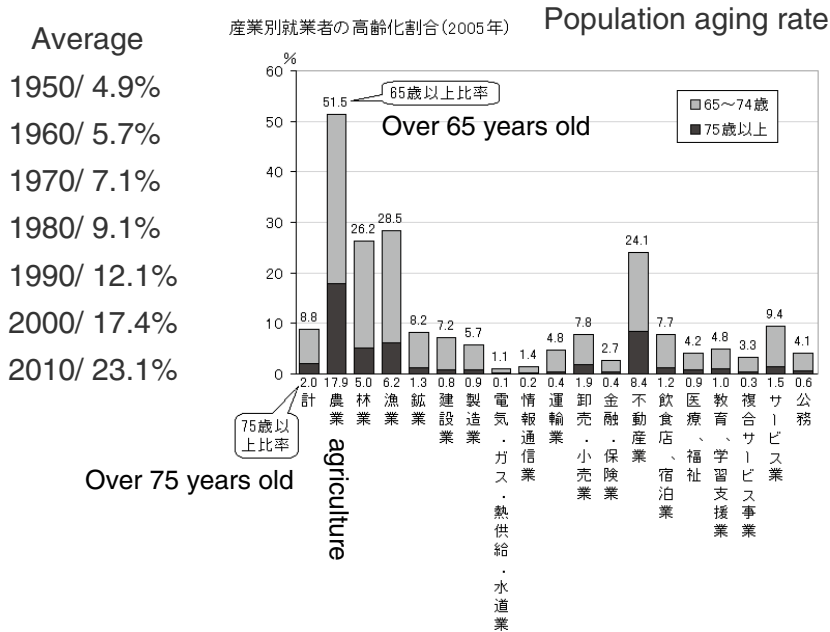
高度経済成長政策のもとで農業基本法（1961年）を中心とした農業近代化政策、いわゆる「基本法農政」が進められた。農業構造改善事業（中大型機械化一貫体系、圃場整備事業など）が農村に広く導入され、その延長上に減反・転作政策が位置づけられた。その結果、1960年以降の総農家数は明らかな減少を続け、606万世帯あった農家は2005年には285万世帯（53%減）にまで減少した（図3）。



(資料) 農業センサス累年統計書

図3 総農家数の変動

専業農家の減少に対して増加を続けていた兼業農家も1970年をピークに減少を始め、農山村地域の過疎高齢化が著しく進みはじめる。国勢調査（2005年度）にもとづく産業別就業者の高齢化割合をみる限り、農業従事者に占める65歳以上の高齢者の割合は51.5%（75歳以上は17.9%）であり、全人口に占める高齢者（65歳以上）の割合23.1%（2010年度）の2倍以上となり、他の産業に比べても明らかに高齢化が進んでいると言わざるをえない（図4）。



(資料) 国勢調査

図4 産業別就業者の高齢化割合

農家数の減少と過疎高齢化が進む中で、日本はますます食料を輸入に頼るようになっていった（図5）。

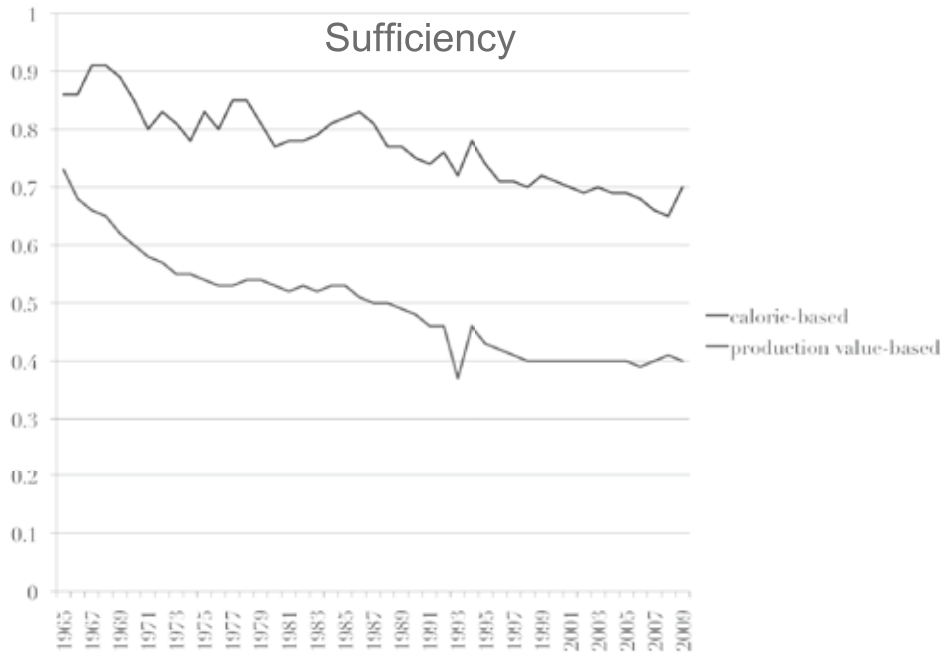


図5 日本の食料自給率

1965年にはカロリーベースで70%を越えていた食料自給率は、2009年には40%程度にまで下がっている。

その後、日本政府は農業基本法に代えて食料・農業・農村基本法（2009年）を制定し、農地・農業の多面的機能を評価し、国土保全機能（環境保全）を視野に入れた農業政策への切り替えを図ろうとしている。しかしながら、グローバル化のもとで引き続き国際競争力のある農業の生き残り（輸出型農業）を模索しており、TPPやEPA、FTAへの積極的な対応が目立つ。貿易自由化に対する農林漁業関係者の不安や反発は大きく、国内消費者が農産物に対してより高い安全性と安心を求める傾向が高まっていることにも配慮しなければならない。東日本大震災の復興と原発事故への対応の長期化によって、日本の農林漁業政策はますますむずかしい決断を迫られている。

こうした困難な状況のもとで、政府が進める農業近代化政策や補助事業が目指した大規模農業への道とは異なる、「もう一つの農業」のあり方を模索する動きが注目されている。ここでは、こうした農民を「プロフェッショナルな農民」と呼んで、現代の「老農」としての役割を期待したい。


3. 牛乳とチーズが教えるもの

生乳生産は、日本国内でほぼ100%の自給率を達成している数少ない農産物の一つである。『食育の力』（朝岡他編著、光生館、2010年）に収録されている「牛乳とチーズが教えるもの」を参考に、「マイペース酪農」のあり方から「プロフェッショナルな農民」の農業と生き方を具体的に見てほしい。

EfSAとは、決してトップダウン型で行いうるものではなく、優れた農民の実践を真似するだけのものでもない。強いて言えば、「自分で考え、主体的に行動する農民」を育てるものであり、そうした農民の多様な考えや生き方、試行錯誤を支える仕組みを生み出すことである。グローバル化という時代状況で生き残らうる農業のあり方は、“learn”できるものではなく、むしろ“unlearn”されなければならないものであるとも言える。農業政策及び農業教育の新しいあり方としてEfSAの視点が広がることを期待したい。

5. Presentation materials of Keynote Lecture

Slide 1




The Japan Foundation·JENYSYS East Asia Future Leaders Program
 •The Nature of 21st Century Agriculture:
 -Searching for Education for Sustainable Agriculture (EfSA)-
 2011.6.11 Asaoka Yukihiko (Tokyo University of Agriculture and Technology)

Asaoka@cc.Tuat.ac.jp

Slide 2

1. Our thoughts after the Great East Japan Earthquake (3/11)...

- May 7th, 2011
- Spring in the village of Itate, Fukushima Prefecture, is indeed silent. In this season, where the "mountain laughs" with the song of birds, the buzzing of insects, and the beautiful blooming of trees and flora in the satoyama-countryside, one feels surrounded by the presence of wild things. However, the people are shut away in their homes, and the rice fields and farm plots lay fallow. In a Spring where only the people are "silent", how should we express ourselves?



Slide 3



Slide 4

Could this be the "alternative shape" of world that Rachel Carson portrays ?

- Can we "share" in how the villagers of Itate must feel, how absurd it must seem to have to leave one's hometown, when for all outward appearances, nothing seems unnatural or out of the ordinary?


The 10th Ordinary Meeting of the Conference of the Parties to the Convention on Biological Diversity (UN Convention on Biological Diversity/COP10):Nagoya Protocol, Aichi Target

Most of the nature we see before us is "created by people."

Slide 5

The creative sensibilities of those who turn toward Nature


- ▶ Humankind's involvement with Nature, no matter how we approach it, includes a reworking of Nature itself.
- ▶ There has been a massive reworking/adaptation of plants and animals in order to provide humankind's food supply and as a means to live.
- ▶ From the past to the present, connecting to the future, so long as there are people facing Nature, there will be societies in which people live.



Slide 6

The power of "learning from Nature" gained through experience


- ▶ "The Children/Youth White Paper," Published 2010
- ▶ Nature experience means becoming proactively involved with Nature and working with it in some way.
- ▶ "The Ability to be Tricked by a Fox"-In the past, Japanese people felt more of a connection to life in the mountain world than they do today. (Takashi Uchiyama)



Slide 7

The meaning of "unlearn"


- As the world rapidly becomes more unified and uniform under globalization, our concept of "learning" is starting to be redefined.
- The question arises: Could "learning", in attempting to fill the gap, promote globalization and take away the possibility of social, cultural, and lifestyle diversity, as well as the potential for "alternative learning"?



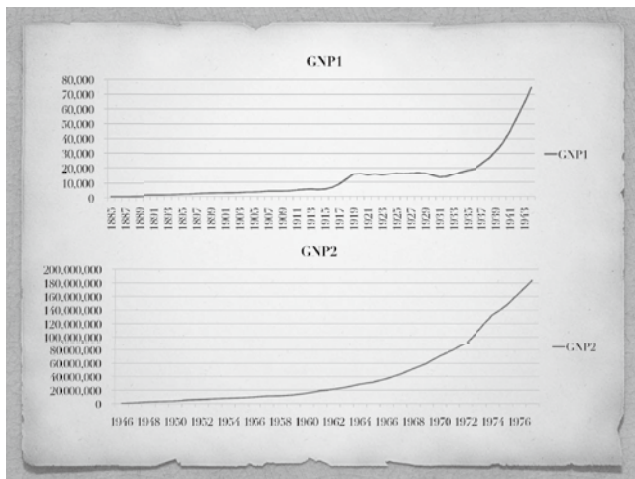
Slide 8

2. What should we learn from Japan's "failure"?

- From the Edo Era to the Meiji Period
- The dismantling of rural village communities during the Meiji Restoration
- The economic move toward capitalism → The dissolution of community farming methods
- The Meiji government implemented Western-style farming methods (such as dry field horse-tillage and chemical fertilizers), but they didn't work very well. → Attention focused on those who practiced conventional methods: skilled farmers called the "Rounou".
- The shift towards a "bottom-up" style of agriculture, based on Rounou techniques → The establishment of a "Meiji Farming Method".




Slide 9

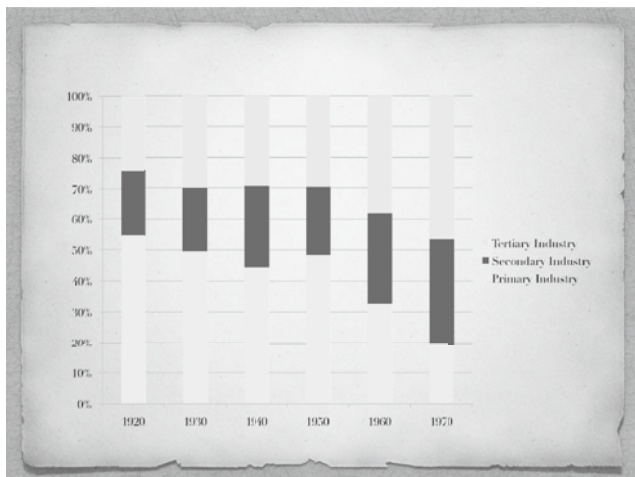


Slide 10

- < Post-WWII dismantling of land-ownership regimes >
- Until the 1950s, there was a large farming population, and with the exception of defense and a portion of heavy industries, Japan had a primary industry-based economy.
- The trend toward thinking about farmland as "family property" (away from an organized farm system) → The inability to buy and sell farmland and lack of fluidization.
- As parasitic land-ownership regimes disappeared due to liberalizing "land reforms," land-owning farmers increased and the groundwork was laid for agricultural development.




Slide 11

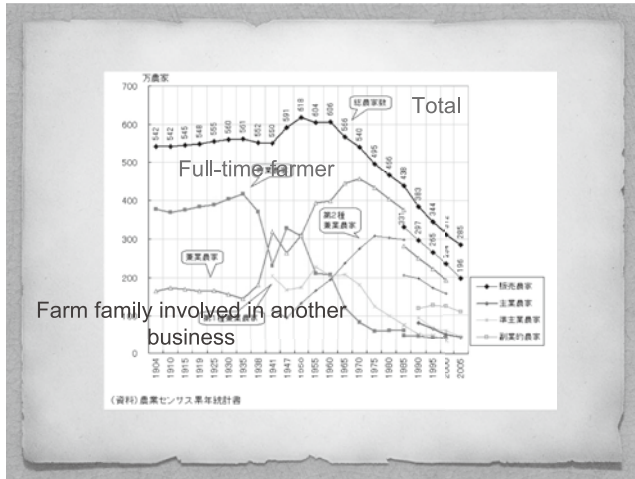


Slide 12

- Agriculture in the 1950s had the potential for "spontaneous development."
- 1 Farm management based on "land-owned farming" → Democratization progressed in rural communities, and there was a rise of those in the rural class willing to manage farms.
- 2 Democratization of rural communities → Dissolution of the "ie" (lineage) and "Mura" (village)-based social systems, followed by development of rural youth associations and women's groups (rural-based Adult and Community Education)
- 3 Mechanization/Scientific progress → Establishment of small-scale mechanization (focusing on tractor-tilling, etc.)
- Before the period of high economic growth, there was potential for "postwar farming methods" to take the place of Meiji farming methods.



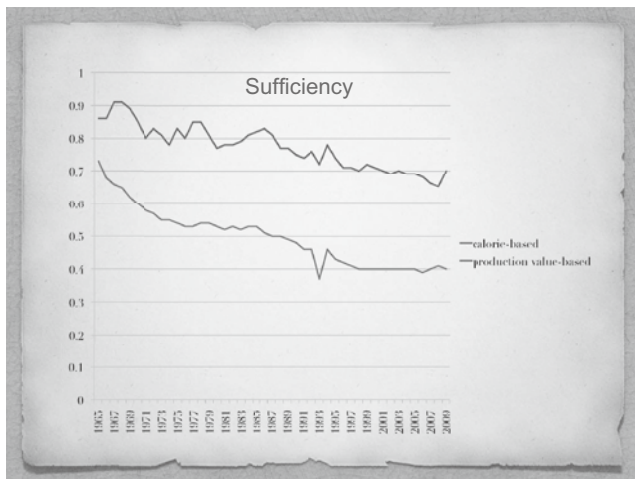
Slide 13



Slide 14

- <Implementation of the "Basic Law of Agriculture" under the period of high economic growth>
- During the period of high economic growth, the ruling LDP government advanced the modernization of agriculture as a means of keeping a stable political administration and production policy.
- The Basic Law of Agriculture was enacted as an agricultural deal in line with high economic growth policies→There was a push for agricultural structure improvement projects (mid-large scale mechanization—linked, farm field-based renovation projects, etc), and from there, policy aimed at reducing rice acreage and promoting crop diversification.
- The generation that had the potential to make a "postwar farming method" disappeared.

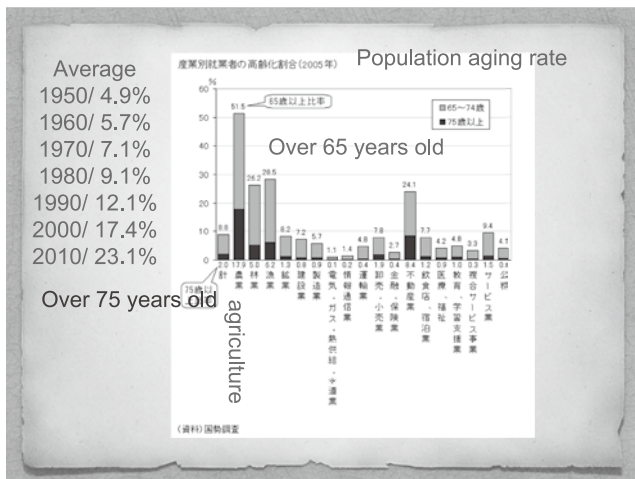
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Slide 16

- <Agricultural administration under the Basic Law on Food, Agriculture and Rural Areas>
- A food supply strategy that deals with globalization from the 1990s on.
- An agricultural policy that evaluates the multi-functionality of farmland/farming, including a view of its function in terms of national land conservation (environmental conservation).
- Seeking a strategy to stay alive in the face of agriculture's internationally-competitive power→Proactive steps toward dealing with TPP, EPA, FTA, etc.
- A domestic market that demands safe and stable food supplies at the local level→revaluation of organic agriculture (the appearance of "professional"-type farmers)

Slide 17



Slide 18

Professional Farmers

Akinori Kimura

Takao Furuno

Moriyuki Mitomo

Minoru Ishii

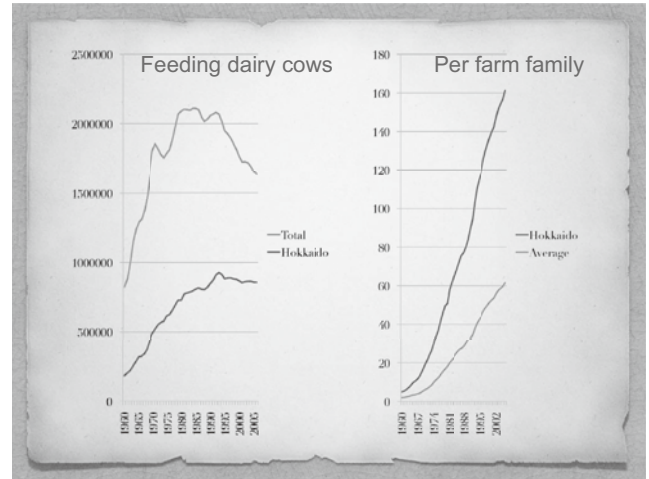
Yoshito Kaneko

Slide 19

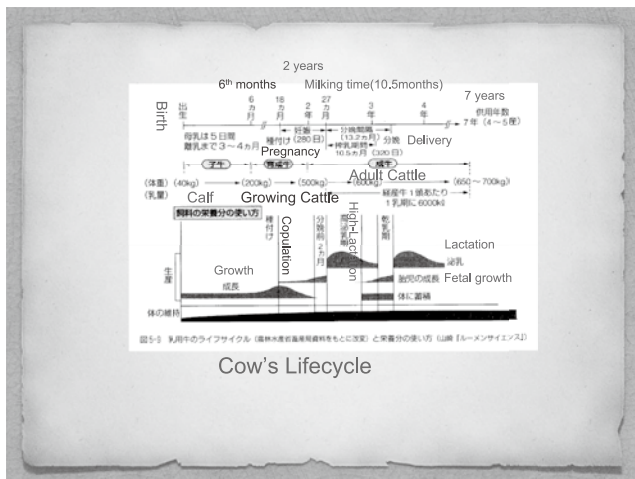
3. What milk and cheese teach us

- (1) When food connects with agriculture/ A highly-efficient milk factory/The living thing called "a cow"/My meeting with "My Pace" dairy farming
- (2) The "My Pace" dairy farming lifestyle/ The "reality" of Japanese cows and cattle farmers / The My Pace Dairy Farming Exchange Association/ What is My Pace dairy farming? /Environmental protection-oriented My Pace/My Pace exploring for a solution
- (3) What is being reared by My Pace/The need for a "yutakana"(well-rounded, full, rich, varied) lifestyle/ The meaning of homemade cheese/The Farmer's Cheese-making Association/The thoughts that go into making cheese/Toward the creation of a "yutakana" dairy farming culture

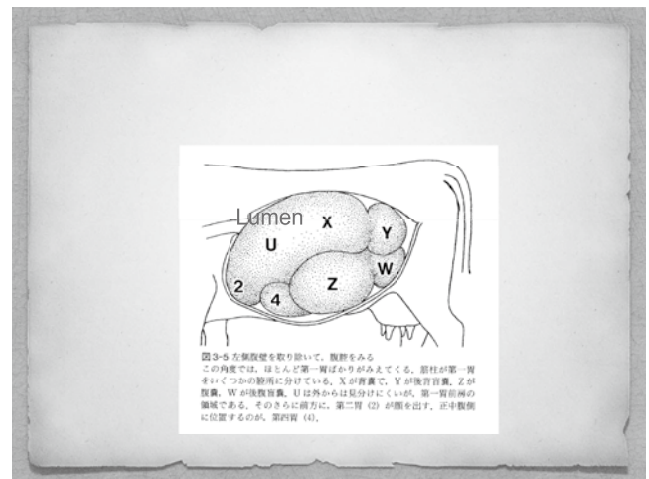
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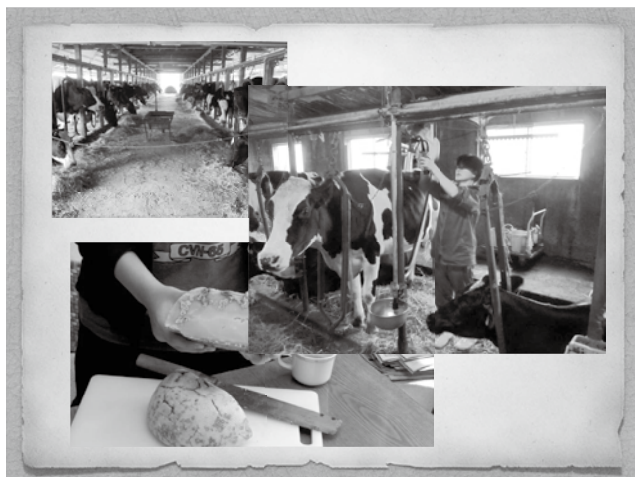
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Program Contents

- 1. Special Lecture**
- 2. Site Observations**
- 3. Workshop**
- 4. Final Presentations**

1. Special Lecture

[June 10th 2011]

Lecture by Ministry of Agriculture, Forestry, and Fisheries, Mr. Yasuyoshi Kitagawa

The program's first orientation lecture came from Mr. Yasuyoshi Kitagawa, Assistant Director at the Minister's Secretariat Policy Division of the Ministry of Agriculture, Forestry and Fisheries. Mr. Kitagawa gave participants a comprehensive view of the state of agricultural policies in Japan from an administrative perspective.

Beginning with the global outlook for fluctuations in grain supply, Mr. Kitagawa traced the market factors that determine price and detailed the socio-political factors that arise from participation in a global food network. He went on to address the challenges that Japan faces in raising its own food self-sufficiency rate, focusing on the delicate balance between production policies that support farmers and the inherent risks that arise in taking on too much production risk, potentially creating a subsidy-dependent model. Mr. Kitagawa detailed future government goals to raise the domestic production rate by rewarding those farmers who meet certain quotas, developing farmland usage, and encouraging new market innovations that address social and environmental needs. The lecture also addressed the government's long-term agricultural strategy in dealing with the effects of earthquake and tsunami damage, as well as the need for international cooperation in basing import decisions on the correct evaluation of radiation health risks.

The tone of the lecture was such that program participants could ask questions freely throughout, and Mr. Kitagawa answered with frank responses based on his years of experience in the agricultural policy field. Participants asked questions regarding specific timelines for self-sufficiency targets, education and training policies regarding farm management, and direct initiatives to make young people more interested in farming. Other questions focused on the sustainability of subsidy policies without proper education strategies to address the needs of struggling farmers, as well as the factors that determine government policy on participation in free trade and economic partnership agreements. Mr. Kitagawa responded with more information regarding municipal initiatives and PR campaigns, as well as the political climates that affect policy and the inherent "chicken races" that emerge when governments want to cooperate, but must also focus on protecting their own domestic production interests. Participants took away from the lecture an encompassing view of how Japan's agricultural policy attempts to adjust imbalances in the relationship between national and global market interests.

2. Site Observations

[June 13th, 2011]

Lecture: Mayor of Kunneppu Town, Mr. Kazuharu Kikuchi

“Community Design based on Agriculture in Kunneppu”

The first program lecture in Hokkaido came from the Mayor of Kunneppu Town, Kazuharu Kikuchi, at Kunneppu Town Hall. Mayor Kikuchi began by discussing the importance of relationships between countries and the need to learn from one another. He compared the history of Kunneppu to those countries developing new agricultural systems, describing the difficulties initial settlers faced, the need for family-based support groups, and the town's priority placed on education. He went on to discuss the importance of the Japanese Constitution in providing a national, pacifist framework for regional community development, guaranteeing local residents the right to decide how their own local governments progress and the freedom to manage their own resources.

The mayor described how nature, agriculture/forestry, and culture combine to make up the town's local resources. He then told participants of his vision for social benefits and the role of the town in its members' lives, focusing on medical benefits, environmental urban design programs, adult and community educational programs, and local economy funds (such as natural disaster funds to deal with hail damage done to local farms).

Mayor Kikuchi also focused on the potential of new, diverse models of agriculture in the town, including joint promotion of the Snow-March potato variety with the JA Kitamirai Agricultural Cooperative and collaborative “Kunneppu Clean Agriculture” projects with Seikyo Co-op Kobe/Hokkaido. The latter “food-planning” projects specifically support seven groups of farmers who provide JAS Organic standard and “specialized-cultivation” (reduced pesticide/chemical fertilizer) produce to co-op members and the surrounding community. Farmers focus on strengthening the bonds between consumers and producers through a variety of methods: direct-selling contracts, a farmers market in front of Kunneppu Station, farmer websites (with detailed data on farming methods to promote transparency), as well networking, information-sharing and educational opportunities provided to both farmers and the public alike through the JA/Kunneppu Town Council.

JENYSYS participants were impressed with the mayor's “walking encyclopedia” knowledge of different aspects of Kunneppu's geography, history and development and asked him various questions, such as how the town was able to protect land assets and whether or not fertilizer price fluctuations were an issue for local farmers. The mayor, in turn, described the town's efforts to secure land rights with a local agricultural committee and the need to have a proper debate with citizens following revisions to the national Land Act. The town also needs to rear new leaders who can become farm successors, as well as provide them social educational and exchange opportunities. One means of doing so is through the “4H” youth club, an independent learning organization for young farmers that focuses on cultivating “hands”(skills), “heads” (education), “hearts” and “health”. Mayor Kikuchi finished by stressing the importance of local potato, beet and wheat production in the area and expressed a desire to talk to the international youth leaders about the effects of global issues, like the Trans-Pacific Partnership (TPP). He stated that agriculture needs people with thought and passion as producers and that he would like to see this exchange of ideas benefit East Asian agriculture as a whole.

Lecture: Agricultural Cooperative Association JA Kitamirai, Mr. Yasushi Kawahara

“Issues and innovative measures in agricultural management”

Following the mayor's speech, participants heard from Mr. Yasushi Kawahara, General Manager to the Agricultural Management Promotions Division of JA Kitamirai., about the state of agriculture in the area. Mr. Kawahara provided an overview of the cooperative's role in farmers' lives, as well as details on farm acreage, total yields for JA members, and sales/purchasing figures as of January, 2010. He then looked at the current issues farmers face in the area, starting with the need to secure agricultural income.

JA aims to support its members through a dispatch management system, sending staff to farmer households and pro-

viding consultations on farm management, agricultural techniques, sales, policy and lifestyle choices. There is also a current need to add consumer value to products through eco-friendly, “clean agriculture” promotion. Mr. Kawahara described the four types of clean agriculture employed by JA Kitamirai farmers in detail: Organic cultivation (non-chemical pesticides/fertilizers), “Special” cultivation (reducing chemical pesticide/fertilizer inputs by half of standard amounts), “Yes Clean”(reducing chemical inputs based on Hokkaido standards), and “ECO Mirai” (reducing chemical inputs by 40% of Hokkaido standards and focusing on the improvement soil fertility). Mr. Kawahara also explained JA’s organizational reforms, which include the decision to merge eight local cooperatives into one to consolidate regional resources and more effectively answer the needs of the agricultural community as a whole.

Due to rural depopulation, there has been a steady yearly loss in JA members and, without successors to local farms, a rise in the number of elderly farmers who are increasingly unable to manage their properties. As such, JA Kitamirai has been focusing on strategies to secure and cultivate new leaders through training measures and support for new entrants into the agricultural field. They have done so mainly through recruit fairs and community seminars, aiming to provide practical training and a viable support network in the region.

JA has also focused on ways to contribute to the local community through collaborative projects with townships to clean and conserve the local environment. It has provided seminars to the public on the state of agriculture and current issues in Japan (such as a TPP) and the role of locals in the farming process. Other community-oriented themes of the cooperative include a “local production, local consumption” campaign (putting local produce in school lunches and grocery stores, as well as hosting local festivals/markets) and a “shoku-iku” food and agricultural education strategy that aims to raise awareness and provide children with knowledge about local production. This includes a hands-on “harvest program” that school children participate in three times a year.

Mr. Kawahara concluded his talk with a description of JA Kitamirai’s attempts to promote the area’s produce through enhanced branding and marketing techniques. These include creating new products with added value (such as “ECO Onions”) and enhancing the smooth dissemination of product information to consumers through a website and “Green” newsletter.

Following the presentation, JENYSYS participants asked a number of questions regarding how fluctuations in price affect JA members, how decisions are made (and whether voting power is based on acreage), who decides what farmers should grow/diversify, how “eco”/specialized production methods are monitored, how conflicts between farmers are handled and whether or not there is an external auditing party, how climate change is affecting JA members, and how JA determines its goals in promoting eco-farming.

Mr. Kawahara responded with details on how JA provides support to meet production costs through its control of fertilizer price. Decisions are made on a 1-vote system, regardless of acreage (but there are complexities in terms of equality, in that those who have the ability to buy in bulk may get discounts in fertilizer/pesticide costs). In terms of crop-diversification, market price (or the price set by the government based on supply) decides everything, so JA may recommend what to grow, but in the end, it is up to the farmer as to what he/she wants to grow. Regarding standards for eco-farming methods, JA relies on the production record reports of each individual farmer. If farmers make a mistake or break any of the set pesticide/fertilizer limits, they are removed from the eco-farm system for one year. In terms of auditing, there are two staff members who handle internal auditing, as well as an upper-level, national association that oversees the JA branches. In total, there are four different types of auditing procedures. Regarding global warming, the pace of climate change has forced farmers to adapt their planting periods (e.g. onions are planted earlier due to their low resistance to heat), but the gradual pace of change has not made it an urgent issue as yet. And concerning JA’s policy on promoting eco-related farming, Mr. Kawahara stated that the spread of these methods (organic, etc.) is up to the consumer. If consumers demand it, then farmers will produce it. However, this does not discount the fact that farmers may benefit by feeling personal satisfaction in employing environmentally conscious techniques. Mr. Kawahara also mentioned that though there may be some friction between organic and conventional methods, it is not JA’s place to dictate how or what farmers want to grow.

Site Observation: Kitami Agricultural Experiment Station

After an engaging lunch with the mayor and local governmental officials, participants were taken to the Kitami Agricultural Experiment Station to learn more about agricultural research and development in Hokkaido. The station, one of eight in Hokkaido, focuses on research into the region’s main areas of production: wheat, barley, onions, potatoes, sugar

beets and pasture grass. Participants watched a brief video on the general state of Hokkaido agriculture, before receiving more details from Chief Foreman Yuji Shinada on the institution itself and the aims of its four main research groups: the wheat-varieties group, the production-environment group, the crop-breeding group, and the local-techniques group.

JENYSYS participants were interested in knowing more about channels for imparting the fruits of the research to farmers, as well as how breeding techniques were carried out. The connection between farmer know-how and research goals was of great interest to a number of participants. A query into how much research was done at the molecular level and a comparison of monitoring techniques in one participant's country revealed that, even in Hokkaido, much of the research is still done with low-tech, traditional cross-breeding techniques. These techniques are still considered reliable. The station also works with farmers to test prototypes and to get new ideas for research goals, selling the technology that is produced at the experiment station back to them at a minimal fee.

Participants were then given a tour by bus of a portion of the station's 156 hectares of operations. With Chief Researcher Hisanori Shimada as a guide, they learned about attempts to find the best varieties of sugar beet and timothy grass (which makes up 70% of Hokkaido's 600,000ha of pasture land). Research efforts focus on producing beets with the longest roots and grasses that are both hardy against the wind and strong against other grass varieties. Mr. Shimada also discussed the rotation crop cycle used in the area (wheat→beets→potatoes→beans) and the need to develop beans that are strong against Hokkaido's cold temperatures, as well as spring wheat (used for bread/cake flour, etc.) that is strong against blight.

Participants were impressed with the number of wheat varieties being tested, as well as the uniformity of the testing site. They asked a variety of questions regarding planting standards and yield measurements. One participant recommended a comparison of current plant varieties with ancient, native varieties to provide a local point of technological comparison.

Site Observation: Organic potato farmer, Mr. Hirotani Minami

Despite the rain, participants were able to visit an organic farm site and hear the philosophy and farming methods of Mr. Hirotani Minami. Mr. Minami raises organic vegetables on 25 hectares in Kunneppu, focusing primarily on three potatoes varieties: Danshaku, Toya and Snow March. At the time of the participants' arrival, he was busy turning a pile of manure fertilizer with a bulldozer and stressed that "soil-production" (with as little pesticides used as possible) was the basic goal of his style of agriculture. He also expressed his desire to pass on a soil legacy good enough for future generations. Mr. Minami focused on the importance of connections between people in forming viable agricultural systems. He told participants that Japan, now in the midst of difficult times, would need solid, environmentally-sound farming practices (as well as the means to transmit knowledge of these practices) to build itself up again.

As Mr. Minami exchanged information with participants regarding their own countries' farming methods, they were able to observe the site's potato, barley and organic fertilizer production. They asked questions regarding the soil quality and details on Mr. Minami's personal philosophy.

Site Observation: "Specialized-cultivation" Onion Farmer, Mr. Yamamoto

Participants were also able to hear from and observe the methods of Mr. Yamamoto, a Kunneppu farmer growing 13 hectares conventionally and 5 hectares of "specialized-cultivation" onions as a member of the Kunneppu Food Plan Committee. Using organic fertilizer and reduced pesticide applications, this group aims to strengthen the ties between consumers and producers, providing a safe supply in collaboration with Co-op Kobe. Mr. Yamamoto talked of his gradual confidence gained as farmer through years of experience. However, he also explained the risks in onion farming due to weather variability, including worries about the current crop's inability to take up nitrogen due to a prolonged cold season. He frankly answered participants' questions on the benefits of growing onions as a non-rotational crop, as well as his personal reasons for focusing solely on onion production. Many participants were impressed with the scope of Mr. Yamamoto's onion fields. They asked him questions regarding the use of outside labor, the growing term for onions, the average yield (5-7t/ha), and pricing (1000-1800 yen/20kg case).

[June 14th, 2011]

Lecture: Nemuro Agricultural Extension Center & JA Agricultural Cooperative Doto Asahi

At the Nemuro Agricultural Extension Center, participants heard from Mr. Tetsuya Sakaguchi about agriculture and the roles and activities of the organization in the Nemuro area. Mr. Sakaguchi began by detailing the geography and climate, as well as the history of farming in Nemuro, starting with the settlement of 100 immigrants from the Japanese mainland in 1869. This number grew to 440 farming households between 1887-90, focusing primarily on cereal production and horse rearing. In the 1930s, the area was deemed conducive to dairy farming, and following WWII, there were various government-endorsed projects meant to spur the dairy industry.

From the 1980s, there have been measures to support dairy farmers in debt and restructure the management system to stabilize the large-scale dairy industry. In response to a JENYSYS participant's question regarding the means of government support, Mr. Sakaguchi explained that, in 1983, the government started giving loans to the dairy industry to expand acreage at a very low (app. 5%) interest rate. This has continued to today, and the loan rate is currently about 2-3%.

Presently, the agriculture sector employs approximately 5,600 people in Nemuro, or 12% of the working population. The dairy industry has expanded in the last forty years to over double the cultivated land and five times the number of cows per farm. There has been a steady decline in farming households, but the scale of farms has increased proportionately. Over the last ten years, the number of dairy farmers has declined by 290 households, but the quantity of raw milk has increased 1.35 times per household, accounting for 21% of the Hokkaido dairy supply. Only about 30% of farms have successors, though recent trends show there have been between 30-40 new farmers entering the industry per year. Bekkai Town has a training school for new entrants, encouraging married couples from around Japan to attend lectures and advanced courses on farming for a 3-year period. Over 14 years, 45 families have found employment through this program.

Mr. Sakaguchi went on to explain the various styles of dairy farm management in the area. Large-scale corporate management, labor-saving (free-stall/parlor-type) family management, and tie-stall style family management all increase efficiency through silage harvesting and utilization of contracts with cooperatives and TMR centers to defray feed and machinery costs. Other types of management styles include families that focus on low-cost, self-sufficient feed (mainly roll silage) and farmers without successors that are converting to beef production. Mr. Sakaguchi explained that farmers in the past would take care of all aspects of the farm on-site, but recent trends see an increase in contracts with feed and calve-rearing companies. Total Mix Ration (TMR) centers rely on a cooperative relationship with farmers to trade labor, manage pastures, store silage and mix the feed to be sold back to farmers at a negotiated price. There are currently forty TMR in Hokkaido, primarily private, but also JA-owned. In terms of future goals for the Nemuro area, the Agricultural Extension Center and JA are now focusing on support activities and training for new farmers, optimized management systems for feeding control and divisions of labor, improvement of technological capabilities, and proper management of wastewater and manure to minimize the burden on the environment.

In response to questions regarding off-site calve-rearing and government support, Mr. Sakaguchi explained that the rearing of a cow up to pregnancy (around 14 months) costs a farmer about 300-400,000 yen. In the past, the government has provided local farmers 50% support for machinery costs, but that number has decreased to 40% recently. There are also government subsidies provided (through JA) for milk used in processed products (butter, milk powder, etc) and for renewal of pastureland. Regarding a question on milk pricing: There are separate pricing schemes dependent on what the milk is used for. Fresh milk, fresh cream, cheese, and processed milk are valued in descending order. One kilogram of Hokkaido milk, on average, is sold for 80 yen. For comparison, one kilogram of Okinawan milk sells for 110 yen, due to a smaller dairy industry.

Following Mr. Sakaguchi's presentation, participants also heard from Mr. Etsuo Hino, Section Chief for JA Doto Asahi, about the role of JA (Japan Agricultural Cooperative) and other agricultural institutions in the area.

There are five agricultural cooperatives in Nemuro. They provide farm management guidance, production and sales assistance (collecting/shipping of dairy products, artificial insemination, etc.), purchasing assistance (of farm machinery, fertilizers, fuel, etc), credit and financing (through JA Bank), and insurance programs (life, automobile, building). There are also a number of JA affiliates that promote farmland liquidity, pasture improvement, building of facilities, information exchange, and organization of producers through integrated sales and purchasing. At the Hokkaido prefectural and national levels, there are also institutions that monitor livestock health and do research into new dairy farming technologies. Mr.

Hino stated that it is JA's role to protect farm management and the livelihoods of its members through proper guidance and monitoring, to encourage farmer security through youth and women's group activities and farmer recruitment, and to be involved in the community through JA and government-sponsored events.

JENYSYS Participants asked various questions regarding JA and the Agricultural Extension Center's ability to monitor farmers directly, the amount of education provided to farmers, the start-up costs of becoming a dairy farmer/joining JA, and direct aid provided to those farmers in need. In response: There are 27 consulting staff who visit 1300 farmers directly in the Nemuro area. Most new farmers are college graduates, often from the government-endorsed "Nogyo Daigakkou" agricultural schools. The entry costs for JA are minimal. There is living-aid support in the form of food packages provided by JA for struggling farmers. Having also seen a video of various production methods (including large-scale rotary parlors and milking robots), participants walked away with a more comprehensive view of Nemuro's dairy industry.

[June 16th, 2011]

Lecture: Notsuke Fishery Cooperative Association, Mr. Satoshi Yamazaki

Participants went to the coast of Nemuro to attend a lecture from Mr. Satoshi Yamazaki, counselor of the Notsuke Fishery Cooperative Association. Mr. Yamazaki provided details on the organization's members, as well as production processes and projects for increasing average seafood yields in the Nemuro area.

Mr. Yamazaki also explained the collaborative Plant Project between the fisheries association and the local forestry union, whereby middle schoolers plant trees to offset local environmental pollution. Started as a collaborative project in 2001 between the Notsuke Fishery Co-op, the Hokkaido Federation of Fishery Co-ops and the Pal System Consumer Co-op, hundreds of trees have been planted to protect the river and ocean environment. In Nemuro, in particular, an area known for dairy farming, the need for more trees has become apparent as nitrates from cow manure leech into the water supply, sometimes even killing cows that drink from local rivers. Some JENYSYS participants were interested in knowing if Japan had any mangrove forests, as these are often used in their countries to clean coastal water supplies.

Participants also asked Mr. Yamazaki questions regarding consumption of seafood in the local area and export avenues, as well as details regarding the process of becoming a member of the fisheries association. They were interested in how fisheries measure environmental impact, how restrictions are placed on fish quantities to control supply, why the fishery decided to start planting trees, what types of trees were planted in the Plant Project, and what kind of educational strategies regarding fishery initiatives are used for those above middle school age. Mr. Yamazaki's talk was followed by a video of a television program that included information on local shrimp, scallop, salmon, and clam production, including details on scallop transplanting/harvesting and tree-planting projects.

Experience: Planting Japanese Pagoda

Following the presentation, participants were taken to a nearby site to each plant a number of "inu-enjuu," or Japanese pagoda trees. After an explanation of how to plant the trees, Mr. Naoto Hirota of the local forestry union explained that, according to traditional folklore, if a woman touches Japanese pagoda, she will become pregnant. Historically, pagoda wood was also used in traditional Ainu houses to ward off evil. But today, Mr. Hirota went on, they were planting the trees to purify the water, to take care of the local environment/agricultural system, and on an extended scale, to maintain social tranquility.

Participants planted the trees closely in rows. Mr. Hirota explained they will later be thinned out based on their growth rate. One member was able to plant nine trees in total. Many participants stated that they had similar governmental and community programs in their countries, both to replace tree supplies and to protect seaside areas and riverbanks from erosion.

[June 17th, 2011]

Exchange: My Pace Farming Exchange at Moritaka Dairy Farm

After spending the night at their respective homestays, JENYSYS participants were able to attend the monthly My Pace Farming Exchange Meeting, a venue for dairy farmers to exchange ideas and information while touring another “My Pace” practitioner’s farm. Prof. Nomura explained that these types of exchanges between farmers were common in villages and towns in Japan during the Meiji period (from the late 19th-early 20th Century) and were eventually consolidated into a national Farmer’s Exchange Association. However, price competition for international markets in the 1980’s made farmers more isolated and less likely to share information. Nonetheless, recent trends in organic and “My Pace”-style sustainable agricultures have seen a resurgence in these types of exchanges at the local community level.

This month’s exchange was held at Moritaka Dairy Farm and was lead by Mr. Tetsu Moritaka, a third generation dairy farmer whose grandfather started the farm in 1931. Mr. Moritaka first heard of Mr. Mitomo’s “My Pace” style in 1991. After listening to Mr. Mitomo’s philosophy directly, he was persuaded to switch to the smaller-scale farm management system. Mr. Moritaka then worked out his own “teikisei-kibo” (“appropriate scale” of around 72 head) and is now able to produce the same amount of milk he did thirty years ago under conventional dairy practices.

Mr. Moritaka’s style of farming focuses on cutting input costs as much as possible. He took participants on a tour of the farm’s various cost-cutting facilities. Of these, one of the most inventive was a tank and fermentation system for cow urine to be turned into fertilizer. The urine is collected in a tank underneath the cow stalls and brought to a pool system where it is mixed with water and molasses and constantly aerated. After five to seven days, the urine stench disappears and the liquid is left to ferment for up to one month (depending on outside temperatures). This fertilizer is then sprayed on the farm pasture and trees to promote growth and to act as a natural pesticide. Participants from India explained that there are similar multipurpose uses for cow urine in their country. Mr. Moritaka also showed participants the various stages of manure composting, using a finished product mixed with scallop shells (for calcium intake) in his pastures in the fall.

Participants were then able to move into the cow pastures where Mr. Mitomo, also in attendance, showed them how they measure soil temperature to determine its quality. Two thermometers at variable depths both showed the same temperature of 15 degrees Celcius, which was a good sign, said Mr. Mitomo, in that the soil allows water to pass through it while still retaining a healthy moisture level. Participants also had a close up view of the organisms that feed on cow manure patties, as well as an explanation of the role of nitrogen-fixing bacteria that attach to clover in maintaining the health of the pastures. Mr. Mitomo stated that in tilling the soil, farmers were killing the organic ecosystem underneath. Though this process may maintain a profit, it requires chemical energy (fertilizer) inputs from outside the system. Mr. Mitomo feels this is no more profitable in the long term than using the energy already present in the fields.

After touring the Moritaka Dairy Farm, participants moved by bus to the local meeting hall to have a bento-box lunch and exchange stories of their homestay experiences. The lunch included a number of local, homemade dishes, such as seasonal mountain vegetables, homemade miso, jam, milk puddings and yogurt drinks. Each of the JENYSYS members was asked to give a brief introduction and impression of their stay in Bekkaicho. Many participants were grateful for the chance to learn more about the dairy-making process and were impressed with the ability of “My Pace” farmers to work hard and still be very happy, not only in philosophy, but also in lifestyle and practice. Many also expressed a desire to stay connected and continue working together. Some of the keywords participants used included: passionate, diligent, courage, warm, content, satisfied, happy...and, of course, “oishii” delicious.

Prof. Nomura described his impression of the overlap between cattle and human generations on the farms. He compared this way of life as not just “my pace” for the families, but also “my pace” for the cows. From the farmer side, there were many comments expressing hopes to go visit JENYSYS participants in their home countries. The families were also happy that participants were satisfied with the meals. A number of farmers expressed joy in the fact that people from other countries believed in their “my pace” way of life and were interested in the things they took for granted on the farm. One farmer stated that this experience really made him reevaluate his farm in a new light.

[June 18th, 2011]

Observation and Briefing: Konsen Agricultural Experiment Station

On the morning before their final group presentations, JENYSYS participants were given a bus tour of the Konsen Agricultural Experiment Station by Mr. Toshiya Saigusa and Mr. Ishida Susumu. “Konsen”, taking its name from the first Chinese characters of Kushiro and Nemuro Cities, is an area of Eastern Hokkaido encompassing them both. The area makes up 202,000 of Japan’s 767,000 hectares of pastureland. Of the nation’s 1,484,000 cattle population, Konsen accounts for 307,000 head.

Mr. Saigusa explained the experiment station’s focus on nursing periods for calves, feeds after weaning and the feeding system for heifers. Out of a 305 day milking period, a cow, on average, can produce 8,500kg of milk per year. Much of their research, Mr. Saigusa said, looks at ways of managing peri-calving and lactation persistence: that is, by making the peak of milk production slower (reducing its quantity) they are able to make peri-calving management easier and shorten high-disease periods in a cow’s development.

The experiment station also looks at two forms of biogas production from manure: one, a “reconstruction” model that closes off aerobic bubbling fertilizer systems to produce biogas plants, the other, a “new construction” model that is more expensive, but requires no electric generation system. Both models are still in their experimental phases. Participants also saw the experiment station’s silage-making areas and heifer-raising paddocks. Responding to a question from a participant, Mr. Saigusa explained that the cows change paddocks every 2-3 days on a 10-15 day rotation period.

The experiment station also looks at ways to control pastureland weeds through herbicide application tests, as well as compares the performance levels of different fertilizers and manure application methods. JENYSYS participants showed interest in the experiment station’s biogas methods, though there were questions as to its applicability to farmers in the area. There was also interest in sheep being used as testing animals to measure grass quality, and some participants remarked on the difference between experimental cows and the cows they had interacted with in their “My Pace” homestays.

3. Workshop

Site Observation: Mitomo Dairy Farm & Midterm Workshop with Associate Professor Takashi Nomura, Hokkaido University of Education

[June 15th, 2011]

Having gained some background knowledge on the local dairy farm industry, JENYSYS participants spent the next day visiting Mitomo Dairy Farm and participating in a workshop discussion. Mr. Moriyuki Mitomi and his wife, Yumiko, introduced themselves and proceeded to describe their unique style of dairy farming, called “My Pace”, that they have been practicing for the last 40 years. Mr. Mitomo described the style as focused on a reduced, manageable scale, appropriate to the needs and capabilities of both the farmer and the surrounding environment.

Raising 32 head of cattle and 20 calves on 60 hectares of land, Mr. Mitomo goes against the “common sense” attitude of expanding operations to raise as many head of cattle as possible. At his “tekisei kibo” (“appropriate scale”), he is able to look after the needs of each individual cow, which, in turn, leads to healthier cows, greater milk yields, and reduced health care costs. By utilizing manure as fertilizer (putting it back into the pasture fields without tillage) and avoiding chemical pesticides/fertilizers, the “My Pace” cycle requires fewer inputs from outside the system. This scale also reduces stress on the Mitomo’s themselves, providing them a degree of mobility and freedom to explore other avenues of interest on the farm. Mrs. Mitomo studied various methods of Western-style cheese-making abroad and began making her own cheese twelve years ago. The farm now includes a small-scale cheese factory (selling directly to customers via email, website and phone orders), and Mrs. Mitomo has won a French award for high-quality cheeses.

As they toured the grounds, JENYSYS participants compared “My Pace” methods to those in their respective countries and asked a variety of questions regarding farm management. Mr. Mitomo explained that compared to the average Hokkaido birth rate of 2.5 head for dairy cattle, Mitomo Dairy Farm cows produce an average of 6 head each. One of his eleven year-old cows has given birth ten times. The majority of cows are of the Holstein and Brown Swiss variety, and they subsist primarily on the surrounding pasture. 25 hectares of the pastureland is reserved for hay to be used as feed in the winter. JA buys 100% of their daily raw milk product, and cheese production provides around 30% of their revenue. In terms of training for new farmers, Mitomo Dairy Farm has a trainee system that includes a monthly “Tekijuku” information exchange session hosted by Mr. Mitomo.

While answering these questions, Mr. Mitomo encouraged participants to feel the quality of the soil under their feet, and he pointed out the natural cycle of organisms needed to maintain healthy pastureland. He explained the need for nitrate-fixing bacteria and a variety of grasses that maintain the soil quality. Mr. Mitomo stated that it is a farmer’s job to return the soil to its natural quality, and that the final result of his efforts should be feed for the cattle. Aiming to rehabilitate the natural cycle, rather than just focusing on the final milk-production result, is what it means to practice real sustainable agriculture.

Mr. Mitomo also expressed his desire to restore the original landscape of tree-lined pastures and bring a more “sustainable ethic” into dairy farming to replace the “development ethic” of the previous century. Participants were able to get up close and personal with cows in the field and observe sustainable techniques of raising pigs on cheese and whey. Many were impressed with Mr. Mitomo’s inspiration and his focus on learning as much as possible from Nature, of which, he said, both farmer and cows are a part.

Following the tour of the farm area, JENYSYS participants ate lunch and were able to sample cheeses made by Mrs. Mitomo. They then watched a video of the Japanese television show “Professional”, featuring Mr. Mitomo’s dairy farming model. The video put “My Pace” practices into context, detailing Mr. Mitomo’s efforts to control costs on feed and machinery through small-scale, grass-fed cattle raising, as well as his refusal to expand operations to match dairy industry trend in the local area. Mr. Mitomo stated that those focused purely on the production aspect of dairy need to “stop to take a look

around”, and he described a farmer as a farmer only if he/she lives in harmony with nature and others and can be proud of his/her work. He defined a “professional” as someone who is able to be enthusiastic about their work and find something new in it every day, even if it is repetitious.

In the following discussion among JENYSYS participants, Professor Nomura (Hokkaido University of Education), Mr. Mitomo and other farmers involved in “My Pace”-style dairy farming, there were a number of questions and comments regarding the obstacles Mr. Mitomo faced, his motivations to continue farming, his criteria for what constitutes an “appropriate scale”, as well as the future of dairy farming in Japan.

Mr. Mitomo reiterated that the biggest obstacle to farming now is an industry that has become purely economically driven, without addressing farmer’s needs. He compared this trend to playing soccer with no offsides, stating that globalization was erasing the rules that farmers needed to live their lives by. If the purpose of agriculture is purely based on its production aspect, then the consequences of failure fall disproportionately on the farmer, due to his/her inability to control Nature. “My Pace” relieves this pressure to a certain extent in that it accepts that Nature cannot be controlled, though may be “faced” by the farmer. Regardless of the end result, farmers can accept what Nature provides.

Mr. Mitomo’s motivation and selling point for new farmers lies in the fact that “each day is different.” He determines scale based on observation of the environment and his own judgment of what makes the farm cycle run smoothly. Other “My Pace” farmers present commented on the need for a dairy farming system not dependent on imported grains and government subsidies. They also expressed a need for diverse agricultural styles that appeal to the next generation of farmers.

Prof. Nomura asked participants to contemplate how their keywords regarding sustainable agriculture may have changed based on their encounters at Mitomo Dairy Farm. He stated that there is a network of new farmers throughout the country who engage in similar practices of small-scale, environmentally-oriented agriculture, but that it is difficult for them to unite around a common purpose. Until the 1980s, Japan kept farmer profits up through subsidies, but the number of farmers did not increase. Rather, the number of part-time farmers increased. Organic and other varieties of eco-friendly agriculture have seen a spike in interest from new farmers, but they retain a certain level of economic anxiety. Prof. Nomura asked participants to question how farmers, like Mr. Mitomo, “face” Nature to relieve this anxiety.

A number of participants were impressed with the ability of the “My Pace” style to raise not only happy cows, but also happy farmers. Some drew comparisons between small-scale models in their own countries, but emphasized that the climate did not allow for pure imitation of Mr. Mitomo’s techniques. Mr. Mitomo said this was not a problem and that farmers need to find their own appropriate models to match native cattle varieties to their country’s dairy system. One participant expressed that he saw a trend of people like Mr. Mitomo gaining momentum worldwide, that he was grateful to be able to visit and wanted to learn more. Prof. Nomura compared the session to an “international Tekijuku” counseling meeting, whereby participants and local farmers were able to freely share information and ideas on the future of agriculture.

Participants also heard from Mr. Mitomo on a range of personal issues that help run a farm more smoothly: the importance of love and marriage, traveling and learning from locals in other communities, living a “rich” life that allows one to enjoy the food you eat and the people you are with. Following the workshop discussion, participants broke into groups to discuss how their ideas on sustainable agriculture had developed.

4. Final Presentations

[June 18th, 2011]

For their final presentation, JENYSYS participants were asked to explain their concept and/or ideal vision of sustainable agriculture in terms of what they had learned through the program. Working in groups, they prepared six unique takes on what they had learned in Hokkaido, tying in the experience to their own professional backgrounds and reevaluating the keywords they had put forth at the beginning of the program. Utilizing the Konsen Agricultural Experiment Station's conference room, each group presented their collaborative efforts in ten minutes, with time allocated for questions from the audience. A number of local residents, farmers and officials who had participated in the program came to hear the JENYSYS participants' perspectives on agriculture and what they had gained from their time in Japan.

Group 1

The first group to present consisted of members from Brunei, Indonesia, Laos and Thailand. The presentation defined sustainable agriculture within the framework of five interconnected points: economic, social, environment, technology and mind.

A sustainable agricultural economy must first be based on income security for farmers. This may be achieved through crop diversity and value-added products. Low-input investment is key to attaining a successful transition to sustainable systems. Innovation to achieve food security is also essential. Rather than placing priority on the economic benefit of production for foreign markets, sustainable practices must first address the needs of the local population. For example, agricultural policy in Laos should support production of local rice varieties, rather than just appeal to European markets for rice varieties that locals do not consume.

Social sustainability in agriculture is achieved through appropriate education strategies and the smooth exchange of new information between producers and consumers. Social responsibility rests on both sides of the spectrum, and the con-



Group 1

sumer also has a role in actively interacting with producers at the market level through participation in cooperatives and other group associations. Environmental stability depends on conservation of natural resources and knowledge of the relationship between all parts of the ecosystem. With this knowledge, farmers are able to reduce pollution, promote biodiversity and adapt to environmental variables. Technological innovations focusing on low-input, eco-farming methods should also be prioritized. The concept of “mind” was also presented as a connecting factor for all of the above aspects of sustainable agriculture. Human beings must be openly mindful of their surroundings. They must listen and learn, and find the true value of sustainable practices within themselves in order to make it a reality. There is also a need for a paradigm shift toward sustainable living connected to agriculture.

Following the presentation, an audience participant asked the group how their ideas regarding agriculture had changed since coming to Japan. Group members responded that many of the agricultural models they had witnessed during the program were applicable to their own countries and made them reevaluate the potential of sustainable methods. It had also been interesting to see development that focuses on the Japanese family system at both the large and small agricultural scales and to witness the potential for interaction between both styles of agriculture in a developed country.

Group 2

The second group presentation included members from China, Japan, Myanmar and the Philippines. The group’s focus was on “balance”, stating that sustainable agriculture models needed harmony between people and nature, people and people, and communities and nations.

In order to attain a workable model of sustainable agricultural practice, there must first be the ambition to achieve success. This ambition derives from ideals and personal philosophies based on self-sufficiency (or, on a national level, food security). Proper organization is also needed to encourage specialization in agricultural methods. In Japan’s case, specialization has been achieved through innovation and increases in productivity with support from community models. Cooperation at the community and national levels is also key to the creation of a sustainable agricultural system.

A member of this group noted that JENYSYS’s program objective of encouraging networks and cooperation between East Asian participants should also be extended to the national level through ASEAN, etc. to make a sustainable East Asian economy. Other participants noted that the connection between human beings and nature was a key component of agriculture and that productivity should not be an end in itself. One participant was struck by Mr. Mitomo’s statement that it is



Group 2

the farmer's job to "work for the sustainable result, not just the yield."

Following the presentation, group members were asked if what they had learned about agriculture in Japan was applicable to their own countries and what characteristics they could use back home. Presenters responded that the thought process regarding sustainable agriculture and system relationships, as well as the focus on community development, could be very useful in their own countries. However, the difference in climate and the pace/scope of development made it difficult to apply technical methods directly. Regardless, there was much more they could learn from sustainable agricultural practices in Japan.

Group 3

The third group presentation included members from Australia, Cambodia, Korea and Laos. The group defined sustainable agriculture as an agricultural system that has resilience to changing variables, such as natural disasters and socio-economic crises. It is up to farmers to be able to approach these variables, and as managers of such large expanses of land, to be aware of their responsibilities in maintaining the local environment. The ideal form of sustainable agriculture has a positive, mutual impact on the environment and producers in the system.

Education was also a central theme for attaining sustainable agriculture. Japan has knowledge-rich farm communities, and it is essential that these communities focus on transmitting that knowledge to young farmers. They are able to do so through youth and women's groups that provide various support networks for the farming community, including mental health support for individual farmers. Education at the local and global community level is also essential for defining environmental and supply chain parameters. Proper management, monitoring and evaluation of land and water resources, as well as communication at the supply chain level to identify risks and roles of farmers are needed to attain community trust. Sustainable agriculture also relies on research and development into new technologies and frameworks that encourage innovation through a diversity of modern, traditional and alternative farming practices.

In response to a question regarding the group's experience working with government support programs in their own countries, one presenter responded that though there are government-funded research centers like those in Japan, farmers are considered the experts and can define their own limitations.



Group 3

Group 4

The fourth group presentation included members from Brunei, India, the Philippines and Vietnam. Sustainable agriculture was defined in terms of diversity, empowerment and security at the producer, community and environmental levels.

Presenters focused on eco-friendly farming practices and the importance of safe and healthy food production at a low cost for cultivation. A comprehensive view of the entire agricultural system is needed to achieve harmony with nature: “If we are able to see the importance of the ecosystem to farming, we can achieve a balance within it.” There must also be a sustainable model for remunerative farming practices to encourage a new generation of farmers. This relies on improved technologies and government support, though should not necessarily be subsidy-oriented. In order to address rising population levels, food security and a stable domestic food supply are other key aspects of sustainable agriculture.

At the production level, farmer empowerment is needed to increase the efficacy of local governance. Mutual cooperation between farmers leads to improvements in agricultural knowledge and skills, and farmers need increased solidarity to retain their social safety nets. These support networks also give farmers a stronger voice in local self-government decisions. Farmers also need the freedom to live diversified lives. Multiple livelihoods within the farm class provide incentives for new-entry farmers and diversify the potential for risk in encountering unknown variables. Interlinked livelihoods also allow farmers to discover new, interlinking, sustainable agricultural methods (such as using the waste products of one process as inputs for others).

When asked what lessons they had gained from Japan, group members responded that they had learned the importance of passion, belief, cooperation and joy in one’s work to achieve sustainability.



Group 4

Group 5

The fifth group presentation consisted of members from Indonesia, Malaysia, Myanmar, Thailand and Vietnam. Calling themselves the “Happy Life” group, they defined sustainable agriculture as an integrated system of production that satisfies food needs with on-site resources and low-cost, environmentally friendly practices.

Sustainable agriculture rests on a balance of economic, environmental and social pillars. The agricultural economy relies on marketing research and cost-effective practices. These should be government-supported and aim to reduce poverty

in the primary sector. A local economy relies on use of local materials, and there must be communication between all parties in the production process. Environmental balance in agriculture is manifest in sustainable organic practices, and there is a need for more research and development into green technologies. This research must first define the needs of the ecological system and make clear the producer and consumer's role in an interconnected system. From a social perspective, agriculture must aim to improve living standards (quality of life) and gender equality through cooperation, education and rural development strategies. Presenters noted the power of women in Japan to work on-site while maintaining family-farm structures (as Mrs. Mitomo has done within the "My Pace" dairy farm model).

In conclusion, presenters surmised that in order to achieve sustainability in agriculture there must be a balance between 1.) economically-oriented, cost-saving, government supported models, 2.) socially-oriented, community-building exchanges among farmers and consumers alike, and 3.) environmentally-oriented, low-input methods of farming. Sustainability is the role of everyone in the agricultural process and relies on the collective efforts of producers, consumers, researchers, business and government.

Regarding a question on how JENYSYS participants envisioned further cooperation with Japan, group members responded that there is an immediate need for more education regarding green technologies and the potential for low-input, sustainable farming methods in their countries. Also, though there may be many differences between countries (climate, culture, etc), they can always share their experiences on what it means to have a happy life.



Group 5

Group 6

The final group presentation included members from Cambodia, India, Japan and Malaysia. Dubbing themselves the "My Pace" group, they began by detailing the goals of the JENYSYS program and providing a background for issues concerning global food security.

Rising prices on grains worldwide have made feeding local populations the number one concern for agriculture, and sustainability should be debated within this context. The challenges of sustainable agriculture include increasing production while reducing cost, creating new supply and demand models, ensuring the wellbeing of the environment, and improving the social and economic status of those involved in the agricultural process.

What can we do, and how can farmers participate in this process? Through our experience and observations, we are able to make sustainability a less ambiguous concept. In the case of dairy farmers in Bekkai Town, observation and innovation have led to sustainable methods of manure management. The exchange of food, resources and smiles (not only manpower) has also led to a sustainable cycle of social relationships. Sustainability comes from our way of thinking. Each person's mindset determines the potential of sustainable agricultural models and produces an environment where “happy farmers” are the norm.

There is also a need to recognize that there is cause and effect in the agricultural cycle, and we need to pinpoint the environmental inconsistencies in that process. For example, in India, it is difficult to intervene in the face of rapid progress, but in order to stop failures in agriculture policy, there must initiatives at the global level based on our local experience. Here, focusing on what it means to be a “happy farmer” should be the point of departure.

Audience members asked the group if they wanted to become “happy farmers” themselves, and members responded that even if they are not directly involved in production, they would like to be connected to its process. Another question was raised as to what direction group members thought their countries would go in the face of large-scale agriculture. One presenter responded that, as a consumer, he can only hope for more diversity in agriculture. Another presenter focused on the pressing need to alleviate hunger in developing countries by focusing on new technologies. Other presenters stated that government policy and the changing climate would dictate the needs of agriculture in the immediate future, and as such, prioritizing production was important. However, on a personal level, they felt that their needed to be limits designated on the use of a country's resources so that the optimal level of sustainable agriculture could be achieved.



Group 6

Final Presentation Comments

Following the presentations, there were a number of comments from “My Pace” dairy farmers and other members of the audience. Mr. Moritaka noted the presentations' common themes and remarked on the importance of communication with the environment, diversity in agricultural methods, and the need for balance in agricultural inputs and outputs. He stated that it was up to everyone in the agricultural process not to ask for more than what was needed in order to retain a sustainable ecosystem.

Mrs. Mitomo remarked that is not just farmers who support agriculture, and there is a need for everyone to think about the origins of their food. Everyone has a role in the cycle, from the ground level to the consumer.

Mr. Mitomo stated that there is a need to reevaluate how we think about sustainability in the face of modernization and internationalization of the global food market. We have to think about the lives we lead and confirm that there is a concept of ‘how to live’ above the demands of a nation or state. Japan crossed a set line of production, and as a result, has become dependent on agricultural inputs from outside the system. Rather than stating that we have to achieve sustainability, Mr. Mitomo said that “Agriculture is, inherently, sustainable.” Instead of controlling nature, we must let nature control itself. In Japan, the “My Pace” method relies on family support systems and aims to nurture new generations to support the agricultural system. What is important for the international community in the 21st Century is knowledge and respect for the agricultural needs of each country and responding carefully to those needs, in accordance with people’s beliefs and lifestyles.

Professor Nomura asked the JENYSYS participants, all from different backgrounds, cultures and careers, what they can do with their skills to continue their relationships. He stated that in the face of natural disasters and socio-economic changes to agriculture systems (such as TPP), Japan needs the means to adapt to new environmental variables, now more than ever. He stressed the importance of international cooperation to achieve a mutually rich lifestyle, as “My Pace” dairy farming has done for humans and cows alike. Prof. Nomura finished by asking participants to reflect on what they could take away from this exchange and how they could employ their connections in their home countries.

(Recorded by James L. Dwyer)



Post-Program Reports by Participants

Brunei

Siti Maralini Binti Haji Aliamat.

Junior Agriculture Assistance

Agriculture & Agri-food Department, Ministry of Industry and Primary Resources



Azlina Binti Mohd Ali

Junior Agriculture Assistance

Agriculture & Agri-food Department, Ministry of Industry and Primary Resources



1. Three keywords

	Keyword 1	Key Word 2	Keyword 3
before	Food Security	Economic Benefits	Welfare of Farmer's Community
after	Food Security	Remunerative Farming	Farmer Empowerment

<Reasons, Explanation or Justification>

FOOD SECURITY

- Increasing Population
- Stable source of food supply

REMUNERATIVE FARMING

- As the number of second generation farmers is decreasing
- Improved Technology
- Support from Government (may not be subsidy oriented)
- Market oriented farming

FARMER EMPOWERMENT

- Mutual Cooperation
- Social safety net
- Increased Solidarity
- Better say in local self government

2. Opinions and Comments

This program gave us opportunity to learn more and understand on life affairs, climate and the culture in Japan. Especially on food, fisheries, forestry and more on the agriculture activities either in theory and practices. We can share with the other participant with the different countries about the agriculture crisis in their respective country and whose also had a strong interest issues and policies surrounding food, agriculture and farming villages.

The most impressive events was the farm stay experience in Hokkaido. There we were stayed with the our homestay family member and the others participant from different country. We introduced ourselves to family members and exchanged the ideas and opinion. They explained us how to managed and control their farms. Milking the cows and feeding the calves was our first opportunity and experience practices. Also drank the fresh milk from their own cattles was our first

time taste it but we enjoyed and appreciate it.

Even the climate is totally different with our country, but we could see how their can managed it and how their prepared, especially on crops and livestock feed example storing grass for their cattle feed on the winter season. Also, we can learned what their do to achieved their self-sufficiency and food security for their country. Here we also could see their different technology and how their could handle the farm themselves by open a big areas and produces their high yeild.

So from the experience and the knowledge from this program activity, I can be sharing with my colleague and the useful information can be use as a guide food and agriculture technology in my department. This program also related to our task and responsilities, which I can share and exchange with our farmers in our country and give them view how to managed and control their farms.

I hopes this program will be continously where can exchanged and sharing view and opinion among the participant for the next future leaders generations.

Sreng Rithy

Officer

GDA- Ministry of Agriculture Forestry and Fisheries (MAFF)

**1. Three keywords**

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	Rectangular Strategy of RGC	Agriculture Strategic Development Plan 2009-2013	Strategy for Agriculture and Water
<i>after</i>	Plant Growing	Environment	Farm Management

<Reasons, Explanation or Justification>

Upon leaning the theory and conducting field study, we are able to acquire some understanding which can serve as a foundation for broadening our knowledge. Indeed, what I have gained is so much, but for this moment I would like to mention only three important points as following.

Keyword 1: Plant Growing

Forests play a vital role in environmental protection, and they contribute substantially in preventing climate change. We can initiate “green nature” by conserving forests and further planting diverse varieties of plants on the planet. Sustainable forest management, reforestation, and forest preservation are essential for human beings. Natural forest and wildlife conservation can transform the whole area into eco-tourism attraction under the protection by law of the engaged communities. Good forest conservation ensures habitats for wildlife and attracts a large number of tourists. Therefore, we should act together to conserve the forest and grow more trees so that we can make a contribution to curbing climate change for a betterment of the environment.

Keyword 2: Environment

Sustainable forest management, water monitoring, natural disaster prevention, the enhancement of urban environment, natural forest conservation, reducing the use of carbon dioxide- emission equipment, no waste disposal in public places, using cars fuelled by solar energy, and other alternative sources from solar power can all make a contribution to reducing climate change for cleaner environment. Obviously, these activities show us the culture and tradition of this industrialized country.

Keyword 3: Farm Management

This practice owes its existence to good theories for Japan. Growing grass for animal feed, good field preparation, tilling and water supply are all important factors in livestock production. Cow rearing in my country and Japan is very different; Cambodian peasants raise cows for drafting, whereas Japan farmers raise cows for dairy. In addition, Cambodia is a small country that does not have sufficient lands for raising dairy cows. Dairy cow farm management system of Japan country is practically good. It acts as a role model and a good experience for us. I shall disseminate this experience to my country so that she will become a developed one like Japan Country

2. Opinions and Comments

I learn many things from Japan. clean and beautiful country, farm management, plant growing, economy, technology, art and culture, environment, history and culture traditional, policy and diplomacy... I have strong commitment to learn new things and my future action plans are connecting farmer's and share it with my colleague and next generations.

Chea Vannarith

Chief Office

Ministry of Water Resource and Meteorology

**1. Three keywords**

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>			
<i>after</i>	Cultural	Holistic	

Post-Programme Report

After joining JENESYS East Asia Future Leaders Program 2010/2011 on “Agriculture and Food”, I also think about ideal state of agriculture should be sustainable agriculture and fisheries but I want to develop my 2 keywords into complete meaning.

1. The purpose of training

The purpose of JENESYS East Asia Future Leaders Program 2010/2011 on “Agriculture and Food” is to strengthen the capacities of the participants on agriculture and fisheries. It also exchange the innovation experiences in each participant’s countries and show the agriculture and fisheries in Japan to 14 countries, that 10 countries are from Asian members. The JENESYS Programm is practicing in Cambodia, Vietnam, Lao, Thailand, Malaysia, Philippine, Indonesia, and India.

2. Summary of Training

This training divided in Method and Group Discussion questions/answer and offers the comment on actual work/practice in study tour and farm. The following is showing the result:

- To know more on the situation of agriculture and innovation technologies in Japan.
- Work with the Japanese farmers, with modern equipments that we never use before.
- Get a lot of knowledge from the professional lecturers in agriculture and fisheries before practicum in the field.
- To understand the way to live and culture of people in Japan.
- to listen and understand of the 1st presentation Mr. ASAOKA (Tokyo University of Agriculture and Technology)
- Mr. KITAGAWA (Ministry of Agriculture Forestry and Fisheries)
- study tour to Hokkiado (the largest agriculture and fishery area in Japan)
- To participate in Workshop on Sustainable Agriculture in Hokkiado University Cooperative of Education Kushiro Campus.
- study tour to the office of fisheries and to plant the trees at the seaside for fish protection.

4. Conclusion

After the training on Agriculture and Food in Japan, all the participants get the knowledge and innovation experiences, especially on agriculture, fisheries, crop seed, soil laboratory to use fertilizer and the management of farm to be successful.

First keyword is a “Holistic” refers to holistic view of sustainable agriculture. The whole components of sustainable ag-

riculture contain at least 6 dimensions feature

- (1) New Environment in Japan
- (2) New Technology in Japan
- (3) Social Economic in Japan
- (4) Cultural in Japan
- (5) Fisheries in Japan
- (6) Mind. The system perspective is essential for understanding sustainability because at the present world food and agriculture situations meet many crisis in the same topic such as outrageous natural disaster from climate change, competition of land uses for food production between bio-fuel production, lack of young farmer and new generation in agricultural sector. Policy making should be based on consideration of this 5 dimensions before take action on our agricultural sector and production ,

The Farmer Stay



Group Discussion



Second keyword is a “Cultural” refer to cultural view of sustainable agriculture. The whole components of sustainable cultural at least 3dimension feature.

- (1) In traditional farming usually let the soil rest for few month before planting another crops.
- (2) Cultural lost is very important factor to consider in this increasing society. is just one way of giving love to the fellow farmers, sharing the hardship of producing foods. Preserving other related agricultural or cultural practices of farmers in this world would somehow help a society more peacefully.
- (3) In some other remote area in this locality, cultural practices like or helping one another in workings in their farm are still being practices. some area, however, were lost already since most farmer could have enough money to pay for their laborers, the practices of is no more.

Indonesia

Ratu Putri Ramanti

Technical Officer

Center for International
Cooperation, Indonesia Ministry
Agriculture



Sudirman

Program Coordinator

BAPPEDA of West Nusa
Tenggara Province



1. Three keywords

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	Rural Development	"One Million Beef Cattle Program"	Communal Cattle Farm
<i>after</i>	Rural/Farmer Development	Local Natural Resources Based	Communal Farm

<Reasons, Explanation or Justification>

The reasons to changed our key point on One Million Beef Cattle Program to Local Natural Resources Based due to in the GENESYS Program we did not find beef cattle farming but only dairy cattle farming, and as long as program we discussed not only for the dairy cattle farming but also regarding forestry, fishery and agriculture so we also changed communal cattle farm to Communal farm. But in principle a million beef cattle production is similar with local natural resources because the program is using local resources based. The summary of our view regarding the program as below:

Sustainable farming seeks to make the best use of nature's goods and services whilst not damaging the environment. It does this by integrating natural processes such as nutrient cycling, nitrogen fixation, soil regeneration and natural enemies of pests into food production processes. It also minimizes the use of non-renewable inputs (pesticides and fertilizers) that damage the environment or harm the health of farmers and consumers. It makes better use of the knowledge and skills of farmers, so improving their self-reliance. And it seeks to make productive use of social capital - people's capacities to work together to solve common management problems, such as pest, watershed, irrigation, forest and credit management.

Sustainable agriculture is also multi-functional within landscapes and economies – it jointly produces food and other goods for farm families and markets, but it also contributes to a range of public goods, such as clean water, wildlife, carbon sequestration in soils, flood protection, landscape quality. It delivers many unique non-food functions that cannot be produced by other sectors (eg on-farm biodiversity, groundwater recharge, urban to rural migration, social cohesion).

Sustainable agriculture is, therefore, defined as agricultural technologies and practices that maximize the productivity of the land whilst seeking to minimize damage both to valued natural assets (soils, water, air, and biodiversity) and to human health (farmers and other rural people, and consumers). It focuses upon regenerative and resource-conserving technologies, and aims to minimize harmful non-renewable and fossil-fuel derived inputs in the short-term and eliminate them in the long-term.

As sustainable agriculture seeks to make the best use of nature's goods and services, so the technologies and practices must be locally-adapted. They emerge from new configurations of social capital (relations of trust embodied in new social organizations, and new horizontal and vertical partnerships between institutions) and human capital (leadership, ingenuity, management skills and knowledge, capacity to experiment and innovate). Agricultural systems with high social and human capital are able to innovate in the face of uncertainty.

2. Opinions and Comments

Our most impressive events on this program is home stay with Japan Family, we have enjoyed very much about culture, food, specious environment and people's kindness in Hokkaido.

Local Natural Resource Based

How to make farmer and farm sustainable, the farmer should not depend on external resources for any kind of input – right from agriculture technology to seeds to fertilizers to pesticides.

Effective natural resource management would identify risks and promote the adoption of practices that better manage the impacts of agriculture on the environment, bio security threats need to be assessed and managed to ensure the agricultural industry and nature resources are not at risk. Considers soil as a living organism and bank for crop nutrients. Focus is on building soil microbial activity, three pronged strategy to enhance earth worm activity in soil, elimination of chemical fertilizers, adopting mulching and application dung based inoculants diversified / poly crops maintain soil fertility in addition to reducing disease load.

Sustainable agricultural practices not only preserve the natural resource system and maintain ecological balance, they are also conducive to the growth of other socially useful animal and plant varieties. On the other hand, indiscriminate use of fertilizers and pesticides is not only harmful to natural resource balance at the same time injurious to socially useful other plant and animal varieties. As resistance for pesticides increases with each crop cycle, farmers are forced to use dosages of pesticides, which not only are costly also threaten birds and other similar animal varieties which are dependent on agriculture. Hence, in order to protect livelihood of a large number of farmers in my state, it is necessary that sustainable and ecologically friendly agricultural practices are adopted and facilitating environment, institution, processes and appropriate extension package. Organic farming introduces the production of crops without the use of synthetic chemicals and inorganic fertilizers. Organic farming is healthy for both the farmer who produce our food and our environment for it avoids poisonous chemicals. It creates a living soil full of life with microorganism fungi and earthworms. It is also rich in macro and micro – elements which are needed by the plants. Unlike other economic sectors, agriculture is inherently multifunctional or multipurpose. It has a profound impact on many other aspects of local, national and global economies and ecosystems. These impacts can be either positive or negative. A fundamental principle of sustainable systems is that they do not deplete capital assets, whilst unsustainable ones deplete them. Two vital feedback loops occur from outcomes to inputs: agricultural systems shape and impact on the very assets on which they, together with many other sectors of economies, rely on for inputs. More sustainable agricultural systems, therefore, tend to have a positive effect on natural, social and human capital, whilst less sustainable ones feed back to deplete these assets.

Rural/Farmer Development to increase income

Agoindustri left behind in rural areas, so agriculture is still dominant in the production aspects of on-farm with income level is relatively small service businesses and growing, capital and technology, so that the image of farmers and agriculture more as a traditional cultural activity, rather than a dynamic socioeconomic and challenging. This condition is ultimately less attractive interest young people in rural areas for work and business in agriculture, especially for those who have attended secondary school education and above. Therefore, the future needs to consolidate efforts to develop agro-industries in rural areas, including through the development of the Integrated City area Independent, so the provision of goods and services, foster business support of business and employment opportunities for new employment in rural areas. In addition, should also encourage the development of agricultural mechanization (right engine) for the agricultural sector of young people more attractive than increasing productivity, quality, added value, efficiency and competitiveness of agricultural commodity production.

Until now, farmers with micro-scale (household) are faced with limited accessibility to the sources of financing, technology, and markets and market information. This condition requires institutional strengthening efforts, guiding and mentoring services as well as ease of facilitation of goods and services needed in the production process. Institutional business groups are now many do not work, while most are still there also has not been able to play a role in supporting farmers' incomes increased significantly. This is needed for efforts to strengthen the institutional consolidation how the combined efforts of business groups and the groups to be able to act as a medium in enhancing the capacity of members, so as to increase the accessibility of the group and its members to sources of financing, technology, markets and market information

and facilitate development and assistance provided by government and society. Agriculture is, therefore, fundamentally multi-functional. It delivers many unique non-food functions that cannot be produced by other economic sectors so efficiently. A key policy challenge is clearly to find ways to maintain enhance food production. But a key question is: can this be done whilst seeking both to improve the positive functions and to eliminate the negative ones.

Communal Farm as an effective agricultural extension system

The level of farmers is relatively limited technology amid an increasingly tight market competition require technical assistance and intensive training and ongoing management. It also requires technical capacity building tool that is able to serve the specific technology guidance (commodity) in accordance with the needs of farmers and able to act as a mediator for the sources of financing and markets, and can communicate and coordinate with other stakeholders including field staff in improving the welfare of farmers and security family food. The wide area of agricultural extension work and the number of individuals / groups of farmers who have served also requires the ratio of farmers and extension workers and the fulfillment of the ideal means of transportation, communication, visual aids and operational costs of adequate guidance. So the effort required to achieve an effective extension system through the establishment of institutions that are supported by capacity extension and a proportionate number of agents, working facilities and operational facilities are adequate, sustainable development and open to the public who are interested to participate in extension activities. To meet the needs of agricultural extension for agricultural development and resilience, not just assigned to the extension of civil service status, but must involve an extension of the community in helping themselves and voluntary participation.

Laos

Pany Vanmanivong

ICDP Team Leader

NORMAI



1. Three keywords

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	non-chemical agriculture product	sustainable Development	Farmer group
<i>after</i>	Eco-friendly/safe energy	Farmer school/learning center	Integrated Farming System

<Reasons, Explanation or Justification>

First of all, I would like to say that I have learn many thing through this programe and made me change some of my key word about ideal state of agriculture after attend the programe and made me clear more about environment friendly; it is not only don't use chemical in agriculture then make friendly to environment, but it concern to everything around the world or us I will mention the real example: in JENESYS programe, when we arrived Japan the Japan Foundation team gave us each pair of Chop strict, the idea was to use it when we go to eat or in restaurant so we don't increase garbage, wood or bamboo would not cut to make chop strict and can safe our resource, etc..Walking or using Bicycle instead of using vehicle to go to work that save energies.

For key word about community supported, i got some idea to make me clear about these, except we support community about some new techniques and information to let them practice, monitoring and evaluate the technique that they used, but the result would not distribute to other people to learn or know, so learning center/school farmer is the once to bring people to come together to share, practice, learn and help each other in community. That because inside community will know them well what they need to do or support, people from inside can support community longer than outside people, if they had strong leader or community they can support themselves and other places.

The last key word of sustainable is integrated farming system, the reason is single thing or person can't do or work well without support or input something, for example in a farm if they only raise cattle they will buy food for cattle all the time and if one day the food company stop how can that farm stay, so everything look similar. I will take about some good part of integrated farming system that I have seen or know: in farm they have everything with agriculture such as rice field, vegetable garden, fruit tree, forest preservation, cattle, pig, fish and poultry, etc..farmer can use rice straws for cattle feeding, rice brand for pig, fish raising and can use drug of cattle, pig and leave from tree-vegetable to make compose then put into rice field and vegetable to improve the soil and get more fertile and product (Rotate nutrient in area) or we can say low input cost in sustainable agriculture.

2. Opinions and Comments

Through this programe I impressed of Japanese, they are very polite, honest and think about environment protection and everything was well organize, during stay there I don't worry about unsafe from people, but only the weather.

I have learn a lot from this programe such as: Japanese lifestyle, culture, food, Education system, agriculture, etc..especially I have many friends from difference country and learn how to communicate each other and share our experience

about agriculture and other issue related to environment friendly, sustainable development.

I will try to achieve the idea state of agriculture by sharing information that I have learn to my friends, other people that work related to issues. After sharing experience I will plan to start some activities about sustainable agriculture like integrated organic vegetable garden in my area with villager and plan to have network with participant from JENESYS pro-gramme also.

Bouthsakone Inthalangsee

Technical Officer

Department of Agriculture, Ministry of Agriculture and Forestry

**1. Three keywords**

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	Organic standards	Poverty reduction	Sustainable
<i>after</i>	Organic Agriculture	Poverty reduction	Sustainable development

<Reasons, Explanation or Justification>

Aside from the government of Lao PDR, other countries also strongly support organic agriculture largely due to food safety, improved income, ecological soundness, environment sustainability, reduced poverty re in terms of higher price, and lower production cost.

According to the Lao National Organic Standard, the principal goal of organic production is to promote sustainable agricultural production system, which provides everyone involved in organic farming a quality life that satisfies their basic needs, with a safe, secure and healthy working environment by developing a harmonious system of farming and minimizing the use of synthetic chemicals such as synthetic pesticides and fertilizers, genetically engineered plants, growth regulators and food additives. The use of such is not permitted in organically certified farms in Lao PDR. Practicing organic agriculture is expected to reduce the prevalence of unnecessary residues in food, enhancing the environmental health of the farm ecosystem, and promote well-being.

With the increasing focus on health and nutrition, sustainable agriculture, and going “green”, the demand for organic certified food products has greatly increased and organic food is a growing market and is becoming a way of life. There have been concerns of consumer on confusion over product recognition, thus, it is important to increase consumer’s awareness of organic farming and certification. Certification has been recognized as a tool for protecting consumers, producers, and traders against the use of misleading or deceptive organic labels, which ensures the integrity of the products to the public.

The worldwide promotion of organic agriculture for poverty reduction was pioneered by farmers themselves and was advocated by NGOs, who worked closely with poor farmers and witnessed the serious negative health and environmental consequences of agrochemicals. More recently, governments and donors have taken note of organic agriculture’s potential as a development strategy, mainly due to increasing global demand for safe food and potential price premiums for organic products.

In most developing countries, supermarket chains in the urban area are responding to increased demand for safe food by contracting farmers to produce organic crops and livestock or with reduced amounts of chemicals. Many farmers in remote areas have more advantages over farmers in agro intensive areas because the farmers in agro intensive areas practice more modern technology with application of more chemical synthetic inputs and over use of land. Hence, the farms in remote areas will be required with a shorter transition period than the farms in intensive areas. This gives the poor an edge in terms of immediately capturing the benefits of producing certified organic products for the domestic and international markets.

Organic agriculture is likely to benefit the poor living in organic production areas by improving productivity and income and promoting environmental sustainability.

A relative competitive advantage of Lao PDR is the fact that other governments have been developing agricultural food production by introducing considerable amounts of potent fertilizers, pesticides, and herbicides along with new hybrid varieties and irrigation, making it more challenging to convert to organic production systems. Since for many small farmers, especially those in more or less remote areas, such conventional “high” input methods are not only less relevant, but simply not affordable, and not appropriate as they will cause heavy ecological damage to ecosystems that are still intact and/or relatively well preserved and demonstrate a high level of biodiversity that shall be maintained and protected. Organic agriculture is not only relevant for this type of conditions, but most probably the only appropriate approach towards sustainable development.

Organic agriculture production has high potential in Lao PDR in terms of favorable environmental condition and demand of internal and external markets. To promote organic agriculture production, certification is an important issue is not only creating integrity among consumers, traders and producers but acts as marketing instrument to able to obtain premium prices.

2. Opinions and Comments

I am very glad to have opportunity to participate in the JENESYS program with Food and Agriculture group. That was my first experiences to visit Japan, learn Japanese language, try Japanese food and experience Japanese culture. During my stay in Japan I feel thrilled with the Japanese livelihood; to me it is very interesting, organized and peaceful.

During the program I had learnt and experienced food and agriculture development of Japan especially the good practices of key producers. I had good experiences of farm stay in a Japan dairy farm. In that farm I learned about Japanese government support to agriculture development. I have also learnt about situation of food and agriculture of Japan and its development strategy. In addition I have exchanged more with participants about the situation in their home countries and their perspective in sustainable agriculture development.

After the program I learnt that in many countries have very similar ideas and perspectives for agriculture development. Many countries are giving attention to sustainable resources management which is related to sustainable agriculture development. The key points are self sufficiency, long term benefit, sustainable income, health concern and environmental friendly. These key words are putting in consideration of food and agriculture long term perspective. Therefore, the experiences from the program inspire my idea of agriculture development as my pre-program report.

I am now working in sustainable agriculture development in Laos especially organic agriculture movement. I expect to continue to promote this development activity. From the program I have learnt that many participants are involved in this area. So I can see the potential to be counterpart and network in the future.

I am very appreciate to participate in this program, I think it is very good program so it should be developed more and exchanged more in the future. I hope that through this program we as participant can be the link to exchange in this area of work.

Wan Mohammad Zukarnain Bin Baharudin

Agriculture Officer

Department Of Agriculture



INTRODUCTION

Arigatou Gozaimas and Sayonara. Good experience when I was in Japan for 12 days, it's look like my dream come true and something we cannot changed with anything. Thank you so much for Japan Foundation because invited me for join this programme and fulfill my ambition come to Japan. Japan is good and nice also clean country, it's very different with other country and have nice and kind people, it's very interesting country that should be follow with others country in Asia and in my opinion after visited, Japan can be a leadership for Asia country in development and culture. During this programme the Jenesys facilitators bring and exposure us with so many thing especially about the sustainable of agriculture, they bring us to the diary farm, onion farm and interview the farmers experience and also still in my mind about nice experience in farm stay, it's very interesting agriculture programme and more information we got especially at Hokaido, Japan. All the information about the system agriculture in Hokaido will help us to fine the good key word at the final programme and the key word may help us to apply in Malaysia. The key word I got from this programme is sustainable of agriculture, clean agriculture and agriculture policy.

KEY WORD POINT

A) SUSTAINABLE OF AGRICULTURE

Hokaido, Japan can be a example how to achieved the sustainable of agriculture. In Hokaido the system agriculture especially dairy farms show a good sample. The farmers use waste from animal and apply again to the farm for grass growth and cow feed. They use low input but still can increase the production. The waste from dairy house was bring continuously using the escalator to the compost house and was composting about 3 month. The compost was applied at the farm field as fertilizer for grass growth. The good in waste management from diary house and use again the waste is part of good agriculture practices and sustainable agriculture what we need and should be follow by Asean country. The compost was use because to increase the soil fertility and grass quality for cow feed the healthy grass free from chemical synthetic. They also use the bulldozer and others gear for efficiency their management at farm and compost house, indirectly they do not use so much human energy and numbers because that why the farmers at Hokaido work as family farm and the farm was relegating by generation to generation The milk produced from cow will be collected as knot system every 2 or tree days depend on numbers of cow. They also use milk for value added as chesses. The model and concept system show at dairy farm in Hokaido will be applied in Malaysia for integrated the crop and animal. The concept here use the waste from animal for crop growth, and crop waste for animal feed.

B) CLEAN AGRICULTURE

In Hokaido, Japan they use the clean agriculture as a word for promoting eco- friendly agriculture and mostly farmers they planting the onion and potatoes. Clean agriculture also similar with organic farming but in Hokaido they divided into four criteria are; 1) ECO Mirai its mean cut chemical pesticide and fertilizer amount by approximately 40% from standards stipulated to improve soil fertility by infusing compost and manure, 2) Yes clean its mean cultivation that reduced chemical pesticides and fertilizer based on standard stipulated in Hokaido, 3) Special cultivation its mean cultivation by limiting

chemical pesticides and fertilizer amount to half of standard amount, 4) Organic cultivation is cultivation without any chemical pesticides or fertilizer. This step and criteria give me some idea to apply in Malaysia. To achieve organic farming standard the farmers should through the three steps before they get the organic cultivation standard. One of the my interesting experience when I was visited the onion and potatoes farm they use the microbe as lactobasillus sp for control the onion and potatoes skin quality. The farmers also use the compost from cow manure for improve soil fertility. They also use the urine waste (already treat by microbe) from animal for use as fertilizer. The organic cultivation is very important in Hokaido for produced the healthy yield in the future and the application of technology in organic farming will be improve time by time.

C) AGRICULTURE POLICY

In Japan, food and agricultural policy are designed to ensure stable food supply and maintain the sustainable agriculture are; 1) Food are essential consumption goods to maintain life, with consumers required to purchase a certain volume irrespective of pricing or level income, 2) Agriculture requires a long production period and its production volume is affected by weather condition, 3) Current Mode of production is mainly family-based. The new agriculture policies are based on three pillars including income compensation and the creation of the sixth industry. The three pillar improve food self sufficiency and agricultural competitive edge are; 1) introduction of income compensation program through the create an environment enabling motivated people to securely enter the agricultural business and engage in agriculture, 2) Creation of the sixth industry by agriculture/forestry/fishery villages through increases income through improved selling price, 3) Shift of production system to better meet consumer needs.

CONCLUSION

During stay in Japan, especially in Hokaido I got so many experiences through the technology development in agriculture and their people culture. All the good information including the key word will be apply at my country and I will tell everybody in Malaysia if they have chances or opportunity, they should be visit this nice country. Thank you Japan.

Syed Zulkifli Bin Syed Zainulabidin

Veterinary Officer

Jabatan Perkhidmatan Veterinar



1. Three keywords

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	Constant supply	Livestock industry	Transformation
<i>after</i>	Supply and demand	Global situation	Transformation

<Reasons, Explanation or Justification>

I've chosen three keyword which I think suits with what the sustainable agriculture need to be. To have a sustainable agriculture we have to think about supply and demand of food to consumer. Through this can we determine what is the number of production need to be produce and by this can optimize the total cost production of feed. We also need to see the global situation occurring today. Increase number of population, climatic changes and economic stability. These factors reflect the sustainable agriculture. As well as transformation is needed to transform small scale farmers to a high producing farmers, technology and machinery are needed to produce high production with low cost of production

2. Opinions and Comments

JENESYS POST-PROGRAMME REPORT

EAST ASIA FUTURE LEADERS PROGRAMME – FOOD AND AGRICULTURE GROUP

In Japan, the JENESYS future leaders group have been brought to several agriculture places, farm, corporation, and experimental institutes to experience and compared the concept of farming in Japan with the participant's country. It is a good way to experience Japan, learn the culture and the people, as well as to see the way of agriculture in Japan. Several lectures conducted have shown the participants about agriculture concept in Japan. The main issue is about how sustainable agriculture can be performed in agriculture now days. Sustainable agriculture is a way of raising food that is healthy for consumers and animals, does not harm the environment, is humane for workers, respects animals, provides a fair wage to the farmer, and supports and enhances rural communities. Is sustainable agriculture a better way of agriculture, comparing to agriculture system used today?

The JENESYS group have the opportunity to visit Hokkaido. Hokkaido in Japan has been the main producer of agriculture products such as crops, vegetables, meat, dairy and fish and supplies the demand to big city such a Tokyo and also exported their product to other countries. It is good to see how the Japanese tend to manage and marketed their agriculture product in a good way. They tend to secure their product quality and making sure the safety of food to consumer. A lot of experiment conducted by experimental institutes and put in technology to increase the agriculture production as to transform agriculture as a worthy business. A major transformation of agriculture from small scale farmers to a big corporation has seen changes occur year by year. Big corporation has a better management and facilities to conduct such small and big farm and tend to manage the supply chain to suit the supply and demand of food to consumer. This is a good way for other

participant's countries to learn and experience how the Japanese has been successful in agriculture. We have the opportunity to visit a group of farmers which has conducted a concept of 'my pace farming' in Hokkaido and also have the opportunity to stay with them as a farm stay to experience the life of Japanese farmers.

Concept of 'My Pace Farming' conducted by a group of dairy farmers has shown the way of sustainable agriculture which consist of interaction between human, animal and environment. How this interaction works has been presented in such that there is no wastage occur. The majority of sustainable farms in Japan are run by family farmers who are hard-working, honest and sincere people. They work all hours of the day and night to bring the freshest, tastiest, best quality food available. The use of technology has surge the way of sustainable agriculture in this concept. The question is whether the concept suits the need of global food supply. The concept of 'my pace farming' is to optimizing the production, decrease number of animal, lower the production cost, and increase happiness to the farmers, without looking at a whole picture of what is the optimum number heads of animal comparing to the total acreage of land? What is the optimum production of the animal per year, meat or milk? And what is the contribution of farmers to the global community?

Probably the concept can be used in developing country such as japan, but in countries with high population of people such as Indonesia, India and China, as well as developing countries which food production and starving is the main issues, this concept cannot be adapt thoroughly. They need to produce food quickly with very high quantity and sometimes without controlling the quality of feed produced. These countries tried to adapt the concept of sustainable agriculture, but yet they still need to use pesticides, chemical fertilizers, and other method which is not sustainable for agriculture. They need to suit the supply and demand of the consumer which needs food daily. A practice of sustainable agriculture is not common in these countries. The global situation tends to play major role to sustainable agriculture, with economic situation down the prices of animal feed, agriculture products and food products increase. The climatic changes show the destruction of agriculture land, less rainfall, draught and others which effect the production of food. Also shown is the increase global population which reaches 6 billion and the need of food is drastic, to suit the population need and the population numbers is rising, causing more people sick and dying of be malnourished.

For my opinion the sustainable agriculture is more a way of life rather than some parameter which we need to follow for having a better life. It is impossible to do sustainable agriculture 100% in a global situation such as today, but measuring steps taken has slightly increase awareness among people to participate in it. Such awareness tends to more and more people participate in doing sustainable agriculture. Each step taken for sustainable agriculture benefits both us and our family, and helps preserve and protect the planet for future generations.

Naw Diana Htoo

Managing Director/ Business Development Planner

Kainnari Food Industries/ Myanmar Dairy Industries Ltd

**1. Three keywords**

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	Cost-effective	Technologically-Advanced	Govt-Supported
<i>after</i>	Cost-effective	Technology-based	Govt-Supported

<Reasons, Explanation or Justification>

The dairy farming industry in Hokkaido operates on an impressive integration and collaboration between the Japanese government, agricultural extension centres, agricultural cooperatives and farmers.

Farmers are provided with land and low interest loans to start a farm, be it small or large scale. The simplest of farms have at least a milking pipeline in their barns to extract and store raw milk, while the larger scale farms utilise milking parlours of varying capacities. Of the 80 yen that dairy farmers currently receive per kilogramme of milk, 5 yen is subsidised by the government. Farming schools such as Betsukai Town Training Dairy Farm have also been established to cultivate new dairy farmers. Agricultural cooperatives provide support in terms of farm management guidance, supplying feed and equipment, production and sale arrangements, et cetera. At the same time, institutions such as the Konsen Agricultural Experiment Station engages in comprehensive dairy farming research to develop new technologies for low-cost production of safe, high-quality milk, while the Nemuro Livestock Hygiene Service Center focuses on the prevention of contagious diseases among livestock.

All these factors have contributed to the current state of Japanese dairy farming. However to better grasp the success of Japanese agriculture, we have to understand the three pillars of the Japanese post-war constitution: Democracy, freedom and basic human rights.

In the town of Kunneppu in northwest Hokkaido, all citizens are entitled to education and healthcare. The municipality has spent 10 million yen to build high schools and develop various school programmes, and it has made education compulsory up to the level of junior high. Healthcare is also free for children below elementary school level. As for the elderly, medical and nursing care is subsidised - those over the age of 65 pay only 10 per cent of their bill. To further improve the quality of life, Kunneppu town engages in the promotion of the arts and culture as well.

At the same time, city planning takes into account housing for single and elderly citizens. New infrastructure is also constructed for farmers, so as to ease the transportation of agricultural products and machinery, improve rain drainage and enhance soil fertility. New methods of farming such as organic or clean farming have also been introduced to better the health of the people and cope with the changing climate.

In contrast, the main state of dairy farming in my home country of Myanmar is at a labour-intensive, low-technology level. There exists a few large dairy farms, but the majority of dairy cows are raised by small-scale, uneducated, rural farmers with 20 cows or less - this latter group can neither afford to purchase sufficient quantities of imported feed, nor any sort of modern farming equipment such as a pipeline or milking parlour. Owning and maintaining pastures with superior imported grass for grazing is beyond their means as well. They are also unable to improve breeding techniques due to a lack of knowledge and capital.

As mentioned in my pre-programme report, the lean diet and poor health of the dairy cows have led to low efficiency rates. Holstein cows which have a daily milk yield of 30-40kg per head in Japan and other developed countries, can only manage an average of 4 viss (6.5kg) in Myanmar.

Another difficulty faced by farmers and producers of dairy goods here is the lack of basic infrastructure for the transportation of raw milk to village centres or processing plants, and of finished products to the market. Logistic costs are hence unnecessarily elevated. Moreover, with an irregular supply of electricity, processing raw milk sometimes requires diesel generators which are costly to run.

As the income level of the general populace is low at just over US\$1 daily, all finished goods are priced likewise. Thus the resultant high logistics and energy costs add to the production cost of processing plants, and is passed on to rural farmers via a low milk price.

Due to the fact that rural farmers cannot afford to install milk pipelines and so manually pump for milk, hygiene becomes another problem. At times, the milk from rural farmers become contaminated and cannot be sold, and the farmers' income is further reduced.

This low and at times insecure source of income, coupled with high input prices is not at all cost-effective or profitable for these rural farmers. Many struggle simply to make ends meet, especially when inflation hits but income stagnates. It is therefore difficult to fault the farmers for ignoring calls for sustainable farming, or for not concentrating on the well-being of their cows or the land.

Support for Myanmar dairy farmers is hence critical and urgently wanting. What we require is increased involvement from the central and municipal governments, and the establishment of various organisations and institutions that can assist farmers in both monetary and non-monetary terms. Education on farm management and hygiene, development of low cost production, research on improving pastures, breeding techniques and milk yields, as well as provision for financing and insurance areas that need to be looked into by the government, with support from the private sector where required.

Even if the private sector is to take responsibility for the re-organisation for the dairy farming industry, the state will have to play a role in creating new infrastructure, to make provisions to lower farming and production costs considerably, and to boost the overall welfare of all dairy farmers.

2. Opinions and Comments

As with any business owner, maintaining a cost-effective mode of operations with low economies of scale is one of the top priorities. To achieve this, it is oftentimes necessary to up production through modernisation and increased efficiency, boost sales, and further expand the business.

When I was invited to observe the state of Japanese agriculture in Hokkaido, I imagined that I would be seeing large-scale, efficient farms that rely heavily on the newest and latest machinery. Industry behemoths such as Toyota and Sony are renown for high productivity and innovation after all, and I expected no less from the agricultural sector.

Hence I was surprised when I was introduced to Mitomo-san and the concept of "My Pace Dairy Farming". Here was

an individual who refused to allow capitalism and other external influences to dominate his life. He had rejected the notion of a solely profit-driven, large-scale enterprise, switched his cows from imported feed formula to grazing, and boldly reduced his number of cows to meet his “one cow per hectare of pasture” ratio.

Today, Mitomo-san is raising 36 milking cows on his farm - a number that affords him leisure time as well as a true enjoyment of dairy farming. With fewer cows, he is able to watch and care for each his cows better, thus reducing avoidable diseases and accidents. He has also been able to cut back on huge investments in machinery and high costs of labour. Consequently, the pressure of repaying loans and worrying about the bottom line has diminished as well.

What is noteworthy is that it is not simply a method of farm management which Mitomo-san imparts to us, it is his philosophy of life. Mitomo-San truly believes in treating nature as a human being; what nature can provide for us is based on what we offer it. We tend to think that we are living in a limitless world, but in actuality, the land has limits and so does the earth. That is why Mitomo-san cultivates a sort of spirituality with nature, in order to understand its needs. He has stopped adding fertiliser to his pastures and instead, uses compost made from manure. The benefits to the soil are then passed on to his pasture-grazed cows through their milk. There are numerous farmers and researchers worldwide who believe that cows, being herbivores, survive best on grazing. Raising them on grain feed creates a dissonance with their biological makeup, and may even harm the cows in the long run, causing them to develop gastrointestinal illnesses such as abomasal displacement or mastitis.

Placing the well-being of his cows and land before profit may have caused the total milk production volume of Mitomo-san’s farm to drop, but his overall income did not decline as much. The reason, apart from reduced costs, is that the health of his cows has improved, their life span extended and they are able to have an average of six to seven births in their lifetime. Most importantly, it has allowed Mitomo-san to return to being a farmer who values the quality of life, rather than a business-driven farmer who focuses on quantity.

Like Mitomo-san, we all need to examine our relationship with nature, regardless of how much or how little our occupations revolve around it. Especially with the increasing global focus on climate change, we have been introduced to a “Greener” way of living that practises organic farming or leaving fewer “carbon footprints” on earth.

Johnny Tiwatiw Masiong

Member

La Trinidad Organic Practitioners Multi Purpose Cooperative (LaTop MPC)



1. Three keywords

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	Organic Farming	Agro Forestation	Cooperative
<i>after</i>	Food Quality	Eco Friendly	Economic Stability

<Reasons, Explanation or Justification>

Food Quality:

Food quality is one of the three basic needs of human. But how can we be sure the foods we eat are healthy and free of chemical residues? According to the nutritionist low quality foods such as foods that are full of preservatives and chemical residues are one of the contributing factor of human health problems such as cancer, tumor, cyst etc. Therefore it is very important to ensure the quality of foods we serve in our tables. Organic vegetables is one of the nutritious and healthy foods, because these are grown naturally in organic base fertilizers such as compost and green manure. Organic farming promotes and produces quality foods. Because organic farmer’s primary concerned is the good health of the buyers as well as the consumers. This is one of the mission of the La Trinidad Organic Practitioners Multi Purpose cooperative (LaTop MPC) to create a good relationship between the organic farmers and the consumers. In that way we create more friends and consumers to build an organic consumers society.

Eco Friendly:

Now a day modern technology in agriculture farming is obviously became an enemy of our environment. This is because of continues land conversions by using machineries such as backhoe and bulldozers. This scenario in our place is really a big problem. The environment is being sacrifice. Another problem is too much using of chemicals such as pesticides, herbicides, fungicides and synthetic fertilizers such as GMO in a conventional farming system. In these case our environment is really suffering from chemical pollutants and the destruction of life cycle in a biodiversity.

We are not against modern technology in farming, but we must also give importance to our environment, because this is our partner in agriculture. If thus will be totally destroyed farming industry will suffer. Another mission of the (LaTop MPC) is to promote an eco friendly way of farming, this is by prohibiting it’s members to use all kinds of chemicals that kills beneficial microorganisms in the soil. But encourages each members to make our own compost as a natural fertilizer of our crops as well as to maintain the fertility of the soil. They teach as also how to manage pests in a natural way such as crop rotation, crop interval, and insect repellent plants such as marigold, unions, etc. In these practice we can maintain the balance of nature and eventually we create an eco friendly way of farming.

Economic Stability:

Economic stability is the backbone of a developing countries, this is also a gauge of economic sufficiency. Japan is

known as the most industrialize country in Asia. This is one of the great contributing factor of its economic sufficiency. But when I went to Japan particularly in Hokkaido. I was amazed because almost $\frac{3}{4}$ of the total area of Hokkaido is engage in agriculture industry, like dairy farm, fishing industry, as well as tourism industry. This only shows that Japans economic stability is not only of its being industrial. The fact is that Japans government gives their full support on its agriculture industry. Obviously this is one of the great contributing factor of its economic stableness.

Philippines is very high potential when it comes to agriculture, because of its very good temperature, climate and weather condition. But it seems agriculture is the most neglected department in our government, because of its little attention when it comes to budget allocation. The fact that farm to market road is still one of the primary problem of agriculture in our place. Another is marketing system, the fact that many farmers are being bankrupt because of very high farm inputs and very low price of our vegetable produce. This is because of the global organization of traders policy or (GOT law). Volumes of tons of different vegetables are being imported from our neighboring country. This scenario really affects the law of supply and demand of our products. If only the government will give it priority support the agriculture industry, it will creates more jobs and employment that contributes economic stability to our country.

2. Opinions and Comments

First of all I would like to give thanks to the Japan foundation for I was able to go to Japan for a 10 days study tour, about food and agriculture programme. I thought Japan is an industrial country and agriculture is is their less priority. But when I was arrived there at Hokkaido I was so amazed because I found out that almost $\frac{3}{4}$ of its total area is agricultural land, considering that Hokkaido is the second largest prefecture in Japan. Farming industry in Hokkaido is a luxury job. Obviously farmers are living and very comfortable when it comes to financial status. The fact that every farmer owns 80 to 100 hectares and 80 to 150 head counts of dairy cows. This only shows that Japan government has its priority support on farming industry. Another is they had a very good cooperative system that helps every farmer member in their needs as well as employment.

One more thing I appreciated is that the Japanese people are very disciplined. The fact that when it comes to traffic rules, they are a law abiding citizen, when it comes to cleanliness they are strictly following the waste management, the fact that their public toilets is very cleaned and comfortable to use. Their houses, offices and buildings we visited are very cleaned and we must take off our shoes before we enter. I think this is one of their cultural identity that I admired most.

Agriculture industry in Hokkaido is far more advance when it comes to modern technology farming. Comparing to my country I think it takes more years before we will reach that kink of prestigious and luxurious farming industry.

In agriculture, food quality is my primary concern, the fact that if my produce is very good in quality, it will create a good relationship between the producer and the consumers. Secondly is an eco-friendly way of farming, this is to promote a good relationship between the famer and the environment. Lastly is to make a way how to promote the agriculture industry as one of the great contributor of economic stability. That is my ideal state of agriculture.

Lily Dangla Jamias

Forester

Cordillera Green Network



1. Three keywords

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	Unstable soil richness	Ecologically un-friendly	Cultural lost
<i>after</i>	Environment-friendly	Diversified-work	Labor less

<Reasons, Explanation or Justification>

At the preprogram report, I just described the agricultural situation of my community as a whole, though my community started into natural farming in the early days but was gradually shifted to conventional farming for how many years from now that's why I described our agricultural system as unstable soil richness, ecologically-unfriendly, and cultural lost which refers to the present agricultural situation in general though some cooperatives, organizations, and the Local Government Unit where starting to revive the sustainable agriculture my community was before after realizing its effect to people and the environment.

After joining the food and agriculture group of the jenesys program of Japan Foundation; I had learned and realized that we have our indigenous practices when it comes to sustainable agriculture which we usually practice and enjoy the benefits of it which I assumed that my colleagues from other countries has also like Taiwan, Laos, and India. Unlike Japan, they programmed their agriculture as ecologically sound and health-wise benefit for their people. I describe the state of agriculture in the East Asia Region and Japan as the following: Environment-Friendly; Diversified livelihood; and labor less work

Environment Friendly, like my community other countries who had already experience the effect of the conventional farming and now many people where concerned and relate their daily activities to the conservation and protection of our environment. Like Mr. Mitomo who had realize the effect of his work to his environment, he did not taugt of the economic consequences but work hard and enjoyed and appreciate what the nature could give him. He choose to work with human power rather than making use of mechanize power, it is true that machines destroys the environment, but working with our own bare hand we can control the damage and can feel its need and benefits for us. Mr. Mitomo had succeeded in his philosophy to work hand-in-hand with nature and appreciate what the nature could give..

In my community, we are promoting agroforestry system of farming because it is diverse cropping and it does not only reduce soil erosion but helps to combat climate change, but it is not merely to let the people plant high valued trees and crops but to promote the use of low cost farming inputs like the organic way of planting to maintain the nutrient of the soil and the environment. "My Own Pace Dairying" can infact be practiced in our community, be a great farm management method that is not only beneficial to the farmers but also more importantly, environmentally sustainable

Diversified-Livelihood, due to not so laborious way of farming, farmers could do another work aside from their main

work. Like Mr. Mitomo, he has time to rest and have fun with his cows and help his wife in his cheese making, he has his small farm and piggery, he has time to plant trees besides his grassland also. Mrs. Tabuchi, my host family, before she is in modern farming she spent longer time in the field or barn than in her bed and sometimes forgot to eat just to work and gain money in his dairy farming, but now she can go late in her work and has longer time to rest also.

This way of farming has many advantages to farmers, community, and environment. It is maybe not so stressful also if doing such different work but rather force the farmer or individual to learn and study many kinds of things that every individual could share to his neighbors, friends, and family; thus promote communication too.

Labor less work; traditional farming, organic farming, sustainable agriculture usually requires smaller area and small amount of budget than the mechanical and conventional farming. People doesn't know how to be satisfied when they themselves haven't experienced touching the soil with their bare hands. Farmers has always had the tendency to go far on their working field. In my community, farmers who has money to widen their area (labeling the mountain by the used of bulldozer) can go as far as the reserved area for watershed to cultivate for their conventional farm, the organic farmers maintain, cultivate their small farm every year. Organic farmers who once experienced the conventional farming testified that economic gain from organic and conventional farming is almost the same, even if you tilt a wide area but used expensive farm inputs will still compensate it for the expenses and labor, while in organic farming it doesn't require much labor and big amount of budget to maintain such small farm the economic gain will be equal to conventional farming only the difference of the two is organic farming will not risk your health, spent only for labor, and maintain the sustainability of the soil.

In the Mr. Mitomo farm, he make use of the old practice of dairy farming, he let his cow grazed in the farm and let them be in the barn in the night, its just a matter of training the cows also.

Through the initiative of our Local Government, Non Government Organizations and organic farmers cooperatives, farmers should be encouraged to practice farming as close if not the same as possible to that of organic farming. At the same time, the people should also be educated of the significance of patronizing organically produced crops or food. As what happened to natural farming in the early days, we could also gradually shift conventional farming into organic one... that's our goal.

2. Opinions and Comments

The most impressive for me are the: My Pace Farming, farm Visit, and tour around Tokyo, Tree Planting activity.

In the Mitomo farm, it's been a life sustaining, satisfaction, and inspiration to be in the MitomoSan's farm, as what I wrote in my report, he started in conventional farming and earn much money but after analyzing its effect to the environment he then made up his mind to return to traditional farming. There are many challenges that the family encountered. He was once called crazy by the people in his surroundings, and his income is lower than usual but all those things he accepted and appreciated what the nature could give him back. He succeeded in his philosophy to work hand-in-hand with nature and accepted what the nature could give.

It is an unforgettable to stay with a very warm family, Tabuchi San's family, my host. They showed us their innovations in their farm- from composting process, purification of waste manure and water, fermentation of silage, to the management of grassland. I had meet here Obachan who is very warm and give me inspiration and extend her prayer for me, I am a stranger in their house but they treat and welcome me well in their house. it is a destiny to join the educational tour and be in that family, I want to extend my gratefulness to them.

The lecture of the Notsuke Fisheries Cooperative Association on Fisheries in Betsukai area and their planting activities included that of the organizations planting project under the slogan "Forests, Rivers, and Oceans All in One." This planting project promotes the protection of the source of the Tohoro River that flows into the Notsuke Bay. This is close to my heart as I have mentioned in my presentation on the present situation of watershed in the Philippines where watersheds are converted into gardens. This situation then decrease if not caused the total loss of water supply especially during the summer

season. The endeavor of the Notsuke Fisheries Cooperative Association, however, is very encouraging as it is a manifestation of the possibility that whatever they have achieved can also be realized in the Philippines.

I liked the tour around Tokyo and also Akkan because I experienced the culture of the Japanese (tea ceremony and traditional dance). It is very informative knowing the meaning of movements in sharing the tea to other people and its important to health and harmonizing your self to inner you. I like the dances of the aino people because like us in our tribe our dances is always associated with the nature and for the goodness of the society.

The programme only lasted for 12 days but short as it had been, there is no denying of the fact that the program has been a life-changing experience. It had laid a firm foundation on all who participated for a more profound commitment in achieving sustainable agriculture and food production as well as socially conscious and economically achievable agricultural management.

Plan:

My plan to promote and integrate sustainable agriculture in my project that I am incharge at present. For now, we already started with our promotion of the Mokosako as one farm inputs especially for their agroforestry farm. We already established a low-cost facility and can be innovated by the coffee farmers, and we encourage the farmers to produce their own compost for the farm and we can sell the excess to other farmers also as additional livelihood.

My next plan is to integrate a model organic farm within the agroforestry model farm as our research and technical field for study for other farmers who wanted to learn and see the effect of using organics farm inputs. Farmers are clever and wise they wanted to see or prove if such organic farm inputs is working good, they have the notion of “to see is to believe”, so this would help us promote sustainable agriculture.

Thailand

Nakorn Limpatathavon

Academician, activist

Suan Ngeun Mee Ma Company



1. Three keywords

	Keyword 1	Key Word 2	Keyword 3
before	City farm	Green Market Network	Slow lifestyle
after	Holistic	Integration	Security

<Reasons, Explanation or Justification>

Ideal State of Agriculture

After joining JENESYS program, I also think about ideal state of agriculture should be sustainable agriculture but I want to develop my 3 keywords into complete meaning.

First keyword is a “Holistic” refers to holistic view of sustainable agriculture. The whole components of sustainable agriculture contain at least 5 dimensions feature (1) Environment (2) Technology (3) Economic (4) Social and (5) Mind. The system perspective is essential for understanding sustainability because at the present world food and agriculture situations meet many crisis in the same topic such as outrageous natural disaster from climate change, competition of land uses for food production between bio-fuel production, lack of young farmer and new generation in agricultural sector. Policy making should be based on consideration of this 5 dimensions before take action on our agricultural sector and production.

Second keyword is an “Integration” represents to integrated function of sustainable agriculture system. Good farm practices should be operated with Integrated Farm Management (IFM). IFM is a whole farm system providing efficient and profitable production that is environmentally responsible. IFM works by integrating beneficial natural processes into modern farming techniques and ensures that high standards of stewardship and environmental care are practiced. IFM farmers need to be able to clearly demonstrate improvement to the quality of soil, water, air, wildlife habitat and the landscape. The image illustrates an avenue of trees surrounded by a conservation headland that has been placed through the middle of an arable field. And IFM also offers practical solutions to such problems as global warming and reduced biodiversity. For example a farm rotation change that has lowered fossil fuel usage while providing a new winter habitat for farmland birds. There has been no associated loss of profitability. In conclusion IFM should involves:

- A commitment to good husbandry and animal welfare
- Efficient soil management and appropriate cultivation techniques
- The use of crop rotations
- Minimum reliance on crop protection chemicals and fertilisers

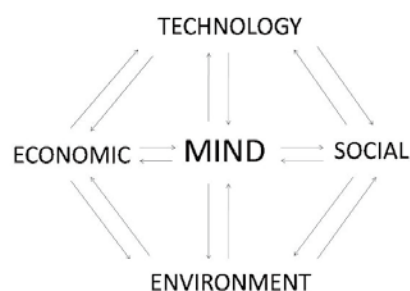


Figure 1. Holistic View of Sustainable Agriculture

- Careful choosing and using of seed varieties
- Maintenance of the landscape and rural communities
- Enhancement of wildlife habitats



Figure 2. Mitomo's Model for Integrated Farming Management
(Cow dung and compost→Grass Polyculture
→Cow→Cheese processing→Pig raising)

Last keyword is “Security” means security of agriculture system. Both of developed and developing country, the inter-relation between issues of jobs, shelter and food security becomes apparent during economic downturns. Moreover, increased transportation costs of food make local/regional/national production of food more economically viable and vital to community sustainability than imports from abroad.

Hence a more comprehensive local food system based on sustainable regional agriculture should be built, which fosters a robust local economy and ensures that all citizens have access to healthy, affordable and culturally appropriate food.

Sustainable agriculture, as opposed to conventional agriculture, conserves natural resources like water, soil and biodiversity and is at the same time economically viable. In order to bring food closer to the consumer, this paradigm emphasizes small-scale and medium-scale farms which are either family based or community based. This supports a very personal and direct contact between the farmer and consumer.

With it come many benefits:

- Children will again be exposed to the art of growing healthy food
- The average health-consciousness of the population will rise again
- Product will be more affordable for the consumer but simultaneously more profitable for the farmer
- Hundreds of new food and spice crops would brighten up our cuisine
- Thousands of local seed banks would guarantee an unlimited supply of valuable heirloom seeds
- The genetic diversity of our food crops would be secured

And when cash crops are linked with agro-ecological improvements and accrued income for poor farmers, this leads to improved food self-reliance and revitalization of small holder agriculture. The sustainable farming expert pointed out that labor requirements on sustainable farms, and the better return on labor, provides employment opportunities where this resource is most abundant, thus safeguarding rural livelihoods.



Figure 3. Attempt of Japanese Cooperative to promote sustainable regional food and agriculture economy
(Activities of JA KITAMI RAI's youth agriculture studies and learning program, the pride of Mr. Minami-organic farmer and a local food and vegetable education on the last Hokkaido's lunch)

2. Opinions and Comments

The most impressive events what I gained through JENESYS programme were some experiences for meeting with spirits of your agricultural wisdom like Mr. Mitomo's and all of farmer's community and I also touch the attracting Japanese culture and beautiful rural landscape. I can learn much of knowledge and spirituality from all of Japanese farmer. I can touch the hope and our common future from them. Agriculture still alive and bring our peach and sustainable dream comes true.



My Future action plans are connecting farmers and urban peoples with green and regional economy through my activities such as City Farm Movement and Green Market Network beyond to be apart of our sustainable society or ideal state of agriculture.



Yavittha Phitakwatchara

Researcher

Healthy Public Policy Foundation



1. Three keywords

	Keyword 1	Key Word 2	Keyword 3
before	Climate Change	Food security	Sustainable
after	Participation	Sufficiency	Adaptation for climate change

<Reasons, Explanation or Justification>

First of all, I want to say thanks a lot for everyone who has join in this program, you are all can help me to find more about the meaning of agriculture.

So the most important thing is the participation of everyone. Like in this program, Mr. Mitomo and his community help and share their knowledge and experience to each other to improve their dairy farm in a better way both practical and in their mind. So I can feel the power of everyone that wants to make a wonderful thing for their own life and the world.



If you are the only one that do a wonderful thing, you have an only one power to do but if you have a friends to make it together, you have more power and plus more encouragement to do everything even though an ideal state of agriculture in our dream.

And for this program we know that we not alone in the way of an ideal state of agriculture. Not only one country tries to promote the way but every country does that. Although we have different methods, but we would like to have a happy life in sustainable agriculture way.

The second one is Sufficiency. For real agricultural cannot make a lot of money like an industry or some business or you cannot find a comfortable life in the field. But if you can satisfy in what you are, what you have and what you do, you are a lucky person and always happy.

Mr. Imai and his family that I have a chance to live with them for one day, is the example for sufficiency life. Although he is around 30 years old, he can find any excellent job in the big city for comfortable life but he chose to become a dairy farmer and proud to be. He loves everything that he does and enthusiastic to live and learn with the nature. He doesn't want anything much just for him, his wife and his daughter to live happily in daily life, have something to eat when you hungry, have a place to rest when you tire, have a friends to talk when you want and have some money to purchase a necessary thing, that enough for him.



For my opinion, Food is the main factor for our life. Everyone knows that the money cannot eat but rice or vegetable or milk can make you full and if you have your own field you don't want any money to buy something to eat and you can be sure for food safety and food security for your life.

Nowadays we are in a climate change situation. You can see a different natural disaster from every country. How can we

survive? Or how can we handle it? Drought, flooding and weather change can affect for agriculture.



Adaptation planning for climate change is very important for the farmers to cope with uncertain weather conditions. Sustainable agriculture method like joint plantation, organic farming and shifting-rotation agriculture is one option to do.

Sustainable agriculture can reduce risks from the production and finance by water and farm management. And can provide food security by farm diversity. Moreover, it can reduce greenhouse gases emission and promote carbon storage in highly fertile soil.

For me sustainable agriculture is the best way to cope with the situation. It not only helps the farmer save their cost or manage resource but it can also retain the nature and bring everything back to be nature again.

Like Mr.Mitomo who plant a variety of grass without pesticide and did not expand the field even though he can do that. Moreover, he maintain the soil so his grass for the cow is very good quality and the cow bring a wonderful milk without any chemical back to him and consumer. In addition he also plant a vegetable and some fruit for consume in his home. Mr. Mitomo retains the nature and natural rewards to him for a good quality and happy life.

Preparing for climate change, we have to learn from the natural and adapt the process of farming to follow the natural. You don't have to conquer nature but you have to be friend with nature don't harm them and you will be able to coexist happily with nature.



2. Opinions and Comments

For me, the most impressive events are Home stay and in Mr.Mitomo's farm because we can find the community that helps each other to do a wonderful thing both practical and in their mind. And I feel very warm, peaceful and happy with this community. They can teach me a lot how to living for a happy life and how nature is amazing for your life.

For my work, I got involve in the Sustainable farming? Adaptation to Climate Change Project. This Project aim to enhance coping and adaptive capacity of the small scale farmers in Yasothorn and Chiang Mai provinces in dealing with climate change by providing an appropriate farming's adaptive strategy to climate change. The specific objectives are to reduce farmer's risk due to climate variation, as well as to enhance their household food security in order to ensure sustainable farming's adaptation to climate change.

In the future I want to be a farmer and I will bring a lesson from my experience to do a sustainable agriculture and don't forget to share and persuade everyone that I know do the sufficiency way and make a community that able to coexist happily with nature.

Nguyen Van Nhuan

Programme Officer

Centre for Sustainable Rural Development (SRD)

**1. Three keywords**

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	Biodiversity based Ecological Agriculture	Empowerment	Farmers' confidence
<i>after</i>	Sustainable development	Empowerment	Organic farming

<Reasons, Explanation or Justification>**Sustainable development:**

I was really impressed when I heard the presentation of the Notsuke Fisheries Cooperative Association about “Fisheries in Bekkai area and their Planting Activities”. The fisherman harvest scallops and salmon in the sea, managing their sea resources properly and sustainably. I think that the perception of fishermen’s sea resource use and management is really high. Local fishermen only harvest the mature scallops or salmons for sale or consumption. The junior scallops or salmons are released back to the sea in order to prevent the over-exploitation and over-utilization the sea resources. This is a proper and effective management measure to secure the sustainable development of the sea resource for the next generation. This is main reason I choose the keyword “**sustainable development**”.

There are many challenges in raising local people’s awareness in how to sustainably use and manage natural resources. It takes significant time and effort, especially in developing countries. Therefore, the presentation of how to properly manage these aquatic products that gave me more motivations for my projects.

Organic farming:

I was very impressed with the Mr. Mitomo Dairy Farm. This small - scale of dairy farm is reasonable and in accordance with the household economic development. This farm has a self-contained production process and provides clean, good quality and safe farm products for people. For example, the grass field is grown and maintained without the utilization of chemical herbicides and pesticides. So it guarantees the milking cows consume safe grass, and they will produce safe milk without traces of chemicals. In addition, growing grass without the use of chemicals will be safe for the environment, as it ensures the growth and development of grass and useful micro-organisms in the soil in the long-term. Additionally, the Mitomo Dairy Farm has divided the grazing ground into small grazing plots in accordance with the number of existing milking cows. This will make sure that the grass in the remaining grazing plots has enough time to rehabilitate and recover. This is an proper and effective way to ensure a good food source for the milking cows.

I was also impressed when I heard the presentation of Mr. Yasushi Kawahara, General Manager, Agricultural Management Promotions Division in Kunneppu Town talking about their issues and innovative measures in agricultural management. He discussed improving production added value by promoting eco-friendly agriculture. In their town, there are many local farmers who have conducted clean agriculture undertakings (onion and potato cultivation households) accord-

ing to a wide range of cultivation practices, including Organic Cultivation (cultivation without any chemical pesticides or fertilizer), Special Cultivation (cultivation by limiting chemical pesticide and fertilizer amounts to half of standard amounts), Yes Clean (cultivation that reduces chemical pesticides and fertilizer based on standards stipulated in Hokkaido), Eco Mirai (cutting chemical pesticide and fertilizer amounts by approximately 40% from standards stipulated in Hokkaido and working to improve soil fertility by infusing compost and manure). These practices are very practical and effective, and oriented in **organic farming**.

These are the main reasons I chose the keyword “**Organic farming**” for my ideal state of agriculture in my country and our region.

Empowerment:

I have kept this keyword for my ideal state of agriculture in the region . In Mayor Kituchi’s presentation on “Community Design based on Agriculture in Kunneppu”, he talked about the governing activities in the town. He stated that local people can form and sustain their livelihoods, that the local government is free of central government influence, and that democracy ordinances and rights of local people are respected by local authority and central government. Local people are the best people to understand deeply about their situation and they know clearly about what their aspirations are. Therefore, when they are **empowered** to develop and manage their livelihood, their capacity for agriculture production will be improved in order to improve their livelihood future.

In short, in my point of view, an ideal state of agriculture in our region is where sustainable development for future generation is ensured, agriculture production activities utilize organic farming methods, and local farmers are empowered to develop and manage sustainably their own livelihoods.

2. Opinions and Comments

The most impressive event for me was the “**farm stay**”. When I stayed in the local farmer’s house, I was able to practice some field activities related to the dairy farming, such as feeding and milking the cows. I also had chance to observe local farmer milking, milk processing and treating, and taking care the cows. The local farmers were very hard-working local farmer and passionate about their work. They also were very committed and dedicated to their dairy farm. I have learnt a lot from these good characters. They helped me to be more deeply motivated for my current work. Additionally, I was really impressed with the local farmer’s hospitality. They welcomed and received me very warmly, and treated me as a valuable guest in their family. This was a comfortable and happy atmosphere which I will never forget in my life.

What I gained through the program:

- Understanding of the cultures and customs of Japanese people.
- Knowledge of sustainable and proper dairy farm and sea resource management methods.
- Broadened my mind about the understanding of dairy and vegetable farming techniques.
- Improved confidence and agricultural professional skills.
- Developed and reinforced the relationship and understanding with the participants from Jenesys program. It has provided a sound foundation for me to communicate and exchange experiences with participants in the future.
- Was inspired by the good characteristics from Japanese local people such as hard-working, scientific, working passion, and commitment and dedication to their work.

My future action plan regarding how I will try to achieve the ideal state of agriculture.

- I will improve further my agricultural professional skills by participating in other courses related to food and agriculture and learning by doing in my projects related to the food and agriculture development.
- I will learn and share experiences with my co-workers.
- I will take more responsibilities and duties in my community development works in order to achieve the ideal state of agriculture orienting into the sustainability development, organic farming and to empower local farmers to manage sustainably their own livelihoods.

Vietnam

Tran Thi Thu Phuong

Officer

Graduate School, Hanoi University of Agriculture



1. Three keywords: “ideal state of agriculture” in the East Asia Region

	Keyword 1	Key Word 2	Keyword 3
before	Sustainable Development	Integrated agricultural system	Food diversification
after	Sustainable	Integrated	Eco-friendly

An ideal state of agriculture in the East Asia Region could be determined as a comprehensive agriculture, diversity in the direction of commodity production focus, modern, sustainable, *eco-friendly*, agricultural development associated with building a new countryside, and improving the lives of humans. Agricultural production and rural development in a sustainable way with the new link (so called: Four Partners): State - Scientists - Businesses - Farmers is expecting to ensure improving product quality, reduce costs of production, improve competitiveness of agricultural goods on the markets, apply mechanization and modernization of the production process, particularly the harvest technology products and storage products post harvest to reduce the rate of loss. Ideal agriculture ensures the expansion of production, environmental protection, protection of valuable natural resources, for example, land, forest, sea, water, fish resources - marine, wild animals, and ecological balance. Besides that, the Ideal State of Agriculture also is a place where people could develop in a way for entertainment, relax.

For example, in Kunneppu, they have Clean Agriculture model which offers Safe, Secure, and Delicious produce. Clean Agriculture aims to improve production added value by promoting *eco-friendly agriculture*; hence, their community received an “Ecofarmer” certification. They provide nutrient-rich produce by growing crops in healthy soil so that they can boost their natural immune system against pests, and therefore require less pesticide. They has also set standards in application of fertilizer and pesticides in order to implement eco-friendly agriculture. In particular, they won an award for excellence in the 1st “ Sustainable Agriculture promotion competition”. Mr. Hiroyuki Saito, Chairman of The Kunneppu Potato Growers Union “Study on Pesticide Reduction”, believes that safety and security can be attained through constant communication between growers and consumers. They will carry on their research so that they can continue provide delicious potatoes.

2. Opinions and Comments

Being a participant of the JENESYS 2011 programme in Japan, I have totally changed my thought about the concept of sustainable agriculture and Japanese culture. The program was shortly held in only 12days from July 9-20, but I have learn a lot from this trip. I gained a wide range of experiences about “Clean Agriculture” and “My Pace Dairy Farming”. I am very impressive on that the Japanese government creates opportunities for children to get familiar with agriculture and farming villages since beginning of their school life by promoting food and agriculture education.

The first impression is that I have experienced in Hokkaido Prefecture, Local farmers have applied Clean Agriculture which includes Organic cultivation - Cultivation without any chemical pesticide or fertilizer; Special cultivation - Cultivation by limiting chemical pesticide and fertilizer amounts to half of standard amounts; Yes Clean - Cultivation that reduces

chemical pesticide and fertilizer based on standards stipulated in Hokkaido; and ECO Mirai - Cut chemical pesticide and fertilizer amounts by approximately 40% from standards stipulated in Hokkaido and work to improve soil fertility by infusing compost and manure. Even modest reductions in chemical pesticide and fertilizer use – achieved voluntarily by farmer – would have many benefits for the environment, farmers, and human health. However, Clean Agriculture model is only practice primarily on potatoes (422 ha) and onions (304.8 ha).

The second lesson learn was that I found there have a large number of organization and businesses are directly involved in agriculture, including five agricultural cooperatives, agriculture-related unions, manufacturers of agricultural machinery and materials, milk carriers. They also have local government support and Central government support such as training and loan funds. Besides that, they have technology and management guidance and support for new entrants. They develop technology for low-cost production of safe and high-quality agricultural produces, for instance, rice, onions, potatoes, sugar beets, wheat, and bean.

Another impressive agriculture model is “my pace dairy farming”. My pace dairy farming becomes an ideal agriculture in Hokkaido which ensures balancing three components environment, economic, and society. In the environment aspects, farmers practice my pace dairy farming by their own ideas and experiences without being heavily controlled by agriculture policies. Farmer who practice “my pace dairying” are very conscious of environmental issues, such as polluted water, soil in their local area. Farming that is done in line with the local natural environment and climate. They interest in the healthy soil which provides good grass for healthy cows. They have principle as “one cow per one hectare of grass”. They believe that sustainable dairying does not place an excessive burden on cows, the environment, dairy farmers, and their family members.

Mr Moriyuki Mitomo, a farmer who practices a sustainable dairy farm in Nakashibetsu, said that he produces good compost, good soil, and good grass. He understands the essence of farming, devise, and practice his own dairy farming techniques which have as little negative impact on the environment as possible. He interested in increasing quality of milk and healthy cows more than quantity milk and income. If they have high quality of milk, they will have high quality of cheese. His cows are sent to graze all day and night in the summertime and during daylight hours in the wintertime because they will provide high quality of milk when they eat green grass on the field.

Furthermore, in Mr. Ryoma Imai dairy farm, they have their own method to practice “my pace dairy farming” that improves their quality of milk and the health of cows. For instance, they divide pasture for cattle feed into many different sections and each sections is further broken down into meals a day, such as breakfast, lunch, and dinner. They believe that this method will ensure enough time for grass growth and they always have good grass for their cows everyday. Therefore, the quality of milk is stable.

Economically, production focus on higher scale and large area bring high economic efficiency for farmers. In 2009, average figures of nine “my own way” dairy farmers, the total area of grass field was 55 hectare with 42.6 cows that have had calvings. They provided 285 tons of shipped milk and the total agricultural revenue was 30.58 million yen. Average agricultural income was 12.69 million yen with agricultural income ratio was 41.5 per cent compared with 24 per cent agricultural income ratio of ordinary farmers.

In the societal aspect, they have monthly exchange meetings where they are able to confirm the significance of learning at “My Own Way” Dairy farming exchange meetings and making friends. They not only teach new partners, young people how to practice sustainable dairy farming in Hokkaido and what should they have to do to achieve the happiness of the farmers and self-sufficiency in food, but they also share their experiences practice dairy farm together to protect their environment, healthy cows, and high-quality milk. Furthermore, women become an important partner in dairy farm. They not only do housework and take care for their children, but they also join to work on dairy farm. They are interested in making cheese and teach how to make cheese for every woman in their villages such as Ms Yumiko Mitomo, who is a professional cheese maker in Konsen region. They believe that practice of cheese making is an ideal agriculture in which people lead a good life and have more relaxing.

In Vietnam, we have adapted sustainable agricultural models which is targeting to achieve the harmony of the environment, economic, and society, for example, clean agriculture and safe agriculture which apply GlobalGAP and VietGAP to meet market demand in domestic and international, to ensure the safety of agricultural products and foodstuffs, lower costs and improve quality of agricultural products, to use efficient and sustainable of resources agriculture, higher income and rural development, and to protect environment and landscape. However, we continue to do research and experiment with different models to achieve sustainable agriculture, while we continue to develop and apply the latest technologies and

techniques in agriculture. For future action plan, I will participate in training programs and coordinate with lecturers, agricultural experts in my country and international experts to exchange knowledge and experience and to hold training programs for farmers to achieve an ideal state of agriculture in my own country.

India

Harshvardhan

State Program Associate

UNDP(United Nations Development Program)



Agriculture in Japan: Rethinking Development

Executive Summary

Global food prices have shown an alarming upward trend in last few years pushing millions of poor deeper into poverty, exacerbating malnutrition and threatening food security. The global food outlook continues to remain grim in face of decreasing benefits from green revolution technologies, increasing environment and natural resources degradation, financialization of global food market and increasing population pressure.

In its imitative to deepen its engagement with ASEAN and other major economies of Asia Pacific region, Japanese foundation invited select future leaders from ASEAN+ 6 countries to visit Japan and understand firsthand the challenges and opportunities in Japanese food and agricultural sector and promote a robust exchange of ideas on challenges of poverty, agriculture, climate change and their impact on rural livelihoods in the region.

Author was one of the participants in this program and represented India in this intensive exchange program. This tour report discusses the present global food outlook and an analysis of agricultural practices and policies in Japan with detailed examination of three main primary sub sector of rice cultivation, dairy farming and fisheries in Japan. The report also lists various initiatives, which have been taken by the governments of these countries to promote food security and enhance agricultural and related non farm income and suggests possible action points for enhancing south – south cooperation.

The report concludes by asserting that agriculture remains one of the most protected sectors post WTO. Not much concession should be expected from developing Asian countries in post Doha negotiations, when a majority of farmers in these countries remain poor and have limited natural resources endowment. However, domestic growth in India in last few years has opened up new possibilities, which is an opportunity for millions of poor farmers to come out of poverty. The report also postulates that while global intellectual exchange on the above mentioned issues may be highly beneficial, the proposed initiatives must remain firmly rooted to socio economic administrative context in which solutions are proposed.

INTRODUCTION

This tour report is based on my visit to Japan during 7th June 2011 to 21st June 2011. The visit was financed and supported by Ministry of Foreign Affairs, government of Japan for select future leaders in Food & Agriculture sector from Asean+6 countries (including India, China, Australia, New Zealand, South Korea and Japan) for promotion of sustainable agriculture and a robust exchange of ideas on challenges of poverty, agriculture, climate change and their impact on rural livelihoods. Japan foundation, an autonomous agency established by Japanese government was the implementing partner of this program which selected 26 individual from these fifteen countries, in collaboration with national governments and a competitive process to undergo this intensive exposure trip to Japan.

The program provided an opportunity to meet government officials, scientists, farmers, community representatives and market players to understand the shifts in agriculture in Japan both on historical time line as well as contemporary challenges. This fifteen day program also entailed night stay at farmers' place, visits to cooperatives owned processing plants, vegetable fields, and research institutions. The week long field visit to Hokkaido, the northern prefecture of Japan, which is also the main contributor to Japanese food basket, gave an opportunity to meet farmers and exchange views with cooperative leaders, local administrators and extension workers.

This exchange program was an excellent opportunity to meet most of the stakeholders in agricultural sector in Japan and interact with other young leaders from diverse academic backgrounds, cultural settings and nationalities to understand challenges in food and agri sector in their home countries and provided a platform for sharing of ideas, best practices and solutions in the region. The cost of this entire trip including visa, air tickets, food, travel and stay was borne by the Japanese government.

Global Agriculture outlook

In last few years there has been a significant increase in global food prices. In mid-2008, international food prices had skyrocketed to their highest level in 30 years. This, coupled with the global economic downturn, pushed millions more people into poverty and hunger. FAO has been continuously warning the global community that the food prices will continue to remain high unless production of major food crops increased significantly. In December 2010, the FAO food price index again rose above its 2008 peak and it was in March 2011, that the index dropped for the first time after eight months of continuous price spikes.

FAO outlook report suggests that food prices will likely remain volatile and efforts are need to be scaled up at all levels to strengthen the resilience of small farmers to future shocks and to improve food and nutrition security over the long term. Most of the actors in the development space are already discussing the possible impacts of these steep increases in food prices on various stakeholders.

The increasing global population and economic development in developing countries are the underlying reasons for this rapid increase in food prices. It is often projected that the world population will cross nine billion in 2050 with developing countries leading this population growth. Similarly, India and china are expected to be among top three economies of the world. The huge population pressure and changing food preferences may lead to acute pressure on global food prices

Year	Global Population	Developed Countries	Developing Countries
1970	3.7 billion	1 billion	2.7 billion
2010	6.9 billion	1.2 billion	5.7 billion
2050	9.3 billion	1.3 billion	8 billion

On the supply side the global annual growth rate in grain production have halved from 2.6% from peak of sixties and seventies to less than 1.3% per annum post green revolution and has been continuously declining now. Similarly, the increasing competition between food and biofuel is also expected to contribute to this global food price rise.

The growing meat consumption in China is an indicator of price pressure we may see in near future. From 1998 to 2008 the population of china has increased seven percent while meat consumption has grown by more than twenty five percent. Import of Soybean, an important feed for meat production, has increased by more than **seventeen** times in value terms in these ten years. At the same time in volume terms the imports of soybean have increased by **seven** times in the same time period. Similarly, economic growth in India has also led to steep increase in domestic demand for milk, poultry, and vegetables and this trend is expected to continue in coming decades.

The food and agricultural sector are not only economic production systems but also are bedrock of social and community life. There is also a definite link between food prices, poverty, nutrition and social harmony. Foods are essential consumption items required to maintain life, with consumers required to purchase a certain volume irrespective of pricing or income levels. And hence, Volatile pricing greatly impact producers and consumers leading to social uncertainties in developing countries.

However, food and agricultural sector has some of its own peculiarities. The current mode of production is mainly family based in most of the countries and production volume is significantly affected by weather conditions. Final pricing is also unpredictable at the onset of production, leaving significant economic risks with the producers. The irregular nature of cash flows creates liquidity challenges at household's level who many a time need financial support for consumption smoothening, especially in developing countries.

However, FAO suggest that while high food prices can negatively impact the food security of vulnerable households, they can also create opportunities for developing agricultural production and rural development. The current situation calls for an urgent and continued response from governments and other stakeholders; policies need to be adjusted and pro-

grammes put in place to address negative impacts and tap into opportunities. This situation creates both challenges and opportunities for the achievement of the Millennium Development Goals, particularly MDG1 of reducing poverty and hunger

However, the farmers till now have not been able to benefit from the increasing global food prices. The primary beneficiaries of higher food prices are those who have been holding food stocks and are now able to sell at a high price. Potential beneficiaries are commercial farmers and other operators within food value chains, provided high world prices are transmitted to them throughout the value chain.

It is in this context that Japan foundation selected future leaders in Food and Agriculture sector from ASEAN countries and major economies of Asia and Pacific region to visit Japan and understand the challenges and opportunities which Japanese agriculture faces. The program was also intended to provide a platform for mutual exchange of ideas and possible solutions in the region to the participants, where a significant population is dependent upon agriculture and who may be severely affected by this current high global food prices.

Agriculture in Japan

Japan followed a policy of massive industrialization after Meiji revolution in 1868. However, agriculture remained one of the most important economic activities in Japan till the end of Second World War. In the late 19th century, agriculture accounted for more than 80% of the workforce employment and the sector remained the largest employer (about 50% of the work force) till the end of World War II. Due to economic boom in Japan, share of agriculture in GDP has come around 1% now and it is estimated that nearly 2.6 million families are dependent on agriculture.

Under US occupation after the Second World War, there were large scale land reforms in Japan. Nearly two third of all farmland was purchased by the Japanese government at low pre war prices and resold to cultivators on easy terms. There was also large scale consolidation of land holding to facilitate mechanization.

As a result of this land consolidation to facilitate mechanization, most of the fields in Japan are either square or rectangular in shape. The use of chemical fertilizers and pesticides was also promoted on a large scale. Intensive practices were also introduced in animal husbandry. USA also introduced high yielding Holstein cows in Japan to augment milk production post war. These cows were primarily fed grains to maximize production and USA and Australia were the most important input suppliers.

One of the most significant interventions in the post war period was government support and formation of a large number of cooperatives in dairy, fisheries and agri sector. These cooperatives provide extensive support to farmers in input supply, extension, technical and veterinary care and marketing. The cooperatives are financially independent and in many sectors such as fisheries regulate entry of new members in the trade.

However, at present primary sector faces serious challenges in Japan. Only 15% of Japan's land is cultivable. Hence, an average landholdings size is very small in most of the Japan (1.9 ha). The problem of ageing in Japanese society is also catching up. The average age of farmers in 1995 was 59.1 which have moved upward to 65.8 in 2010. The ageing of population has a serious implication for rice paddy farming in Japan as more than 52 percent of rice paddy villages have no farmer less than 65 years of age. At present only 2.9% of farmers are below 35 years of age and the more than 61 percent of farmers are above the age group of 61. As less and less youngsters are joining farming as an occupation, this demographic disadvantage may have a serious bearing on food and nutritional security of Japan.

As a result of declining interest in agriculture, cultivation area in Japan has reduced from 6 million ha in 1960 to 4.6 million ha in 2008. More than 400,000 farmlands are deserted and agricultural income has halved from 6.1 trillion JPY in 1990 to 3 trillion JPY in 2008.

Since World War II adoption of modern methods of cultivation including commercial fertilizers, insecticides, hybrid seeds and heavy use of machinery have increased productivity substantially. However, as the ecological affects of increased use of fertilizer and pesticides is becoming more evident there is increasing apprehension about ecological challenges resulting from modern practices and many farmers are voluntarily turning organic.

Economic development has also led to significant changes in dietary habits in Japan. Rice and sea food were most important food sources for Japanese people. However, there has been a significant decline in consumption of rice (from 112 kg per capita in 1965 to 58 kg in 2009) and substantial increase in wheat consumption due to westernization and diversifi-

cation of food habits. Being an island nation, fish is a national diet for Japan and the country ranks second in the world behind China in tonnage of fish caught (2006). However, in 2006, beef consumption, a post war trend, surpassed the total fish consumption in the country, indicating a major shift in consumption habits. The per capita meat production in Japan has also increased from 9.2 kg in 1965 to 28.6 kg in 2009 while rice consumption has nearly halved in the same period.

These changes in food habits have a significant impact on Japanese food security. The food self sufficiency rate in Japan has halved from 78% in 1960 to 40% in 2009. Japan has also become the second largest agricultural product importer in the world in last fifty years with agricultural product imports amounting to nearly \$ 50 billion and thus having the largest agricultural trade deficit in the world.

Challenges in Japanese agriculture

Sub Sector Analysis

Rice Production: Rice is the main cereal for Japanese people. Japan suffered from acute food crisis at the end of Second World War. To meet this crisis, massive reforms were carried out, under American occupation in the agriculture sector. To promote rice cultivation, government also assured a minimum selling price, similar to MSP in India, to the farmers. There was a substantial increase in production due to these policy interventions. However, at the same time, there was a gradual decline in rice consumption due to change in dietary habits as a result of economic growth and westernization of food habits. Due to the mismatch in supply and demand, government had to spend significant resources for procurement of rice from the farmers and store it. However, the whole operations became a heavy burden on state exchequer and finally, the government had to abandon the practice of direct purchase from the producers and farmers now sell their produce at market determined price.

Government is taking various steps to popularize the rice consumption among its citizen through innovation in rice made products as well as supporting promotion of rice as a breakfast food. However, it seems unlikely that there may be significant upswing in rice demand in short term. The population declines in Japan (projected 95 million in 2050 from 127 million at present) will not help farmers or rice demand in the country much. Government of Japan had used policy instruments to promote rice production; however, inability to adapt according to the changed market realities was one of the major failings of the stakeholders, which had had a significant adverse impact on government exchequer as well as farmer's production systems.

Dairy Farming:

Dairy farming in Japan has evolved from a part time small scale activity to a bigger size full time activity in last few decades. While in 1960's one farmer owned on an average two cows, at present a single farmer on an average has 64 cows. However, there has been a significant decline in households practicing dairy farming. Japan had 1.8 million dairy cows on 307,600 farms in the early 1970s. The number of dairy cows peaked in 1992 at 2.08 million cows in on 55,100 farms. By 2005, the number of dairy farms had dropped to 27,700 while the number of cows had slipped to 1.7 million cows. However, the average number of cows per farm had risen from 6 cows in 1970 to 60 cows per farm in 2005. Nationwide, the 1.7 million cows in 2005 produced 8.3 million tons of milk, 60 percent of which was marketed as fluid milk.

Milk Production and Self-Sufficiency Rate in Japan

Milk production in Japan increased from 4.8 million tons in 1970 to 8.2 million tons in 1990 and stabilizing around 8.5 million tons in 2004. The proportion of fresh milk in total milk production was fairly constant, at 58% in 1980 and has been hovering around 60% since then. The level of self-sufficiency in milk and milk products was more than 80% in 1985, 78% in 1990 and 77% in 1991. The ratio has remained stagnant since then as both milk demand and production have also stagnated. The fresh milk segment in Japan is heavily protected for domestic producers however; market is slightly more open in processed segments. Australia and New Zealand are two most important exporters of processed dairy products to Japan. There is no import of fresh milk in Japan; however, some estimate show that at least 50% of cheese consumption in Japan is met through imports.

Dairy practices in Japan

Large scale dairy farming in Japan was also introduced from USA after the Second World War. Holstein cows having superior productivity were introduced in Japan and at present nearly 99% of cows in Japan are from Holstein breed. Simi-

larly, grain feeding practices were also involved and a large number of US companies provided feed to the farmers. There is also a high level of mechanization of dairy farms. As a result, dairy farming is highly capital intensive. It is estimated that setting up a modern new dairy farm may involve a minimum investment of half a million US dollars. The government provides loans to the farmers at highly subsidized rates of 1 -2 percent to promote dairy farming. However, even after this heavily subsidized loan, government had to step in past to waive off loans as dairy farming did not turn out to be very remunerative and could cover the costs.

The milk producers are organized in cooperatives. These cooperatives are very strong and provide door step delivery of extension and other support services. Like in other parts of the world, they also take up marketing of the dairy products and own large scale processing plants.

Fisheries

Fish and marine products remain an important part of Japanese food system. The per capita supplies of fish and fish product in Japan are estimated at 70.6 kg per year compared to a world average of 15.9 kg. Japan has a coastline of 29,751 km, and an EEZ of approximately 4.05 million sq km, the sixth largest in the world and about twelve times larger than the national land area. A combination of warm and cold currents along the coasts creates one of the most abundant fishing grounds in the world on Japanese coastline and makes Japan one of the largest capture fishery producers in the world

Japan has a long tradition of a coastal community based fisheries management system which ensures that the resource base is harvested in a sustainable manner. The sector employs 280 thousand workers employing 230 thousand males and 50 thousand females. It is estimated that 1.5 million to 2 million people depend directly or indirectly on fishing as a source of income.

The right to fish in coastal area is given by government to the local fisherman cooperative association with responsibilities for a particular geographical areas and whose membership is composed of fishers from communities within this area. Cooperative regulates conduct of members and also has the authority to decide about admitting new members for fishing. The cooperatives take various steps to promote sustainable harvest including regulating the size of catch as well as transplanting and releasing young scallops, surf clams, surf smelts, sea urchins etc in sea for a better harvest in its defined catchment area.

Fishing cooperatives play a major role in economic well being of their members by providing a number of services including credit, input and other social functions. They also play a significant role in maintaining social, cultural and environmental aspects of coastal communities. Japan also followed a policy of maximum exploitation of its marine resources; however, declining yields forced them to adopt sustainable harvest practices. Economic systems in fishing depend now largely on social and cultural aspects and to a lesser degree on biological and economic aspects of fishing. The operating guidelines of the cooperatives are largely based on traditional social and cultural norms.

Challenges of conventional agricultural practice in Japan:

Japanese farming is the world's most intensive farming system. The OECD estimate that the energy consumption in farming per hectare in terms of mega joules is 46,400 MJ/ha compared to the world average of 1,734 MJ/ha.

Two main problems specific to Japan relate to the high use of chemical fertilizers by farmers and the erosion of rural agrarian communities. It is reported that the Japanese farmers use on an average 100 Kg/ha Potassium, 88 Kg/ha Nitrogen and 85 Kg/ha Phosphate. This is significantly higher than India where average use of fertilizers is around 116 kg/ha with NPK ratio of 7: 2.7: 1. Problems created by these high application rates include: nitrate contamination of city water supplies; production of Nitrous Oxide, a greenhouse gas, by Nitrogen fertiliser; depletion of soil's natural fertility; and low quality produce, relative to organic produce, because of the unnaturally high speed and concentration of nutrients supplied by chemical fertilizers. In addition denitrification activity is high near the soil surface.

In Japan over half the farmers are over 60 years of age and only 34 % of the farming population is engaged full time in farming. Farm work in Japan has become heavily mechanised and this has substituted to a large extent for human labour. This, in turn, has had an adverse impact on agrarian communities as the number of people living in farming households has steadily and significantly declined.

A critique of modern Agricultural practices

It has become increasingly clear to farmers, non-governmental organizations (NGOs), international agencies, academ-

ics and governments that the conventional practice of farming, based on the Green revolution in Asia is highly flawed. The unsustainable nature of conventional agriculture is manifesting itself in terms of stagnant or declining yields, increasing ecological degradation, and worsening rural socio- economic conditions.

Conventional agriculture requires the use of inappropriate technologies characterized by high yield variety monocropping and the heavy use of off- farm inputs, which has led to the erosion of indigenous agricultural practices and knowledge. In addition the high use of inappropriate off farm inputs has resulted in declining soil fertility through the over use of chemical fertilizers in Asia and increased mortality and illness attributed to pesticides.

Social problems such as family disputes over farm resource use, migration and family breakdown have been exacerbated by conventional agriculture. In addition high use of external inputs such as machinery, fossil fuels, and agro- chemicals have displaced workers in Asia, this in turn has put rural communities under pressure in Asia as local peoples have been forced to migrate in search of work.

Rethinking Development

Under American occupation, the agriculture sector in Japan underwent a massive transformation. Adoption of green revolution and modern technologies and processes led to heavy mechanization and an intense system of farming. On a per-hectare basis, Japan's farmers use several key inputs more heavily than rest of the world. Fertilizer use has been declining in Japan but is still high compared with other parts of the world. Phosphatic fertilizer application in 2006, for instance, was over four times higher per hectare in Japan than in the United States. Nitrogenous fertilizer application was two times higher in Japan, and potassium fertilizers were applied almost three times as heavily in Japan. Japan also uses seven times as much pesticide per hectare as the rest of the world.

Use of agricultural implements is also high in Japan relative to the United States. In 2005, the number of tractors used in Japan per 100 ha was 41, compared with 3 in the United States. Similarly, Japan had 208 combine harvesters/threshers per 1,000 ha, compared with 2 in the United States. While the machines in Japan are much smaller than machines in the United States, in general, the heavy investment in small machines represents a large financial outlay and has made Japan's agriculture more expensive than U.S. farming. The number of agricultural implements has been declining fast in Japan, except for the largest sized machines. The increase in large tractor and harvester use reflects the increased consolidation of rice farming operations in the hands of contract specialists.

However, there are significant ecological challenges which are emerging due to this excessive input use which include: nitrate contamination of city water supplies; production of nitrous oxide, a green house gas; depletion of soil's natural fertility; and low quality produce, contamination of sea water and affects on fisheries from runoff waters from farms etc.

Government support in form of direct subsidy in many crops, a strong extension and support system to complement this intensive farming technique has not proved very beneficial to farmers. Many youngsters from farming families are not joining their family business as they are not getting adequate returns from these intensive farming practices. Heavy investment of capital in the farming, though subsidies by government in forms of very low interest rates has not been able to provide adequate returns to farmers.

My Pace Farming

Many farmers in Hokkaido, which is the main agricultural island of Japan, are returning to sustainable agricultural practices. Hence, many farmers are now turning organic and reducing their chemical footprints. However, this movement is most pronounced in dairy farming where farmers are increasingly moving away from intensive grain feeding to cows and mechanization to sustainable practices.

In my pace farming practices cows are exclusively grass fed and no grain feeding or production enhancement techniques are used. The logic being that cows are naturally grass eating animals and not grain feeding. Grain feeding though advantageous in short term for increased milk production is harmful to animal health in long run. This exclusive grass feeding practice substantially reduces input cost to the farmer and the farm becomes economically more viable. It is a fact that there is significant decline in milk production yet, overall farm economics improves. As a byproduct, Manure and cow urine is used as fertilizers and pesticides to improve soil health and for pasture development. There is a popular saying in Hokkaido that the dairy farmers go bankrupt in third generation. However, many farmers adopting "My pace farming" in Hokkaido have now reduced their input intensiveness and have started making profit now even with reduced milk production. These practices have also helped farmer gain a lot of spare time for family affairs and personal development

The effect of climate change and its impact was clearly visible in Japan and farmers and fishermen were becoming increasingly sensitive about ecological interconnectivities. The global warming has been having a devastating effect on farm and fish sector. The northern island of Hokkaido is one of the few places in world where drift ice can be seen in sea of Okhotsk. The drift ice which flows from Russia to Hokkaido supports plankton growth and makes this region as one of the mostly important fish catch area. However, there has been a significant decline in drift ice flow in last couple of years which had an impact on fish catch in the region. Similarly, there have been changes in a pattern of rainfall with many areas receiving up to 10% of average annual rain in couple of hours.

Recognizing the ecological interconnectivity, the local communities are collaborating to minimize the harmful effects of excessive chemical use. For example, fisheries cooperatives in coastal areas are undertaking large scale plantation for improved soil health as well as to reduce the flow of chemicals fertilizers and pesticides to sea along with rain water, which has got a detrimental impact on fish catch.

Food and agriculture : Initiatives in the region.

The program was an excellent opportunity to meet government officials, ngo representatives and research scholars in agriculture in the region. It was very clear that apart from Australia, farmers in nearly every country in the region faced similar problems. The small land holding size, increasing population pressure, threats over existing natural resource base, side effects of green revolution and excessive use of chemical fertilizers and pesticides were the main challenges which were identified by the participants of the program.

Most of the governments in the region have taken steps to protect and promote the interests of the poor farmers. The table below provides a snapshot of initiatives taken by various governments to augment farmer's income and ensure food security.

S. No	Country	Initiatives	Remarks	Possible Action Points
1	China	Significant and consistent improvement in productivity in last two decades. Has far higher productivity than India in most of the principal crops.	Intensive agriculture. One of the highest consumption of fertilizers in the world.	India may need to study practices and inputs which helped in increased production when rest of world is falling behind. Some concerns about veracity of data from china in informed circles.
2	Indonesia	One million cattle program by 2015 to reduce dependency over Australia for beef supply.	Extensive support system designed to improve cattle population and improve food security.	Program still suffers from poor execution. Policy implementation a challenge area.
3	Malaysia	Green House Initiatives	Farmers given financial and technical assistance to cater to tourism market.	Good initiative to link farmers with market oriented production.
4	Thailand	One village one product program and linkages between farm and non farm interventions.	Good initiative to link farm and non farm sector to augment rural income.	The program was to be replicated in India through rural business hub program. Yet to take off in India.
5	Myanmar	Aid agencies and government taking initiatives for agricultural development.	Poor productivity and support structures for farmers yet underdeveloped.	India may share experiences of white revolution with Myanmar.
6	Australia	Strengthened weather forecasting and extension services.	Large landholdings and hence, farmer need technical support to choose varieties in case of rain failure.	Adapting weather forecasting and related extension services system in India.
7	Japan	Strong role of collectives in community life and maintaining social and cultural fabric.	Ageing problem significant challenge for Japanese farmers.	Need to promote similar community based initiatives in India.
8	Cambodia	Increased focus on water resource management.	Indian government is already helping Cambodia to build canals for increased irrigation.-	Increased focus on smallholder cultivation.
9	South Korea	Significant protection of domestic agriculture.	Small landholding and widening urban rural disparity	Attempts to diversify the food basket by promoting alternate food use.

10	Brunei	Initiatives for strengthening extension and financial support to farmers.	Extensive and virtually free Medicare and education services to all citizens.	High national income and extensive welfare services are benefitting farmers.
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Conclusion

Post war Japan embarked on a massive socio economic transformation under US occupation and influence. The rapid economic progress and significant achievements in industrial sector transformed Japan into the second largest economy of the world. Japan was often touted as one of the world's best example of achieving high growth and ensuring millions of its citizen, one of the highest standards of living in the world.

While secondary and tertiary sectors of economy showed significant gains the government policies in the agriculture sector had mixed results. Top down policies implemented by the national and local governments on “expert” advice has not been able to serve Japan well. Coupled with changing food habits and ageing of population Japan stands at a cross roads in course of its agricultural development.

Food security has emerged as a serious concern and it is unlikely that Japan will be able to reduce its food import bill significantly even when many experts believe that the domestic food and agricultural sector in Japan is heavily protected even post WTO. Climate change and increase pressure of globalization has exposed Japanese farmers to global competition and local community and farmers are strongly opposed to any further opening up of domestic markets.

Most of the countries in the Asia Pacific face similar challenges. The increased awareness about environmental concerns and climate change are pushing more and more people away from the intensive agricultural practices and green revolution technologies. However, most of the countries in the region face similar dilemma of concentrated poverty among rural population and limited natural resources endowment. While sustainable practices are environment friendly, upto 30% drop in productivity on adoption of organic inputs, is a disincentive to poor farmers who face severe deprivation. The sustainable interventions, hence, also need a sensitive price support form established as well as new market structures which can meet not only increasing demand for food but also promote ecologically sensitive agricultural practices.

Globalization was one of the main concerns for the farmers. Government officials from nearly every participating country including Japan raised serious apprehension of serious implications on farmers of increasing globalizations and opening up of global food market. It was very evident that there is a very strong domestic opposition in opening up of domestic agricultural market in the countries in the region.

The above resistance to opening up of domestic markets in the region may have mixed impact on domestic farmers in India. While it will deprive Indian farmers over access to these important markets, on the other hand restriction in unrestricted global trade may be a blessing in disguise for Indian farmers. The immense existing opportunities in domestic Indian market, if effectively tapped, may lift millions of Indian farmers out of poverty.

One of the significant learnings of the program was the acknowledgment that that while experts have a significant role to play in agricultural development and global knowledge creation and its dissemination, it is imperative that initiatives are rooted in the reality of context and are sensitive to socio economic administrative context in which they are to be applied. This is an often repeated quote in development discourse; however, “**Think global Act local**” is more relevant than ever.

India

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1. Three keywords

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	Food Security	Sustainable/Environment Friendly	Gender Equity
<i>after</i>	Low Input	Food Security	Sustainable/Environment Friendly

<Reasons, Explanation or Justification>

The common thread of all discussions during the whole programme was perhaps the word “sustainability”. All East Asian countries are worried about the future of agriculture sector despite the fact that the agriculture sector has wide differences within these countries. On one hand there are no successors to large farms of old-age farmers in Japan while there are multiple successors for very small farms in developing countries like India. Similarly there is wide contrast in food security situation of these countries.

Keynote lecture of professor Asoaka revealed the failures of Japanese agriculture and need to learn from it. He completely rejects the idea of industry kind of mindset for the agriculture sector where more and advanced technological inputs results into higher and sustainable outputs. He discusses the idea of laidback farming philosophy of some farmers in Hokkaido State of Japan. These farmers believe in low input sustainable agricultural practices. We got the chance to meet these farmers in the Hokkaido. These farmers do not exploit the environment for achieving higher outputs from their farms. They are not expanding their farms beyond a particular point to achieve their goal of sustainable agriculture. One of the striking features of this kind of practice is the fact that low input agriculture did not reduce the profits of these farmers in any way. Many of the countries including Japan are promoting bigger farms for achieving higher efficiency as well as internal food security but there has been no reflection on what is best suited to farmers of these countries. Given the kind of laborious efforts required in farming a large section of farmers in Asian countries are willing to give up this occupation. Perhaps the laidback low input sustainable farming might attract new generation towards this occupation which is the only hope for future of this sector.

Overwhelming majority of stakeholders of agriculture sector calls for a healthy relation between human being and environment. Degradation of forests, water resources, soil resources etc is happening in varied degrees in various Asian countries. Global warming has entered to this list as one of the most destructive factor for sustainability of Agriculture in many regions. Fisheries in northern Hokkaido, for example, have been suffering due to reduction in drift ice coming to seashores from a Russian river. This example has strong implication for joint action among all countries to combat the impact of global warming on agriculture. There are continuous efforts by some of the countries to introduce organic farming as a mean for achieving sustainable agriculture. Results of organic farming need to be aligned with strategic intents of achieving food security. Environment friendly agriculture can not be achieved without strong participation of community. Farmers groups and city governments in Japan are fine example of involving farmers in reflections and actions on sustainable agriculture.

Food security remains the foremost objective of agriculture in the region. There are varied standards of measuring the

food security situations in various countries. Japan has a very low food security index when calorie based approaches are used to measure food security of the country. Other countries measure the security according to the volume of food products produced in the country. This kind of differences in measuring food security has substantial impact on the national and international agricultural policies like subsidies, export-import duties etc. There are instances of provision of incentives to farmers for producing less food grains in some of the countries whereas a large section of population world over is struggling to fulfill its food requirements. This is real unfortunate condition. Production of food itself is not sufficient in achieving the food secured nations. Two other factors which are greatly affecting the national food security are changing food habits and non-competitive supply chains. Food habits in Asian countries are rapidly imitating western kind of tastes. Paddy, for example, has been a part of food culture in country like Japan but today there are very few takers for rice made breakfast in the country. Wasteful and external food habits are also becoming one of the major factors behind the food insecurity of many nations. Non-competitive value chains are hampering the interests of both farmers as well as consumers. Competitive value chains can provide right prices to farmers which can make the agriculture a profit making occupation. At the same time it can check the rising prices of food products world over which is hampering the food security conditions especially for the poor households.

Role of research institutions and cooperatives are important to the future of agriculture in Asia. Cooperatives like JA agriculture cooperative in Japan and Milk cooperatives in India are playing important role in achieving prosperity for farmer members. Research institutions are playing important role in improving the productivity of the agriculture in many regions. During the whole tour many farmers put their views regarding the role of local environmental conditions in agriculture hence research institutions must align its efforts with both the local environment as well as local culture of communities. Strong participation of farmers in research practices can yield better results. There is need of complete change of mindset towards the farming as a profession. It gets lowest priority as well respect from all domains of society which diminishes the chances of creating prosperous and happy farmers in the East Asian region.

2. Opinions and Comments

This programme combined discussions and opinions of wide range of stakeholders of food and agriculture sector. It provided us the opportunity to listen to Japanese government, research institutions, farmers, cooperatives, local governments and members from various Asian countries. It also provided the opportunity to understand and experience the Japanese culture in more detail. This program was a bigger platform that helped a young professional like me in building a bigger vision for food and agriculture sector in East and South Asia regions. Program provided a deeper understanding of food and agriculture sector of the region along with newer initiatives taken in this sector. It helped in understanding the latest practices and technologies adopted in dairy and fisheries sectors.

All the events of the programme were useful and insightful. Most powerful medium of understanding the agriculture of Japan was perhaps the direct interaction with the farmers. Farm stay event was helpful in not only understanding the agricultural practices and concerns of farmers but also helped in understanding the normal day to day life of a Japanese family. Mitamo family not only shared the various aspects of agriculture but also the very base human existent in this world. Most powerful statement of tour was perhaps the line “Go, understand your own local community and decide your own ways of developing agriculture in your region; search for your own pace” by Mr. Mitamo. Prof. Asoaka could sense the reasons behind the happiness of some of the farmers in Japan. These farmers took a different route to a prosperous agriculture in the country; this route is more rooted to local environment, local culture and quest for sustainability. The whole programme tried to provide insights to all the perspectives within the country rather than trying to show all good and bigger achievements. Local governance system explained by Mayor of Kunnupu town provided insights to planning and execution of development activities with local residents of the town. Efforts of cooperatives in guarding the interests of farmers is impressive especially the efforts of negotiating with governments to benefit farmers. Cooperatives are also trying to retain the interest of future generations in agriculture sector.

This programme was also successful in forming a strong network of young professionals of all the participating countries. These participants shared their views and facts about the condition of food and agriculture sector in their own countries. Overwhelming similarities in their concerns for sustainability of agriculture forms adequate platform for further cooperation within this network.

Post program, I would try to include successful initiatives observed during the tour in our programme design. There

can also be spreading of learning from Japan to our colleagues within organization as well as to other organizations working in the similar fields. I would try to become an active member of the network formed during the programme. Jointly we may also reflect upon the national and international policies and practices affecting the agriculture sector as a whole. The whole programme also increased my interest in Japanese culture which I would continue to explore further in future.

India

Vishwasree Nakka

Young Professional

Society for Elimination of Rural Poverty



1. Three keywords

	Keyword 1	Key Word 2	Keyword 3
before	Community Managed	Local Natural Resource Based	Knowledge Centric
after	Community Managed	Local Natural Resource Based	Knowledge Centric

<Reasons, Explanation or Justification>

The three key words that reflect my thoughts on Ideal State of Agriculture are Community Managed, Local Natural Resource Based and Knowledge Centric. These have not changed and in fact have been reinforced, after visit to Japan. Prior to the visit, I was a little apprehensive if these would be suitable in the context of other countries, especially developed countries like Japan. But I realized that these principles are universal, and are applicable to different contexts and cultures. However there are subtle differences, which are detailed below.

The organization that I am associated with, Society for Elimination of Rural Poverty (SERP), has been forming institutions of poor women (who are mostly illiterate), federating these women groups at different administrative levels and building capacities of the women to manage these institutions. This institutional structure that has been built and nurtured over a period of 10 years has emerged as a strong and viable community based platform for any kind of intervention. This community has now begun to manage their own affairs.

We say that an intervention is successful when it has bottom up approach. In the bottom up approach the primary stakeholders (here the community) are more participative and can articulate their needs and aspirations. If the same intervention is designed by the community as per their requirements and as well as managed by them, then that is the true path to success and that particular intervention can be termed as sustainable.

This was the background when I listed “community managed” as the first key word. This idea was reinforced with the interaction with “My pace farming” cooperative. These farmers, with their experience over a period of years have concluded that what is beneficial to them, to the family and above all to the environment. Hence they chose that path and they have been successful and more importantly happy.

The second key word that I chose was “Local Natural Resource Based”. Given the concern over global warming and green house effect, conscious efforts are being taken up across the globe to reduce the carbon footprint. Using the local natural resources is an important step towards reducing the carbon footprint. Deploying locally available resources not only reduces the carbon emission but also reduces the cost, thus decreasing the economic burden on the farmer.

We all know that, nature has bestowed us with solutions to all the problems. However it is important to note that, nature has been kind enough to provide us local resources to solve our local problems. For example, in my project area we use neem leaf extract for controlling a certain pest. But there are some regions in the same project area where neem (*Azadirachta indica*) is not grown. In those regions, castor (*Ricinus Communis*), grows widely and it plays the same role.

Similar idea was reflected in the “My Pace Farming” experience. The farmers have been using cow dung and cow urine mixture to fertilize their fields. And as these are all dairy farmers, cow dung and cow urine are available in plenty.

There is another school of thought that says that dependence only on local resources will reduce the yield and thus creating the problem of food security at macro level. However this argument can be dismissed, because even with different technological advancements, we cannot feed the greed of all the people. Moreover with mono cropping and large scale cultivation, there is a high possibility of pest break, which again requires lot of resources to be used to control it.

By using external resources, we increase the dependency of farmers. And the availability and cost of these external resources like fertilizers, pesticides, seeds etc are dependent on the global market which the farmer does not have any control, but he/she is the directly affected by it. By promoting the local resources, we can reduce the dependency and empower farmers.

By making the intervention “knowledge centric” we can empower farmers to make their own decisions. Usually the government interventions are more subsidy oriented. Instead of this, any support to farmer should be designed in such a way that it will make him/her knowledge independent. Farmers have been source of rich indigenous knowledge, however over a period of years this traditional knowledge has been replaced with new information. For example farmer knew that by having legume plants in his field, he can improve the nitrogen content of the soil. But at the same time he is not aware that by applying one bag of Urea, what kind of nutrients are being supplied to the soil.

The key to sustainability of agriculture is to make the farmer “resource-independent as well as knowledge-independent”. The farmer can be resource independent by using local available resources in farming. Whereas to be knowledge independent, the Government or the implementing agency need to take conscious steps to enable the farmers unlearn many things and revive their indigenous knowledge. The knowledge support by the agency should be complementary with their present knowledge. For example if the climate of Hokkaido is suitable to cultivate potato and onion, we might introduce improved seeds (only those, that can be propagated in the farm itself), but not introduce a complete new variety of plant. Also the interventions should not be subsidy oriented, that will promote complacency. The same subsidy amount can be used to build the capacities of the farmer.

Thus by making the farmer resource-independent and knowledge-independent and enabling the community (i.e. farmer organizations) to manage themselves with very little interference from the State, the agriculture can be sustainable in that area. This type of agriculture not only improves the farmer’s financial and social condition but also provides him food security and at the same time, is environment friendly.

2. Opinions and Comments

The most impressive event during the programme has been the farm stay and the interaction with the farmers of “My Pace Farming”. It was very brave on these farmers to try something new and that too against the conventional farming. What I liked amongst these farmers is the way they were passionate about this farming, the way they were enjoying the work and also the peace and contentedness amongst them.

The farm stay gave an opportunity to closely interact with them and understand the hurdles that they faced and the way they overcame the hurdles. It also gave me an opportunity to understand the role played by different family members and the support network of the neighboring farmers, so that it never leaves them with the feeling of being alone in the long journey.

In my project area, we have been doing non pesticide farming in more than 10 lakh acres. The experiences from Japan have enabled me to fine tune my thought processes. We have been concentrating on the agriculture side; it is now time that we consider the agriculture allied activities and marketing linkages, thus moving towards integrated farming. I understood from the Japan visit that unless all the supply chain links are properly managed, the farmers as well as the end consumers will not benefit.

I thank Japan foundation for providing me this life time opportunity. Apart from learning’s from the field visits, I gained many friends with whom I can network for my project for mutual benefits.

Kelly Robyn Guest

Agricultural Consultant

Private Consultant contracted to the Department of Agriculture and Food Western Australia

**1. Three keywords**

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	Innovation	Supply Chain Management	Natural Resource Management
<i>after</i>	Innovation	Education	Natural Resource Management

<Reasons, Explanation or Justification>

I define the ideal state of agriculture is one that is sustainable. But what is sustainability? How do we achieve it? My capacity to answer this question has greatly improved as a result of the JENESYS Program.

I have concluded that sustainable farming refers to a production system which can meet the needs of today, without compromising the future ability of a paddock, a farm or an enterprise to do the same for generations to come. In addition sustainable farming refers to a farm remaining profitable in the face of variability. Farm sustainability is a complex system with many layers but I think the important components to achieving sustainability includes; innovation, education and employing excellent natural resource management strategies.

Innovation

The growers of the world are faced with the challenge of having to increase their productivity by 1.5 per cent year-on-year for the next 40 years to meet growing food demand. Hence agricultural sustainability and continual development is imperative. Prior to the program I referred to innovation as an important aspect of sustainability and development and crucial to meeting the global food demand. I indicated that productivity gains in the future need to come from improved system efficiencies, better resource use and novel technologies. For instance advances in plant/animal genetics, precision agriculture technologies, farmer decision support, climate forecasting and integrated pest management. As a result of the program I now understand that I wasn't considering one crucial resource that is vital to improving farm sustainability; people.

50 per cent of the farmers in Japan in 2010 were over 70 years old. I would suspect a similar pattern would be seen right around the world in the agricultural community. Cultivating young leaders to join the agricultural industry is imperative. Programs like the ones implemented in Kunneppu Town will go a long way in encouraging and supporting new people entering the agricultural industry and remaining there for the long term. The key components I think are offering technical and administrative training programs and providing support for young families. New farmers will require a lot more support than existing farmers. To encourage them to remain in the industry for the long term, systems need to be in place to ensure the transition is a smooth one.

Kunneppu Town has acknowledged this and has encouraged the establishment of grower groups. Grower groups provide fantastic opportunities for farmers to share knowledge and experience as well as providing a good social networking opportunity. I would see the next step would be addressing health concerns both mental and physical that are present in the farming community.

It is well recognized that farming is a dangerous occupation. In Australia 85 people die from farm injuries each year, making farm work one of the most dangerous occupation in the country. And for every 1000 farms, between 200 and 600 injuries need hospital treatment each year. I think further development should be made to improve farm safety and general health to promote sustainable farming families. I would expect in the future grower groups will have an increasing role in this area.

Overall I believe it is only through major advances in the efficiency with which we use our limited resources such as land, water and people will we see sustainable and profitable growth and build resilience to respond to global challenges.

Education

Before the program I indicated that an ideal state of agriculture is one that is characterized by good collaboration and communication throughout the supply chain. My reasoning is that good communication will value add to the supply chain as it helps to; identify industry development needs; information can be targeted to promote development; training and education requirements can be identified; efficiencies can be identified; supply chain productivity drivers and risks can be identified and analysed; and opportunities for product and processing development can be identified. I still believe good collaboration and communication throughout the supply chain will achieve an ideal state of agriculture however as a result of the program I now think that the education of consumers is one area of the supply chain that needs further development.

Consumers all over the world and especially in Japan are showing growing interest in the sustainability of food production and food safety. It is important that farmers build closer relationships with customers and be a part of their education to ensure food products are judged correctly. The importance of this is that consumer behaviour will drive retailers to source certain products and potentially establish product guidelines which could impact on growers.

The Agricultural Management Promotions Division in Kunneppu Town has acknowledged this and has done a lot of work in the community to educate consumers about agriculture. For instance they have established school educational programs that provides opportunities for children to come into contact with agriculture and farming villages, they have provide free school lunches filled with local produce, launched the Nagaimo Festival and Harvest festival and distributed educational pamphlets. This approach I think would be transferable in many different agricultural systems and would be beneficial in promoting sustainable agriculture.

The establishment of local farmer markets is another avenue to educate consumers about agriculture and food safety. In Australia there is a growing trend for consumer to buy fruit and vegetables from farmers markets. In this situation growers are able to develop relationships with consumers and quickly respond to their preferences. On a small scale farmer markets could result in improved product and market knowledge and identify market opportunities. If we can learn from this and implement it on a larger scale there is potential to develop new and emerging business opportunities which would promote economic and job development.

Natural Resource Management

As mentioned previously, growers of the world are faced with the challenge of having to increase their productivity by 1.5 per cent year-on-year for the next 40 years to meet growing food demand. It is important we implement long term sustainable natural resource management strategies to ensure this increased production doesn't put a strain on our limited and valuable natural resources.

Effective natural resource management would identify risks and promote the adoption of practices that better manage the impacts of agriculture on the environment. For effective management of agriculture's environmental risks the emphasis needs to be on; industry awareness of community demands for environmentally responsible agriculture; industry developing and meeting environmental standards through adoption of agricultural best practice; monitoring and reporting on progress towards restoring environmental degradation and evaluation of the effectiveness of programs in achieving change.

The JENESYS program highlighted the benefit of industries working together to improve and preserve natural resources. For example, the replanting project that is jointly run by Notsuke Fisheries Cooperative Association and the local dairy farmers. This cooperation between producers and consumers will help protect the sources of the Tohoro River that flows into the Notsuke Bay and protect the environment of rivers and oceans ensuring generations to come can enjoy the fertile farming lands, bountiful oceans and healthy forests. I think this model would be relevant in all countries and industries and would be highly beneficial.

Implementing natural resource management programs is a great start to achieving sustainable agriculture however monitoring and evaluation is crucial. It is important to conduct surveys and capability assessments of land resources, implement land use planning in agricultural areas, provide policy and planning advice to industry, research the impacts of land use on the resource and provide continual industry communication and training. This approach will provide valuable information and help manage our natural resources and the impact farming has on them.

Biosecurity is another aspect of natural resource management that is important. The threat from exotic pests and diseases on the productivity and sustainability of agriculture is a real one and should be managed. In an ideal state of agriculture, biosecurity threats need to be assessed and managed to ensure the agricultural industry and natural resources aren't at risk. Excellent communication between the authorities, industry, farmers and community are required to develop and implement biosecurity management strategies.

Summary

Agriculture has and will always face variability, either it be changes in the climate, environment, government policies or global circumstances. By building strong industry and community relationships as a result of communication and collaboration it will enhance business adaptability and resilience that can withstand this variability. In addition the development of innovative technologies and improved natural resource management practices will help to deliver a profitable, internationally competitive and ecologically sustainable agricultural industry.

2. Opinions and Comments

The JENESYS program has gone a long way to help achieve sustainable agricultural development in the ASEAN region. It provided a fantastic opportunity to observe a number of different agricultural management styles and methods and develop networks which will promote long term partnerships to explore potential pathways for sustainable agriculture in the 21st century.

This program was a great opportunity to meet like minded people that are passionate about food security and agriculture and it provided a good platform to share knowledge. Gaining these different perspectives has placed me in good stead to evaluate Australian's agricultural practices, food security solutions and social and environmental issues surrounding food production. I think the skills gained as a result of this program will be invaluable in developing innovative approaches to address the challenges of 21st century agriculture in Australia and in the ASEAN region.

This program has increased my understanding of agriculture in Japan in addition to other countries in the ASEAN region. It is difficult to identify a highlight as I thoroughly enjoyed all aspects of the program however the farm stay was a memorable experience that I will never forget.

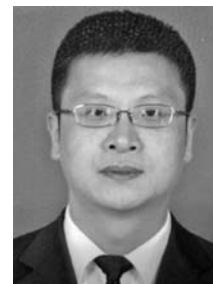
As a result of this program I have enhanced abilities to advise industry on global agricultural challenges and Australia's role in addressing these challenges. The post program activities in particular has consolidated my experiences from the trip and identified how they can be applied to my own practices. I look forward to discussing my learning's with colleagues and industry leaders.

As a result of this program I have built on my international network, built long term friendships and gained an insight into Japanese culture. Overall I believe the program has provided me with the foundations in which I can continue to pursue a career in agriculture with a global outlook.

Junfeng Wang

Vice Director (Policy Research Division)

China Center For Urban Development



1. Three keywords

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	environment-friendly	community-supported	sustainable
<i>after</i>	harmony	Self-sufficient	specialization

<Reasons, Explanation or Justification>

During the travel in Japan, I had a deeper understanding of Japan from three aspects: Firstly, the Japanese's respect, love of work and their professionalism really impressed me a lot. Secondly, Japan is a country with diversified natural situations, while the economy shows minor differences, whether among different areas, or between cities and villages. It is a balanced developing country, which is a treasure experience to be learned by China. Finally, the social order of Japan is very stable, even under decades of low economic developing, and with the shock of natural disaster, such as the serious earthquake, the economy could still keep a such stable situation, which is also well worth of China's learning.

After I finished the Japan investigation term and returned to china, I always consider a question, what is the ideal mode of agriculture's development? What experience of Japan's agriculture is worth of China's drawing lessons from? I finally arrived at a conclusion that, the core is balance or harmony. Harmony shows at four aspects: firstly harmony between people's body and spirit; secondly, harmony between people and nature; thirdly, harmony among persons; fourthly harmony different countries. Then harmony is the report's theme.

After this programme, I usually consider, what is the most important factor in Japan agriculture's development? I think that, loving earnestly and pursuing to the business may be the core to the success of a business. Firstly, ideal or philosophy makes success. When we visited Mitomo Dairy Farm and the Workshop. Mr. Mitomo, his wife's enterprise make me deeply touched. When I ask Mr. Mitomo, when will he retire? Mr. Mitomo said that I don't retire, I like this life style. I think that the purpose of Mr. Mitomo work isn't for money and living, they love milk cows, love milk cow business, wholehearted and sincerely. It is exactly the core of the business, just makes Mitomo's dairy farms becoming the most well-known dairy farm of Japan. Secondly, self-sufficiency makes success. We all mentioned food safety. I think the most important point is that food's supply is safe. Only having self-sufficiency, we can say our nation's food is safe. The last keyword is sustainable. Only the sustainable agriculture production mode can bring us the future.

If we want to be successful, having ambitious only is not enough, we also need organization. From the famous book <The Wealth of Nations>, we know that the great increase of productivity follows the division of labour, in three different circumstances: first, to increase the dexterity of every workman; secondly, to save the time which is commonly lost in passing from one species of work to another; and lastly, to invent a great number of machines which facilitate and abridge labour, and enable one man to perform the work of many workmen done. The theory has been confirmed in everyday life

described as below. So specialization is very important.

Specialization can generate productivity, or we can call innovation, such as management and technologies' innovation. In Japan, organization is also a community. In the community, work is divided into a lot of flow processes: operate, everyone completes respectively of flow process, become the expert of this top-grade distance, but everyone has cooperation again and passes cooperation at the same time, the life making respectively becomes better and better.

Finally but the most important thing is cooperative. Cooperative of course is JENESYS programme's objective. In fact, if Asian, such as Japan, Korea, China can be cooperative to develop. This economic common body may become the No.1 in the world. So I wish our friendship created through this programme can promote our nations Intensify cooperation in the food, agriculture and each other realm.

2. Opinions and Comments

Firstly, I most want to thanks for Japan Foundation leader and all staffs. I feel that Japan Foundation made a very meaningful affair, the leader of Japan Foundation have farsights This programme can promote mutual understanding and inter-communication of the ten countries of Asian, and Japan, China, Korea, Australia and India. Make these national youth scholars and officer be able to promote comity through this activity, open mental horizon. Here, thanks for Japan Foundation, appreciate leader of foundation and programme's organiser and executants.

Secondly, Japanese friends paid attention to team cooperation very much towards operatively persisting, earnest, and guards discipline, these excellent quality gave me a very deep impression, I am also very touched by the Japanese's kindness and sincerity. When I am Farm stay with Mr ozaki and his family, Japanese family's harmonious and very loving, and to the kid's education methods all left to me good impression. Most make me touched is, while leaving Hokkaido, Mr.Ozaki takes his madam and four kids to arrive to the airport to see me off and brought me desserts which is roasted by Mrs.Ozaki in the morning. All of these biggest transformed my impression for Japanese. I Think China and Japan must forget the past and faced to the future to carry on a good consortium.

Finally, the natural resources of Japan is more similar to China,too much person and too little arable land. Although in second quarter of 2010, China's GDP exceeds Japan and becomes second in the world. But China still drops large gap behind Japan, not only in person average GDP, but also in the economic and community development. Japan is well worth China's studying and draws lessons from in the economic achievement. Japan's sustainable agriculture development mode is well worth China studying. Japan's experience of eliminate the city and country difference and difference in the region also be worth China study. Japan's economy has been stagnant for a long period, but how to manage the economic and social situations under such a back ground is also worth China to study. Japan is also well worth China's studying in the aspects of dissolving social contradictions, managing crisis etc.

Seyeon Park

Researcher

Korea Research Institute of Bioscience & Biotechnology



1. Three keywords

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	Food crisis	Marginal lands	Sweetpotato
<i>after</i>	Food crisis	Marginal lands	Sweetpotato

<Reasons, Explanation or Justification>

Who will support the world population of 9.2 billion people in 2050? According to FAO, global population will increase up to 9.2 billion in 2050. We need about two times more food than now in 2050. The probability of food crisis is very high more than our expectation, because food growth rate is slower than population growth rate. Japan Ministry of Agriculture, Forestry and Fisheries (MAFF) also emphasize it. MAFF has adopted two policies that income compensation program and creation sixth industry by agriculture/forestry/fishery villages to increase food self support rate of Japan. These kind provisions are needed to not only Japan, but also other countries including Korea.

The most important technology for sustainable development must be plant biotechnology to increase crop productivity. To cope with these global crises over food and energy supplies as well as environmental problems, it is urgently required to develop new eco-friendly crop varieties to be grown on marginal lands including desertification areas for sustainable development. Hokkaido was one kind of marginal lands because of its cold weather, but nowadays it became one of the biggest and most important agricultural areas in Japan. In this respect, using the marginal lands to produce the foods by plant biotechnology will be able to support 9.2 billion people in 2050.

Sweetpotato ranks the seventh in annual production among food crops in the world. It is also an alternative source of bio-energy and industrial materials such as starch and natural antioxidants. Moreover, it does not require large amounts of chemical fertilizers and pesticides and is rather tolerant to some environment stresses. Its wide adaptability on marginal lands ranging from tropical to temperate zone, and rich nutritional content provide a high potential for preventing malnutrition and enhancing food security in the developing countries. Recently, the nonprofit Center for Science in the Public Interest (CSPI) (2007) designated sweetpotato as one of ten super foods for better health, since it contains high levels of antioxidants, potassium and fiber. Sweetpotato is very popular as the well-being food in developed countries. Recently, European people also started to have high interests in sweetpotato as healthy food. United States Department of Agriculture (USDA) (2008) reported that sweetpotato can yield 2~3 times as much carbohydrate as field corn, approaching the amount that sugarcane can produce in Maryland and Alabama. It would be worthwhile to start pilot programs to study growing sweetpotato for ethanol production, especially on marginal lands. In this respect, sweetpotato will be an attractive crop to solve the world food and environmental problems in the 21st century as an industrial bioreactor to produce valuable high value-added materials including bio-ethanol, functional feed and antioxidants by molecular breeding. Through exchanges of ideas with participants from Asia countries in this program, I could confirm that molecular breeding of sweetpotato for sustainable agriculture on marginal lands will really be important in collaboration of Asian countries.

2. Opinions and Comments

The most impressed thing through this program is that I could realize Japan's effort to achieve the sustainable agriculture. Many farms in Hokkaido practice the sustainable agriculture and Japanese government dedicated to continuously support the farms. Especially, it was very impressed on the systems of living stock farm. The automatic moving of the excreta from cattle shed to fermentation tank by machines and pumps to make manure for the cattle land for grasses. These kinds of experiences extend my knowledge about sustainable agriculture. I could meet many people from diverse countries and institutes, and discuss about agriculture through this program. I could upgrade and confirm my idea on agriculture through this program.

Our Plant Antioxidation Research Team, Environmental Biotechnology Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB) has been developing eco-friendly industrial transgenic plants such as sweetpotato and potato with enhanced tolerance to multiple environmental stresses for sustainable agriculture on marginal lands. To achieve my ideal state of agriculture, I'll keep studying on sweetpotato biotechnology to cope with the global food and environmental problems. Our KRIBB research team is developing the platform technologies for sweetpotato molecular breeding; the gene transformation system, the functional genomics and genomics/proteomics, the gene expression system including intragenic vector using all genes derived from host plant, metabolic engineering for high yields of target materials in an environmentally friendly manner. We are developing the new cultivars to combat desertification by increasing the local people's income in desertification areas in collaboration with Sweetpotato Research Institute, Chinese Academy of Agricultural Sciences (CAAS).

I think that we need more collaboration with other Asian countries including Japan with high technology to achieve my dream for sustainable agriculture. I'll do my best to solve global food crisis and energy problem through agriculture on marginal lands in collaborations with the people who met in this program. I really appreciate JENESYS Program for giving me a wonderful chance to understand Japan's efforts and to know the importance of international collaboration in the same food boat.

Yusuke Sakai

Graduate Student

Graduate School of Agriculture, Tokyo University of Agriculture and Technology

**1. Three keywords**

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	Food Safety	Economic Independence	Creation of links
<i>after</i>	Independence	“Yutori”	Network

<Reasons, Explanation or Justification>

My three post-programme keywords are “independence”, “yutori” and “network”. The three keywords that I suggested before participating in this program were based on views as a “consumer” and “observer”, so that I wasn’t able to think sincerely about this topic. However, through this program, especially the farm stay experience and unforgettable time I shared with the other participants, I became able to think about the “ideal state of agriculture in Japan” in more personal terms.

My first keyword, “independence”, means not being dependent on government, politics, economics, excessive amounts of imported fertilizer, machinery and other aspects that we cannot control or administrate. “Independence” includes an attitude of “thinking for oneself” and not obeying as anyone’s slave.

To acquire “independence”, we have to have not only time, but also economic and mental “yutori” (a Japanese term entailing “space” or “leeway”). It is also very important to have this “yutori” in order to enjoy work and hobbies, to chat with neighbors and to maintain good relationships with families. Through “yutori”, we can re-think and recognize a way of life and a way of work that reflects modern society.

“Network” is also essential to realizing the ideal state of agriculture. Through networks, we can discuss what we think in daily life and share among ourselves. Networks promote learning and the mutual understanding of participants. If we can be connected through networks, we can try to resolve problems such as food security. Furthermore, using networks, we can create markets as a group.

In modern Japanese society, especially in Tokyo, everything related to business must be effective, rapid, and productive. This means that we cannot live at our own pace, our own rhythm, and it makes it difficult to have time to think and create networks. That’s why this kind of atmosphere causes too much stress and produces “human robots” that do not think. I sincerely believe that what I saw and understood of the “My Pace” dairy farming initiative through this programme provides us with some hints for solving these kinds of problems in modern Japanese society.

2. Opinions and Comments

The most exciting and interesting experiences I had were the farm stay and the last dinner in Asakusa.

At the farm stay, through a conversation with the host family, I was able to learn about the way of life and the importance of women’s power, an issue not normally focused on. The most remarkable thing was Mrs. Mitomo’s big smile and the other female participants who joined in the “My Pace” Dairy Farming Exchange and the last presentation. A majority of the men talked about serious or philosophical things related to agriculture and dairy farming. On the other hand, a lot of

women promoted “laughter” for the participants, explained about topics related to daily life, and supplied “space” and “time” to think about topics that we could discuss among ourselves. At that time, I noticed that women’s power and influence is very important not only to maintain good relationships between families, but also to encourage “sustainable development” in the rural area based on our own lifestyles.

The last dinner at Asakusa was also an unforgettable time for me. A majority of the participants were able to mix and enjoy the precious time together despite differences in mother language and culture. At that time, I saw a lot of huge (drunk?) smiles that I didn’t notice during the programme.

So, in order to achieve the ideal state of agriculture, I really want to maintain this group’s network and keep learning from the other participants, exchanging opinions about our nation’s problems in order to reach a better life.

Asuka Ishibashi

Graduate Student

Graduate School of Agriculture, Tokyo University of Agriculture and Technology

**1. Three keywords**

	<i>Keyword 1</i>	<i>Key Word 2</i>	<i>Keyword 3</i>
<i>before</i>	Creation of links	Food safety	Economic independence
<i>after</i>	communication	Philosophy/vision	Food safety

<Reasons, Explanation or Justification>

I changed two words and didn't change one word, Food safety. At first, I'm explaining the reason I didn't change "food safety". After that, I'm going to explain why I changed two words.

Through this program and experience with famer or other people whose work is concerning food, I have felt the connection between our lives and food, vegetables and livestock. It made me think the link that the experiences I toughed cattle in my host family's farm and listened to famer's talk about agriculture and relation with nature. We eat them and keep our lives. That's normal thing, but now in Japan, getting the sense is hard. We only see meat and vegetables in supermarket and looks like industrial products. We have to think more about connection with food, other lives as s lead for consideration to food safety.

But other hand, customers think about and ask for the information about the risk of residual agriculture chemical and genetically modified foods. Especially, radioactive cesium which foods include is one of the most serious problems about foods in Japan. Customers are paying a lot of attention to food safety. Agriculture needs customers and food safety is an important element to keep the relation between famers and customers.

Thinking about eating food, it's the behavior to get outside element into inside our bodies. Atoms which compose our bodies change anytime and all our body's parts become new in three months at latest. That means food is so important because if I eat harmful food for months, our bodies is composed of harmful matters. That is to say, food is basis of our lives and food safety is essential element.

Agriculture is action to make the basis of our lives, food. So food safety is crucial thing for agriculture and, of course, for ideal agriculture.

Next, I explain about philosophy. I thought economic independence is one of keywords for ideal agriculture before this program. Of cause, economic independence is so important. Without that, agriculture is not going to prosper. Economic independence guarantees stability of famer's life. And subsidy sometime deprives room for creativity thought the relation of authority. It is difficult that people who receive money do something contrary an organization or people who give them money. Thinking about examples of Successful business that TV program report, creativity is necessary element to innovate. So, economic independence is an important element.

But more than that, we have to consider our philosophy. Say in other words, we need to have future vision. What I said seems to be normal but we need to question that" What is our vision for ideal agriculture?" some says expansion of scale and yield. Other says organic and environmental friendly. But we really share the vision, philosophy for agriculture? Mr.

Mitomo who is the pioneer of my-pace-diary said we (Japanese and Japan government) didn't have goal and only thinking about expansion. That is so important thing. We really thought about ideal agriculture or ideal society? We had philosophy to draw our future? We believed the growth make us happy. We might think growth or money solves all problems on our lives. Growth was our vision. We made a great mistake. Growth is not goal and solution. It was a just means. We had to have a vision and philosophy of our future or our lives clearly and think about what is happiness.

I said economic independent is important but philosophy is more important than that. It is the reason that we have to think the proper size or goal of our live style before economic independent. The ideal style of economic independent depends on each one's goal or community's goal. And each one's philosophy is different. My host mother's philosophy is "doing the best for cattle and cattle's happiness". So she didn't give cattle TMR. She said TMR looks like trash and eating glass which is not processed is good and happy for cattle. She has her philosophy and work with the philosophy. I have no idea she really has economic independence but she know proper size and proper way of her agriculture. I think her agriculture is sustainable and she enjoys her work and life.

But some might say if all farmers work depending on each one's vision, there is no strategy of nation and lose the competition with other nation. I have no idea about that and I think we have to think about that to protect farmer's life. But I also think it is not correct we only think about that becoming winner of the competition and for that, we regard famers as means for win. No happy famer, no country. We have to keep learning about each other and social system to find better way and create ideal future. We need to have philosophy and vision for our lives and country for basis of our happiness.

The last key word is communication. It is similar with creation of links, but deeper than that. Listening to the talks of Mr. Mitomo, Mr. Minami and other wonderful famers, I found one thing. They always communicate with not only people but also nature. They learn the way of other farmers' agriculture and exchange each one's opinion in My-pace-diary exchange. And though learning each other, they choose better way for each one's agriculture. Communication makes chance to learn and make confidence and relief. Talking about communication with people, Ms. Mitomo communicate customers thought sale of hand-made cheese. That makes relation and that makes relief for food safety. Of course, communication also make conflict but keeping communicate is the way to understand each other and learn each other.

Communication with nature is so strange because nature cannot understand human's words and speak. Even though, it's impossible to communicate with nature. The way of it is different from human. Mr. Mitomo and Mr. Minami communicate with nature though observation. They watch cattle, weather and plants carefully and understand the condition of them and control cattle and plant, vegetables and grasses, with using the ability of nature. there are less chemical and that's a sustainable way, I think.

Communication is a key word for ideal agriculture. Communication is the basis of creation, relief and understanding. For ideal agriculture, we need to make chances to communicate and learn the way to communicate.

2. Opinions and Comments

I learned a lot of thing about agriculture and culture of Hokkaido and more. This program was so exciting time. The most impressing thing is difficulty and interesting of communication. It was my first time to spend long time speaking English. Every day I faced my poor vocabulary and communication is not so smooth. But the time spend with other participant, I gradually understood each other and learn other country's condition. I could find a lot of things about other country and friends personality.

I keep in touch with my friends, other participant and understand more about them and their country. That make me grow and one small but important lead to great future of Asia.

And I would like talk and exchange the opinion with my friend whose major is agriculture and cultivation. Now I'm in the situation that I can learn about agriculture easily and some friends study about cultivation for expansive agriculture. I need to learn to know about expansive type for thinking what failure is. I'm student and now I have to study a lot and question myself and others the ideal agriculture and ideal society again and again. Now is the time to make my philosophy and learn many thought in my life I think.



Memories

- **Looking back through the pictures**
- **Press coverage**

Looking back through pictures



Having learned the emphasis focus on agriculture in Kunneppu Town



Ice breaker



Farm Stay: Experience Japanese Futon



Mr. Moritaka's explanation on how to utilize the urine from the cows



Mr. Mitomo showing them the health condition of the soil at Mr. Moritaka's farm



The dairy farmers checking by smelling the manure health condition of the cows



Hard to part with the host families



Final Presentation: The participants and Japanese counterparts sharing their ideal way of agriculture



Practicing tea ceremony



Planting Japanese pagodas to protect the river and the sea



Endless question and answer session



Group discussion and pulling the ideas together



Exchange with dairy farmers at Mitomo Farm



Experiencing Japanese style inn at Lake Akan



Planting trees at Betsukai Town



Checking the thermometer under the ground



Ice Breaker: initiated by a participant



Ice Breaker: having fun time



During farm stay, feeding the baby cow



once-in-a-lifetime encounter

Press Coverage

北海道新聞
23 釧路-根室 2011年(平成23年)6月16日(木曜日)

放牧地で牛に囲まれマイベース酪農を学ぶ参加者たち

牧草のみの飼育に関心

中津の三友牧場 東アジアの26人視察



【中津市】外務省の東アジア青少年大交流計画の一環として、国際交流基金が行う「東アジア次世代リーダープログラム」の食糧問題グループが15日、町内依欄の三友牧場を訪れ、同牧場の三友盛行さん(66)から、放牧主体で適正規模の経営を目指すマイベース酪農について学んだ。

一行は35歳以下の日本を含む14カ国26人。ブルネイ、インドなどそれぞれの国で行政や研究機関、NGOなどで食料、農業問題に関

わっている。

三友さんは、牛のふん(糞)を「肥料」と紹介。「うちの草場は耕さない。堆肥をやれば牧草地で土を掘り返し、牧草で土を掘り返しながら「微生物やミミズが草を育て、牛が草を食べて乳を出す」との仕方や乳量、品質な

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を食べて乳を出すとの仕方や乳量、品質な場にも優しく、コストを低くできるのなら理想だと思ふ」と話していた。

一行は18日まで滞在。野付漁協で講義を受け、ファームステイもする。

(高指博行)

東アジアに営農法紹介

訓子府 14カ国から関係者視察



【訓子府】食料・農業関係者の東アジアの14カ国26人が13日、訓子府町を訪れた。菊池一春町長、きたみらい農協職員が同町の農業をPRした。

国際交流基金が2007年から企画している「東アジア次世代リーダープログラム」の一環。一行は町総合福祉センターららを訪

北海道新聞(夕刊)
2011年(平成23年)6月16日(木曜日)

た。菊池町長は、北見農業試験場(訓子府)が開発したジャガイモの新品種スノーマーチに触れ、病害虫シストセンチュウへの耐性があることを紹介した。

コープこうべ(兵庫)が提唱しているフードプラン事業には、減農薬などで安全な農産物を生産する訓子府のグループも加わっており「日本の消費者運

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(須貝剛)

日本人は必要以上を求めすぎる贅沢病？

今年6月、JENESYS 東アジア次世代リーダープログラムでは、「食料問題」をテーマにプログラムを実施しました。日本のTPP参加賛否の激論に見られるように、国際化と貿易自由化の流れの中で、農業の位置づけが今揺らいでいます。そこで、今回私たちは合計14カ国、26名の参加者と数名のスタッフから成る青年団として、農業立国である北海道の道東地域に1週間を掛けて「理想的な農業の在り方」を模索する旅に出たのです。



JENESYSメンバー北海道へ

実は、このプログラムには通常であればEAS参加国15カ国に日本を合わせた合計16カ国から、それぞれ1,2名ずつが参加するのですが、今回は東日本大震災後に続く余震と原発問題のためか、ある2カ国からについては参加者がありませんでした。代わりに、30名もの応募者があったインドから、選りすぐりの次世代リーダーが3名参加しました。各国1,2名ずつの構成の中で、ただでさえ英語が流暢で、賢いインド人です。数の力でも負け、今回のグループはどことなくインド風。とりわけ、その強い訛りのためにスタッフが幾度となく聞き返す羽目になっても、可愛らしい笑顔で質問や意見を繰り返すインドからの参加者Harshはグループの中でも目立つ存在でした。

今回のプログラムのハイライトは、別海と中標津を周辺に広がる「マイペース酪農」という、近代酪農とは逆を行くといえる「低投入・持続型酪農」の視察でした。この「マイペース酪農」を営む地域の酪農家の方々の家で、参加者はそれぞれファームステイを経験させていただきました。



ホストファミリーと参加者一同

多国籍からなるグループのホームステイで一番難しいのは、言語と並んで実は食餌制限です。同様の食事制限を持つ人同士を組み合わせ、2,3名ずつが12家庭にお世話に成りました。そして、ベジタリアンのインドからの男性二人は、なんとも幸運なことにNHKの「プロフェッショナル」にも出演したこともある酪農界のカリスマ的存在である三友さんの牧場に宿泊させていただいたので



牧場の土壌を調べる三友牧場さん

偶々スタッフの滞在するホテルからもこの牧場が最寄りであったために、“にわか通訳”を兼ね私たちもステイの様子を見学させていただきました（スタッフの本当の狙いは、本場フランスのチーズ協会もが認める奥さんの作る「チーズ」のフォンデュだったのですが）。



スタッフも美味しくいただいた夕食

元々、「英語ができなくても何とかなる」からと、通訳役は不要であると言っていたのは、このファームステイ全体を仕切ってくださった三友さんでした。しかし、共にお話好きのインド人と三友さんのこと。果てしなく続くディスカッションに、最後には「通訳としてきてもらって良かった」と言われる程でした。3人のスタッフが順番に自分ができそうな通訳をして紡いだ会話をご紹介します。正に、我々スタッフがこのプログラムを通じて気付いてほしいと願った会話でありました。

India - Harsh (Mr. Harshvardhan) :

「現代人は必要以上を求めすぎています。日本人は、自国には本来なかったものを、海外から求め輸入し、「足りない」と渴望しています。日本が古来より有するものや伝統的に培ってきたものに立ち返れば、実は本当は「足りる」のではないのでしょうか。結局グローバル化がいくら進んでも、農業は土地固有の自然生産物であって、世界中で画一的にできるものではありません。」



常に質問を続けるHarshと答える三友さん

Japan-Mitomo-san (Mr. Moriyuki Mitomo)

「日本は高度成長期に非常に勤勉に、良くがんばってきました。ただ、がんばりすぎて本来の目標を超えてしまったのではないのでしょうか。超えてしまった「目標」地点に戻る。これが今後目指すべき暮らし方やあり方なのではないのでしょうか。私たちは各国の違いを認め合い、お互いの自立を助け合うために貿易をするのではないのでしょうか。」

私たちは、「マイペース酪農」を営む牧場で、糞尿を循環再生させ飼料として利用する何故だか不思議に「臭くない」糞尿処理施設を見学したり、糞が固まったパイをナイフで切り分けて匂いを嗅ぎ牛の健康状態を調べてみたり、様々な経験をさせていただきました。

これらの牧場は外から何かを持ってくるのではなく、既にそこに在るあらゆるもの「資源」として最大限活用することで「風土に生かされる」農業を目指しているのです。外から取り寄せた穀物に依存するのではなく、そこで生み出されるものに真っ直ぐに向き合う姿勢がここにはあります。

「より多く」コストを掛け「より多く」がんばれば、「より多く」得られ「より多く」幸せになれる。そんな風に、私たちは信じていないでしょうか。本当の幸せや豊かさは、今ここにあるものに気づき、向き合い、感謝し、それを最大限活用することで得られる、もっと身近な存在なのではないでしょうか。それでもどこか足りない部分があれば、近隣の人や国とお互いに助け合って、補い合えばいいのではないかと思います。私たちの理想的な農業の在り方を探す旅は、結局「生き方」への旅へと繋がり、皆それぞれが「他のものから与えられるもの」と「自分が本来有するもの」に気付くことができたのではないかと私たちは願います。

をちこちMagazine (2011年7月掲載)

文責：養父 美奈子



匂わない森高牧場の糞尿処理場



糞を直接手に取りの臭いをかぐ酪農家



牛と私たち

