

ユオードー
euodoō

Journal of Rural Future Study
土に生きる未来学

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nr. 5



Zacivolu Rhakho Dozo **The Unbroken Chain of ARI's Food System** Patrick Trail, Yuwadee Danmalidoi,
Boonsong Thansrithong **Developing Community Seed Banking Practices Through Low-Cost
Appropriate Technology Use** Raymond Epp **The Food Supply Chain is Breaking** Sue Hall Pyke
New Plots Towards Disruption: Small Farmer Fissures Makito Fujii **Live Surrounded by Living Things**
Toshihiro Takami **Groaning Together with Creation**

関根 佳恵 見直される小規模・家族農業とアグロエコロジー 藤井 牧人 生きたモノに囲まれて暮らす
高見 敏弘 共にうめく

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Asian Rural Institute

学校法人 アジア学院

Journal of the Asian Rural Institute

学校法人アジア学院紀要

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Notes on Contributors ・ 著者について

Zacivolu Rhakho Dozo, or Acivo, as she is known at ARI, is a 2000 Indian graduate of the ARI Rural Leaders Training Program. After working for students' support and rural development projects in Cambodia she returned to ARI as a Training Assistant (2009). She worked as staff member in 2010 and later from 2013 to 2020. She is now back in Nagaland, India, working at Grace Home Khutsokhuno.

Patrick Trail (MS) currently serves as the Research & Extension Coordinator at the ECHO Asia Regional Impact Center in Chiang Mai, Thailand. He attended Virginia Tech University in the US, completing a Masters Degree in Crop & Soil Environmental Sciences. Patrick is originally from the state of Louisiana in the US, grew up in different parts of Africa, and currently resides in Southeast Asia with his wife Brittaney.

Yuwadee Danmalidoi is the Seed Bank Supervisor at the ECHO Asia Regional Impact Center in Chiang Mai, Thailand. She completed her education at Rajchaphat University and is originally from northern Thailand. Danmalidoi has served at the ECHO Asia Impact Center now for over seven years.

Boonsong Thansrithong (Ph.D.) works as the Agriculture Program Manager at the ECHO Asia Regional Impact Center in Chiang Mai, Thailand. He completed a degree in Dairy Sciences at Maejo Agri-

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Kae Sekine (Ph.D.) holds a doctorate in Economics at Kyoto University and worked at the Institut National de la Recherche Agronomique in Paris before joining the United Nations Food and Agriculture Organization as a guest researcher. Dr. Sekine is co-founder and senior director of Family Farming Platform Japan and recently published *Food and Farming for 13 Year-Olds: Family Farming Changes the World* in Japanese.

Raymond Epp (MAPS) is a mission associate with the Mennonite Mission Network and holds a master's degree in Peace Studies from the Anabaptist Mennonite Biblical Seminary. Together with his wife Akiko, he has introduced community-supported agriculture in Japan through the Menno Village initiative in Hokkaidô.

Sue Hall Pyke (Ph.D.) earned her doctorate in Creative Writing at the University of Melbourne while working with Sustainability Victoria as their research lead. She now teaches in literary studies, creative writing and Indigenous studies. Dr. Pyke is general editor for *Swampen: a Journal of Cultural Ecology*. Her publication details are available at <https://unimelb.academia.edu/SusanPyke>

Makito Fujii. A 2004 graduate of the ARI Rural Leaders Training Program, Fujii lives and works in Nepal with his wife Til Kumari Pun, who underwent ARI's training at the same time.

Toshihiro Takami (Ph.D.) founded Asian Rural Institute in 1973. He served as director until 1990 and was honorary president until his passing in 2018. Takami held degrees by Yale Divinity School and has been awarded numerous recognitions for his achievements, among them the 1996 Ramon Magsaysay Award in International Understanding.

ザチヴォル・ラコー・ドゾ (アチボ)

2000 年アジア学院農村開発科卒業。カンボジアで学生支援および農村開発プロジェクトに従事した後、2009 年アジア学院研究科修了。2010 年及び 2013 年から 2020 年 3 月までアジア学院スタッフ。現在は故郷のインド・ナガランド州にてグレースホーム・クツォクノを運営。

パトリック・トレイル

タイ・チェンマイ県の ECHO アジア地域インパクトセンター研究普及コーディネーター。米ヴァージニア工科大学修士号取得（穀物・土壌環境研究）。米ルイジアナ州出身。アフリカ各地で育ち、現在は妻のブリタニーさんと共に東南アジア在住。

ユワディー・ダンマリドーイ

ECHO アジア地域インパクトセンター種子銀行スーパーバイザー。ラーチャパット大学卒業。タイ北部出身。同センターに 7 年以上勤務。

ボンソーン・タンスリトーン

ECHO アジア地域インパクトセンター農業プログラムマネジャー。メージョー大学にて学位取得（酪農科学）。チェンマイ大学にて博士号取得（社会科学）。ECHO アジア小規模農家資源センター・種子銀行の監督・管理を担当。

せきね かえ
関根 佳恵

1980 年横浜市生まれ。高知県育ち。2011 年京都大学大学院博士課程修了。博士（経済学）。2007-2010 年にフランス国立農学研究所で研修員を務める。2016 年より現職。2017 年に小規模・家族農業ネットワーク・ジャパンを有志と設立。2018 年度は、国連食糧農業機関 (FAO) の客員研究員として、イタリア農業の調査研究に従事。2019 年より家族農林漁業プラットフォーム・ジャパン常務理事。近著に『13 歳からの食と農—家族農業が世界を変える—』（かもがわ出版、2020 年）がある。

レイモンド・エツプ

メノナイト宣教ネットワークの宣教師。アナバプテスト・メノナイト・聖書神学校より平和学修士号を取得。妻の明子さんと共に北海道長沼町のメノビレッジを運営しながら地域支援型農業 (community-supported agriculture) を日本に紹介している。

スー・ホール・パイク

サステナビリティ・ヴィクトリアにて研究主任を務める傍ら、メルボルン大学にて博士号取得（ク

リエイティブ・ライティング)。現在、文学、クリエイティブ・ライティング、先住民研究の教鞭を執る。「Swamphen: a Journal of Cultural Ecology (スワンプヘン:文化生態学ジャーナル)」編集者。著書情報はこちら。<https://unimelb.academia.edu/SusanPyke>

ふじい まきと
藤井 牧人

2004年アジア学院農村開発科卒業。同じ2004年卒業生で妻であるティル・クマリ・プン氏と共にネパール在住。

たか み としひろ
高見 敏弘

アジア学院創設者、名誉学院長。米エール大学神学院にて神学博士号取得。1996年マグサイサイ国際理解賞受賞。2018年9月召天（91歳）。

Editorial Note • 編集者から

The previous edition of *euodoō* addressed the global climate crisis. Even though this crisis is still far from being dealt with appropriately, another global calamity has captured the world: the COVID-19 pandemic caused by the novel coronavirus.

At first glance, climate change and the spread of a virus seem like unrelated problems. However, early on in the pandemic, scientists voiced that the loss of biodiversity and natural wildlife habitats, along with global warming, make it easier for pathogenic organisms to emerge and affect humans. This means that human diseases correspond to an imbalance in the intricate web of life on earth, an imbalance in the ecosystems which hold diseases in check.

In this edition of *euodoō*, we examine those imbalances in the planetary health: trends that cause them, ways to fix them. For this purpose, we present a 1983 speech by Dr. Toshihiro Takami. Dr. Takami discusses humans' place and role within Creation and emphasizes our responsibility (*ninaime*) from a theological point of view. We thank Mr. Toshiaki Kusunoki for translating this text into English for the first time, and Ms. Shinko Takami who agreed to reprint the Japanese original.

The paper by Raymond Epp has a theological perspective, too. He describes the pandemic-induced food crisis via the global food supply chain system and its possible spiritual meaning. We offer this contribution about breaking the *chains* and replacing

them with sustainable food *cycles* with the kind agreement of Ms. Ryôko Tsuboi of *Ainô Magazine* where a Japanese version was printed earlier.

What ways can lead out of the biodiversity crisis? The papers by Dr. Kae Sekine and Dr. Sue Hall Pyke offer us answers. Dr. Hall Pyke urges applying the wisdom of indigenous farmers into agricultural and land policy, giving examples from her work in southern Australia. Government agencies and indigenous communities not only can build a pathway out of destructive farming processes but propel justice-making in places scarred by colonialism. We believe these concepts from Australia will be very fresh to our readers.

Dr. Sekine documents the global movement to re-evaluate the role of smallholder and family farming within the United Nations' "Decade of Family Farming." The benefits of family farming are gaining attention as its potential for crisis resilience and biodiversity comes into sight. Dr. Sekine's thesis also testifies to the success of grass-roots groups to change policy and public opinion.

Over many years, ARI has promoted local smallholder farming as a key to ecologically-friendly food production—a vision that has earned us wonderful allies. One of them is ECHO Community. Patrick Trail and his colleagues Yuwadee Danmalidoi and Dr. Boonsong Thansrithong from ECHO Asia in Thailand have kindly submitted one

concrete idea to strengthen independent community farming: an analysis and instruction on creating local seed banks. We hope this paper not only spreads the knowledge of this particular method but of ECHO's excellent online resource archive.

Also from Asia, we present an essay by Mr. Makito Fujii, a Japanese graduate of ARI who lives in Nepal. His careful observations of the Nepalese countryside and its subtle changes over the years depict a mode of rural life far removed from the logic of capitalist mass production. Instead, they suggest trustful relationships between humans and the environment, grounded in *conversation*: When farmers, animals, gods, and landscape communicate with each other, they may be able to help one another. We express our appreciation to ARI staff member Meredith Hoffman for creating a wonderful English translation that faithfully captured the spirit of the text.

Finally, we are delighted to print a thesis by Ms. Zacivolu 'Acivo' Rhakho Dozo. Acivo is a graduate and former staff member of ARI. But above that, she is an exemplar of caring, servant leadership for vulnerable children and youth in developing countries. Acivo wrote this personal 'reflection paper' for ARI's community as a summary of her eight years' work at ARI. However, we found its themes of food sovereignty, home economy, and leadership worth presenting to all readers of *euodoō*. It is people like Makito and Acivo whom ARI and its supporters entrust with leading us into a better rural future.

We extend our heartfelt gratitude to all who have contributed their precious time and work to this journal, including proof-readers Junko Tanaka, Yûko Emura, Joyce Ray, and Rebecca Namiki. To our readers, we wish that the ideas in this 2021 edition of *euodoō* will bring wisdom for the time after the pandemic; not to go back to the old normal, but to build a better new one, where we thoroughly understand that our human future depends on allowing all life on earth to flourish.

Thomas Fujishima
Public Relations, editorial member

「ユオードー」第4巻では、地球規模の危機である気候変動を取り扱いました。この問題もいまだ適切に対処されているとはいいがたい状況のなか、現在は新型コロナウイルスという別の地球規模の災禍が世界を襲っています。

一見、気候変動とウイルスの蔓延は無関係の問題のように思われます。しかし、パンデミックの早い段階で、科学者たちは、地球温暖化に伴う生物多様性と野生生物の生息地の喪失により、病原菌が出現し、人間に影響を及ぼしやすくなると声を上げました。人間の病気は地球上の生命の複雑なつながりの不均衡、つまり病気を抑える生態系の不均衡と関連があるということです。

今回の「ユオードー」では、この地球全体の健康

における不均衡がなぜ引き起こされるのか、そしてこれをどのように修復するのかに着目しました。この目的において、1983年の高見敏弘氏のスピーチを掲載しました。高見氏は被造物の中の人間の位置づけと役割を論じ、神学的観点から私たちの「負い目」を強調しています。この文章を初めて英語に翻訳してくださった楠敏明氏、日本語原文の転載を許可してくださった高見信子氏に感謝いたします。

レイモンド・エップ氏の小論文にも神学的観点が含まれています。エップ氏は、パンデミックをきっかけとしてグローバルな食料サプライチェーンにおいて生じた食料危機、そしてその考えられる霊的意味を論じ、このようなサプライチェーンの克服と持続可能な食の循環への転換を考察しています。本小論文は以前に月刊誌「愛農」において日本語で発表されたものであり、今回の掲載を許可してくださった同誌の坪井涼子氏に感謝いたします。

どうすれば生物多様性の危機から抜け出すことができるのでしょうか。関根佳恵博士とスー・ホール・パイク博士の論文はこの問いへの答えを提示しています。ホール・パイク博士は、自身のオーストラリア南部での働きを例に挙げて、先住民農民の知恵を農業や土地の政策に用いることを強く提言しています。政府機関と先住民コミュニティは、破壊的な農業プロセスから抜け出す道を築くだけでなく、植民地主義の傷を負った地において正義の実現を推し進めることができるのです。こうしたオーストラリアの例は、読者の皆様には非常に新鮮に映るはずです。

関根博士は、国連「家族農業の10年」にみられる、小規模農業と家族農業の役割を再評価する世界的な動きを記録しています。危機からのレジリエンス（回復力）と生物多様性における家族

農業の可能性が知られるようになり、家族農業の利点が注目を集めています。論文では、草の根団体が政策や世論を変えることに成功したことも証言されています。

アジア学院は長年にわたり、環境にやさしい食料生産の鍵として地域の小規模農家による農業を推進してきましたが、このビジョンを通じて素晴らしい仲間がもたらされました。ECHO コミュニティはそのひとつです。タイのECHO アジア地域インパクトセンターのパトリック・トレイル氏、そして同僚のユワディー・ダンマリドーイ氏とボンソーン・タンスリトーン博士は、自立したコミュニティによる農業を強化するための具体的なアイデアとして、地域の種子銀行の設立に関する分析と方法説明を行っています。この論文を通して、種子バンクの知識だけでなく、ECHO の優れたオンライン資源のアーカイブも知られるようになることを願っています。

アジアからもうひとつ、ネパール在住のアジア学院卒業生である藤井牧人氏の小論文をお届けします。藤井氏はネパールの農村地帯とその長年にわたる微妙な変化を注意深く観察し、資本主義的な大量生産の論理から遠く離れた農村の生活様式を描いています。彼らの生活が示唆するものは、会話を基礎に置いた人間と環境との間の信頼関係です。農民、動物、神々、そして土地が互いにコミュニケーションするとき、互いに助け合うことができるという関係です。原文の精神を忠実に捉えた素晴らしい英訳を作成してくださったアジア学院スタッフのメレディス・ホフマン氏に感謝いたします。

最後に、ザチヴォル・ラコー・ドゾ（通称アチボ）氏の論文を掲載できることに感謝します。アチボ氏はアジア学院卒業生で元スタッフですが、それ以上に、開発途上国の弱い立場にある子供や若者のために親身になって働く、模範的な

サーバントリーダーです。アチボ氏はアジア学院での8年間の勤務の振り返りとして、学院コミュニティ向けにこの個人的な「リフレクションペーパー」を執筆しました。しかし、食料主権、家庭経済、リーダーシップというテーマは「ユオードー」のすべての読者に提示する価値があると感じました。藤井氏やアチボ氏のような人々こそ、アジア学院とサポーターが農村の未来を託している人々なのです。

校正の田仲順子氏、江村悠子氏、ジョイス・レイ氏とレベッカ並木氏をはじめ、この紀要に貴重な時間と労力を費やしてくださった皆様に心より感謝申し上げます。読者の皆様にとって、2021年版「ユオードー」が、パンデミックを経たこの時代に知恵をもたらすものとなることを願っています。以前の「ノーマル」に戻るのではなく、人間の未来が地球上のすべての生命の繁栄にかかっていることを皆が深く理解する、そのような「ニューノーマル」をつくり上げるために。

藤嶋トーマス
広報担当、「ユオードー」編集委員

Theses • 論文

The Unbroken Chain of ARI's Food System

ZACIVOLU RHAKHO DOZO

Dedicated to all staff and community members of Asian Rural Institute for the last 47 years of its existence!

So God created mankind in his own image, in the image of God he created them; male and female he created them.

God blessed them and said to them, "Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground."

Then God said, "I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food. And to all the beasts of the earth and all the birds in the sky and all the creatures that move along the ground—everything that has the breath of life in it—I give every green plant for food." And it was so.

Genesis 1: 27-30 (NIV)

PREFACE

My name is Zacivolu Rhakho Dozo (Acivo). I am from Nagaland state in Northeast India. I hail from a village called Khutsokhuno in the rural area. I worked with a church-based organization called Chakhesang Women Welfare Society (CWWS) in rural economic development programs. That was how my then-Director Niechulo Kreo (now Lieutenant), who was also an Asian Rural Institute (ARI) graduate, introduced me to ARI's training program. CWWS became my sending body that sent me to training in Japan. I attended the ARI Rural Leaders Training Program in the year 2000. That was the starting point of my journey with ARI. The bond became stronger over the years as ARI invited me back to be a Training Assistant in 2009, a contract staff in 2011 and further asked me back to help in the Training Program as a regular staff member from 2013 to 2019 (fiscal years).

My training at ARI not only helped me enhance my leadership skills but, most importantly, I learned how to evaluate situations and address problems through agriculture. Working with people at the grassroots both in Nagaland and in Cambodia, I learned that it is

not only money that can solve problems. I learned the vital importance of agriculture—the skills that we need to have in order to work with people in rural areas. I also learned the importance of the rich natural resources that are available and which we can use to help people. In this, ARI has its unique ways of imparting these kinds of ideas and techniques to rural leaders, motivating us to love soil and nature, and use them to help people solve their problems.

As I work with different kinds of people from different backgrounds, I realized the most valuable education that I got in my life was from my mother, who told me, “I want you to become an educated woman. But first, you must learn how to grow food. Because if you know about it then you will never go hungry wherever you live.” She would also say, “Your education degrees and certificates may fail you someday but your farming skills will never fail you. It will always help you to survive anywhere in this world!” I didn’t care much about what she taught me until the ARI training opened my inner eyes to see the reality of life—introducing me to “Foodlife” (a word coined by one of our founders, the late Rev. Dr. Toshihiro Takami) and “sustainable life.” These ideas are put into action at ARI by achieving over 90% of food self-sufficiency for approximately 40,000 servings in ARI’s Koinonia dining hall each year. My mother taught me a valuable lesson for my life indeed, but it was the ARI training program that helped me to understand its true meaning and to live it out in my daily life.

Another unique thing about the ARI community is “discovering your own self.” Failure is not about failing; failure is a strong foundation of our personal growth, and everybody is given a chance to go through it. That is how I discovered myself as a leader at the grassroots. Also it was through my learning at ARI that my passion for the rural poor took deeper roots in my heart and I became more committed to my work.

I believe in ARI’s spirit of imparting God’s love to people by walking along with them in their challenging times in every day’s walk of life. Children’s school education was and is always my strong passion. It is in this specific area where I can live out the values that ARI put into my heart: by being with the people as I try to help the parents or the guardians in the children’s upbringing. At the grassroots, the first step towards working with children is to educate the parents/guardians. It is the one path that leads to a more valuable impact on nutrition at home and home economy practices.

This paper will have 4 sections:

- Section 1 talks briefly about my personal background as “My Village, My Haven”
- Section 2 talks about my personal transformation at ARI as “Transformed and Equipped”
- Section 3 talks about ARI’s food sustainability as “The Unbroken Chain of ARI’s Food System”
- Section 4 talks about my dream and project plan as “A Mouth to Feed and a Soul to Save”

SECTION 1
 MY VILLAGE, MY HAVEN:
A Vision of Childhood and Education in Rural Nagaland

During my life in the village as a farmer's child, I remember my mother getting up at dawn each morning. The only clock that we had to wake us up was the crowing of the roosters. The first crowing was a bit early, and therefore many mothers would get up at the second crowing. The third crowing was already late for farmers to start with the day's activities. Life was filled with hustle and bustle every day, but it was peaceful, and we were happy because we were not hungry. So, many years ago, while my family was still living in the village, we always had enough food at home!

In the early 1980s, at the age of 13, I had to move to our district town called Phek. I had to take care of myself from cooking to doing laundry, fetching water, and collecting firewood from the jungle. Sometimes I skipped school because it was too much work to get done and attend school every day. In retrospect, I sometimes even went to bed hungry, and most of the days, I was hungry when I got home from school in the afternoon. I tried hard to take care of my needs, but I could not do it well without the assistance of any adults. Every weekend I went back to my village to get food supplies, but I could not carry many things either. The way to the village was always rough—crossing rivers and climbing up and down the hills. It always took around three to four hours to walk one way. I could hardly carry one kilogram of rice, a bundle of vegetables, and a small amount of fermented soybeans in a small traditional carry-basket. Indeed, it was not easy for my mother to leave me in that condition, but she needed to stay in the village growing food for our household, most importantly growing vegetables to sell in order to pay for my room rent in the town. In those days, my monthly school fee and my monthly rent cost around 100 Japanese yen, respectively. It wasn't easy for my mother to raise that amount in a month, but she was determined to give me a school education as a female child.

As a girl, I faced challenges from comments like: "You are just a girl. There is no use in studying. If you study too much, you cannot get a husband. Now is the right time to get married and have children." I was in my early adulthood then. I usually wouldn't respond to people's remarks even when I got very unfavorable opinions from elder people—relatives or others. Only once, I remember, I talked back to an elderly man in my village. It was not about school education. It was about girls or women owning property and also about female members inheriting their parents' properties. My intention was never to claim my only brother's rights. My burden was about why society kept girls outside of relevant family affairs.

Nowadays, things are much better in many ways, even in the village. However, one obvious thing that still exists in my village is the lack of proper facilities for the children to attain higher school education, even when they are capable. Many girls are still struggling to get an appropriate place to live and to finish their studies, too.

I was a high school dropout myself, and still today, many children in my village and the nine neighboring communities discontinue their schooling half-way. When the children become school dropouts, they do not want to go back to the village, and they try to look for an

easier life to survive. Unfortunately, they end up with social problems. To mention a few: robbery, prostitution, alcoholism, and the most challenging issue of early marriage which leads to many broken homes in the village. This is another reason that children who have the intellectual capacity become victims due to improper guidance for their life and lack of a proper facilities that their parents can afford.

The launch of my dream

After my ARI training in 2000, I realized my long-term dream. This dream came from my life experiences, from my journey pursuing education, from being a school dropout at one point, and from re-entering into studies by taking up different ways to educate myself. I never gave up on my education, and I don't want to let my villagers give up easily either. ARI has changed me. School education is essential, and I will continue to work with the villagers for that.

With the need to help my village and nine more neighboring communities, my niece and I started a ministry called Grace Home Khutsokhuno (GHK) in my native village Khutsokhuno, on April 30, 2017. Grace Home Khutsokhuno helps villagers to educate their children, but most importantly to preserve the values of "Dignity of Labor" and "Preserving Rural Life" for our future and to save the environment for sustainability.

The all-time memory from my ARI training that I will forever cherish is the smell of fresh coriander leaves—this was how my mother grew vegetables, mostly coriander leaves which were easy for her to carry. The market supported my school education in the 1980s and 1990s! That is why now in the village, to meet the needs of children's school education, I need to address the current threats regarding the degrading biodiversity. After my ARI training, I, therefore, identified the following issues that needed to be addressed in my home community:

- *Shifting cultivation:* With rice as our staple food, we solely depend on terraced paddy fields to grow it. But for growing other crops, especially corn for animal feed, people still practice shifting cultivation. They cut down trees and slash bushes and burn them. Each year an area of about 60-70 hectares is damaged by my village alone. When you assess how many species of animals, flowers, trees, microorganisms, etc. vanish due to this practice you realize that it is indeed an enormous destruction.
- *Logging business:* Logging business contributes to the destruction of our abundant nature, flora and fauna, and water in the river. The complaints of water shortage in the river and streams on which the villagers depend increase yearly. This problem leads to conflicts among the villagers.
- *DDT:* From when I was a little girl, DDT was used for seed protection from the ants that eat seeds after sowing. It continues today. Now, the local government uses DDT powder under the program of the National Malaria Eradication Program to eliminate mosquitoes in the village every year.
- *Herbicides:* The farmers who can afford to buy herbicides will use them to kill the weeds to get the work done more quickly.
- *Hybrid seeds:* The introduction of hybrid seeds is wiping out local seeds.
- *Excessive hunting:* Wild animals are one of our primary sources of protein. Our ances-

tors hunted for food only when needed. At present, people hunt animals, birds, etc. for money. It not only wipes out the species, but it breaks the food chain and the cycle of nature. Another problem is that when men spend so much time hunting they do not have enough time to work in their fields, leaving mothers and children with heavier burden to grow food.

- *Modern technologies and lifestyle:* Technologies bring a comfortable life, but that makes people greedy for more money, and nature is then destroyed to get more money.
- *School dropout youths:* By the time the children in the village reach age 12 they have to move to urban places if they want to seek further school education. The biggest challenge is that they have to live by themselves and take care of themselves, from cooking to all household chores. At that age, it is tough to survive and go to school, which I experienced many years ago. Moreover, reading, writing, and understanding the English language is too big a hurdle. They cannot catch up with other students in their new schools. And in many cases, many children discontinue their schooling half-way. When the children become school dropouts, they do not want to go back to the village. They look for a more comfortable life to survive. They end up with the social problems mentioned above: robbery, prostitution, alcoholism, and early marriage.

The need to continue educating grassroots villagers that protecting biodiversity is to preserve our future which no wealth in the whole world can buy for our coming generations is the foremost seed that ARI sows into rural leaders' hearts each year! The villagers, both young and old, educated and uneducated, may have a good life outside the village. Still, our village and community should be a HOME where one can have a peaceful and happy mind and where people want to go back to—thus, a village should be a HAVEN, a place of safety and refuge, to all its inhabitants.

SECTION 2

TRANSFORMED AND EQUIPPED:

Personal and Leadership Lessons as Meal Service/FEAST Coordinator

Attending a year of training on servant leadership at ARI in 2000 undeniably broadened my world view in a positive way. I was empowered immensely, specifically in the areas of self-esteem and having the confidence to dream beyond the boundary of a patriarchal society that says, “You are just a woman.” But as the saying goes, ‘One cannot be transformed or changed overnight,’ and that is true! I was empowered, but I needed time to put my new learning into action. Then, from 2013 to 2019, I worked as the Meal Service section coordinator at ARI and my ideas and skills related to leadership and food deepened further. In the following section, I want to describe the lessons I learned during that time.

Building cooking skills to serve others

Before life at ARI, cooking wasn't my favorite thing to do. I grew up cooking for myself from

my early childhood, but I cooked without any sense. When I was an ARI training participant in 2000, I always tried to escape from preparing the main dish and, in fact, I don't remember how I cooked.

In 2010, after I became a contract staff and assisted in lunch preparation, I started a new method of learning to assess my cooking skill. Every time I cooked something, I made sure that after lunch in the Koinonia dining hall, I checked the kitchen garbage box used for compost. I began to know how much people ate or how much of my dish they threw away. Sometimes when I saw a large quantity of my dish inside the compost box, I was embarrassed and discouraged. But then I kept trying. Through close observation, I began to pick up people's tastes.

Another way I overcame my failures in cooking was tasting the ingredients and spices before using—be it leaf vegetable, fruit vegetable, root vegetable, spices, or anything else that came to the kitchen. It became my best method and I continue to this day, sharing it with others because this is very practical in any circumstance and works with any unfamiliar ingredient. After getting the taste, I assessed what seasoning I should use, or what could go with what. Indeed, ARI has been the best place for me to build my cooking skills. Today, when I go into any situation, I know how to go about cooking in the ARI style. Most importantly, I have ready-made knowledge and recipes installed in my brain. That is how I assisted and guided the new members in cooking every year!

As I started my work in the kitchen, one thing that I most fancied was baking. Deep down in my heart, I wanted to learn how to do it, but I had few opportunities or rather less courage to voice my desire. I kept on thinking, "I possibly can never do it." Then came a volunteer from the U.S., Alice, who joined our kitchen crew. She was good at baking, and each time I saw her baking, I secretly fancied her skills and wished to be like her. One day I assembled my courage and approached her. Her answer was simple and friendly. "Oh, it's very easy. Just watch me. I will teach you my simple methods!" and she did. Since then, I have never looked back and baking became part of my life.

Alice's generosity helped me to be inclusive, too. Every year the FEAST section (see below) welcomes members from different backgrounds with a wide range of different work experiences. I make sure that no one feels superior or inferior because of their skills. I give everyone equal opportunities to learn from one another. Alice's generosity broke down the walls within me. I have been able to help other people, too, accept each one as they are, and, most importantly, not to suppress others' potential, specifically in the section's operational activities.

Getting Started with the FEAST!

"We may postpone other work, but we cannot postpone the meals to the next day." Each year, this is my entry point to the new community members in the Meal Service section orientation. And, indeed, it is true! However, it took me seven years as the leader of the Meal Service section to understand the deeper meaning of Food and Life and why food plays an essential role in ARI's curriculum.

In 2018, after a more in-depth discussion with staff members, we changed the section's name from Meal Service to FEAST—Food Education and Sustainable Table. This was a significant change, but it turned out to be very effective. The 2018 and 2019 participants showed a

greater understanding of food security, self-sufficiency, and food as medicine through their involvement in the kitchen. It also added more value to their leadership training in the area of gender balance.

An additional point that I had put in the ARI training handbook was:

Food security and food safety are both strongly related to environmental issues. We may have all the comforts at home, but if we do not have SAFE FOOD, who can guarantee our good health? We are ignorant of safe food—now we are living in the context of ‘food intake/consumption as a fashion;’ that is the reality side of life. Remember, FOOD IS MEDICINE!

Pastor Lar from Myanmar (who was my consultee) said,

Now I fully understand the value of ARI’s training on servant leadership through safe food, the security of food, and self-sufficiency in the kitchen work. If I want to help my people, then I should practice using safe food ingredients in the kitchen. To do this, I need to start with my family members growing food and providing safe food to my children, then others can learn through my practices. The kitchen is one of the core places where I could enhance my leadership skills and the importance of sustainability, too.

Food for physical and mental wellbeing

As FEAST Coordinator, I had rich experiences in taking care of people’s health and helping people maintain good health in general by using ARI’s produce for the last seven years. Food, which plays the most crucial part in the ARI training program, holds the best place in everybody’s heart, I believe. Two important points that I emphasized to everybody who came into the kitchen were to show gratefulness to the people who grow food and to give appreciation to the people who cook it.

Also, on many occasions in the last seven years, I used food to treat people when they were sick physically, when they had problems that disturbed them mentally or emotionally, and when they felt tired and stressed. Regardless of health or other concerns, certain food items simply are delicacies and very special to many participants back in their communities. I used those as energy boosters (for example, the innards/feet/heads of chicken, the innards and whole body of goats, pork bones, pork fat chili dish, dry-fish chili dish, etc.) Every year I appreciated the volunteers, interns, visitors, campers, Japanese participants, Graduate Interns, etc. who comfortably ate dishes that they had never seen before—munching on chicken feet or chewing chicken innards and enjoying those with the participants.

Transformation of male participants

My re-entry into the ARI community and the responsibility for the FEAST section empowered me in more concrete ways. It helped me in dealing uniquely and specifically with male participants, and it enabled them to understand why kitchen work in the training program is as good as other activities for them as a leader. If women need empowerment, men equally need empowerment to be able to understand the value of fellow human beings regardless of gender.

The kitchen is an excellent training ground for most of the male participants. They learn so much about respecting their wife/sister/daughter or any female member in the family/community, as well as learning the value of appreciating the food served to them. Each year I

observed how much pride men had to give up in order to 'learn by doing' something that they did not want to do, being in a place where they felt they did not belong. They had to listen and cooperate with the instructions. They had to be patient when they were admonished. They had to walk the extra mile racking their brains to bring out the best taste of their dishes. Sometimes it amused me to see some men walking into the kitchen looking like a lifeless robot! But it was worth putting in such efforts and energies. They grasped the core knowledge of FOOD and LIFE right from the inside of the pots and pans above the burning stoves.

Every year some male participants admitted that they did not seriously realize or appreciate how much time their wives, mothers, or sisters were spending for them: doing household chores, taking care of babies, raising children. Working in the FEAST section, I had the opportunity to talk about how much energy and effort women sacrifice to maintain family health, to keep the family going and together. As they put themselves into women's shoes by participating in all the processes of the kitchen activities, they gradually realized how to be more appreciative of the food they get to eat from their loved ones. This may seem very simple and insignificant, but for me, it holds high integrity and was beautiful to behold when I saw them change. I believe that women's real beauty lies inside in our hearts, unseen. It is hidden and not always valued. Building a family or community needs a lot of unseen preparation, commitment, and nurturing. ARI's training helps both men and women learn about sharing responsibilities, accepting, and respecting each individual in the process of living together as a family and community. The journey is tedious. Yet the transformation has taken root in their whole body system, continuing to grow and bear fruit in cycles throughout their lives and careers, wherever they are planted.

Humility through dishwashing

Throughout my time at ARI, I thought I was not good at dishwashing. Upon reflection, however, this "humble task" was where I learned much about dealing with people in the kitchen.

Cooking may not be a problem for many, but washing dishes is essential in the process of getting things done in the kitchen. Sometimes it created tension among the cooking members when I needed to find a way of letting everybody know that dishwashing was an important part of the cooking; without performing the complete cycle, the process of cooking is not yet done. In other settings, the chef or main cook usually will not do the dishwashing, and in the individual household, the helper or the servant will be the one who does it. In many contexts, especially the male members in the family will not do the dishwashing even when they think or say they take part in the cooking. This is one activity where leaders can learn to humble themselves not only for cooking, but from the perspective of learning humility as part of a leaders' skill set. I used dishwashing to impart a leadership quality—by doing what participants think is the least or the most tedious chore.

Responding to different people's preferences

Another unique experience was in one year, a participant refused to break eggs to cook an egg dish for the community. She did not even want to smell it, so every time she came in for breakfast cooking, she asked for a mask. Another participant in the same year refused to be

in the kitchen when pork was cooked. Yukiko, the Curriculum Coordinator, had to make a special arrangement for them to be in the kitchen for their morning and evening Foodlife Work times. And for the first time in the history of ARI, I had to separate a small pot and pan for cooking their food. When I first did it, many people did not like the idea, but I took the risk because forcing them was not going to bring a better solution.

After a few months, both of them came to me on different occasions. They said, “Now I perfectly understand the ARI training program, and I want to be the same as any other—I will cook egg dishes for the community members, and I will be in the kitchen when pork is cooked.” That was an unexpected transformation, but one of the best changes that I ever experienced and witnessed as the FEAST Coordinator. Our motto ‘That We May Live Together’ does not come easily—but high diversity helps us to understand, accept and honor one another to create a peaceful community and a better world to live in if only we give ourselves a chance.

Learning from the kitchen and FEAST

With unique challenges and learnings, the kitchen is a highly diverse place. But the joy of working in the FEAST section is to create a pleasant environment in the community through the sharing of food in Koinonia.

ARI itself is a highly diverse place. There are times when we cannot understand each other's food cultures, since food is directly related to our emotions and, in many ways, a sensitive issue. In a place like ARI peacebuilding starts from the kitchen. Everybody is busy working in different areas. But when the eating time comes, people gather together. Regardless of class, religious backgrounds, or tiredness from work, people sit side by side, chatting, laughing, sharing, scooping out food from the same bowls. It's a joy to see them! Indeed, FEAST plays a core role in the entire training program, and even when sometimes we are overwhelmed with the workload, still the greatest joy of the FEAST section is putting food on the table for the joy and good health of everybody. Directly connected with the fields and livestock, the kitchen is where the participants also learn about rural development and home economics in more practical ways. We can see the positive impact of participants' understanding of safe food that we grow for our daily consumption.

Conclusion

The ready-to-help attitude of the ARI staff is one of the strongest life principles of ARI that impacted my personal life. Indeed, they are incredible coworkers! All the staff members almost equally have the capability of handling the work of every section. Even when a sudden absence comes up, any staff member can be assigned to any section (except for some office paperwork). They can naturally lead people to get things done in the fields, with the livestock, or in the kitchen. This is a tremendously unique skill which we usually do not realize ourselves, and that's how the percentage of food production is amazingly high for such a training center.

The skills that I acquired at ARI are mostly naturally learned. Once you grasp this way of ARI's functioning, one can automatically understand the whole cycle of ARI's food production and community life. This is the strength of the ARI staff: that we continue the chain of the training program, cultivating on the same land, and having maintained a highly diversi-

fied community for the past 47 years. I would say it is the 'unbroken chain of ARI's food system', which can also be applied at individual or family levels.

Above all, every time I walked around inside the kitchen to pray—mostly on Monday mornings—and periodically walking around the storage rooms, the participants' fields, and the livestock houses, I always saw God's mighty hands at work. Be it dry or rainy, spring, summer, autumn, winter, be it insects, worms, or diseases—together, all the community members grow food in joy. Amid challenges and, at times, conflicts or differences, it is impressive to see this kind of community or a school existing in this universe. As people at ARI give effort, God keeps us in abundance throughout every season and year!

SECTION 3 THE UNBROKEN CHAIN OF ARI'S FOOD SYSTEM: *The Value of Self-Sufficiency and Its Potential for My Village*

One intentional step that I took in the 2019 fiscal year was to show that ARI practices what it teaches in the training in relation to food, health, and environmental issues that our participants commonly have back home.

The FEAST section buys a minimum of food ingredients from outside, intentionally reducing spice purchases and encouraging community members to feel the natural taste of the food ingredients that they grow. I connected the kitchen with ARI's food production sections, showing participants how to learn a food management system that can improve their own and their people's health and—through health improvement—how to enhance the family economy. In that particular year, I felt a great achievement: many participants understood the value of the kitchen as much as they valued all the food production sections. In fact, through all my experience as FEAST Coordinator, the 2019 group had the best health record and showed the highest understanding of health issues in their communities back home.

In the following, I want to reflect on how ARI began its organic food system and then demonstrate the value of ARI's yearly produce on the basis of FEAST section's calculations.

I. Recalling ARI's history of moving towards food sovereignty from the time of its inception

The following excerpt appeared in *Twenty Years of the Asian Rural Institute*, October 1993. This particular chapter was written by Mr. Miura, a then-staff member in charge of the vegetable section. It was translated for my writing by Mr. Kusunoki, a former staff member.

Activities related to organic farming at ARI have given a great impact on our community life itself, as well as on the total training program content. The practice of organic farming at ARI, in other words, has played a very profound role in materializing a number of unique and important goals that the Institute has so far nurtured. "To acquire techniques of producing food; to produce our daily food by our own abilities; to raise the self-sufficiency rate of our community; to learn a fair way of distribution, to

try to be self-sufficient as well as to be self-supporting by sharing the food we eat.” These themes are relevant not only to the agricultural technical training alone, but also to the Institute’s holistic training program which covers the matters and concerns of nature, environment, society, and culture.

The term ‘organic farming’ or ‘organic agriculture’ in Japanese was born in 1972, originally meaning to express “an agricultural method in the way that it should be.” Later, the Organic Agriculture Research Institute of Japan was established to widely spread farming methods of producing healthy and tasty food while conserving the environment and enriching the soil at the same time. It was around 1976 that ARI started to challenge itself by introducing organic farming methods. The pioneer in this drive was Mr. Asai who joined the staff in 1975¹. He switched the practice of chemical farming, done in the early days at ARI, to the one that used fewer chemicals and more compost. When he tried to introduce an organic way of farming², he later told me, he had to face a difficult time to earn valid understanding from other members of the staff, let alone from neighbor farmers. In the earlier days of his trial, he was told, upon the outbreak of diseases/insects in the vegetable garden, “See, you just have to disinfect the garden!” Upon the poor yield of rice, at other times, he had to face such harsh criticisms as, “We, the farmers can’t depend upon organic agriculture,” and “ARI, after all, is a ‘study/research’ center.” In 1977, under the title of “Our Gardening,” he wrote in ARI’s Japanese newsletter *Ajia no Tsuchi*: “Our gardening shall be compost-centered, and raise more interest about it among the participants and the staff members.” His stated goal here showed his strong conviction in the philosophy of organic agriculture on the one hand, and on the other, his challenge to stubborn chemical farmers at large.

Around the year 1977, ARI depended on marketing its farm produce to outside organizations, such as an agriculture co-op, which in turn pressured the ARI produce to become competitive enough against conventional farmers in the area. To cope with this situation of keeping up with needed marketability, the farm section had to apply chemical stuff when necessary. It was an unavoidable practice in that the farm produce market in Japan is over-possessed with valuing a uniform appearance of the produce’s shapes and colors. Also, it is true that the organic farming at ARI was only started then, meaning, we lacked quite a lot in the actual experience of it. Seeing cucumbers being damaged by a certain disease, we used to say, “We don’t want (to use chemicals), but what can we do?” What else? There was no other choice left with us than to apply some amount of pesticides. These early years marked the most difficult time of all in the history of organic farming at ARI. Another factor might need to be pointed out here that in those days there were no mechanisms established on campus yet as to systematically produce the needed amount of compost.

In December of 1983, Mr. Asai was approved to work in Thailand, and later he resigned from ARI. From the time when the word ‘organic agriculture’ was not yet popular, he committed himself to its ideal and significance as well as to spread the practice, almost fighting a lonely fight.

For this paper, I think this information about the beginning of organic agriculture at ARI shows that the practices of sustainable agriculture help grassroots leaders to lead their people towards a self-sufficient and sustainable life. Another reason to include this information is to draw out encouragement for all graduates, that in order to achieve what ARI taught us, we also need to remind ourselves that ARI has come a long way. Through experiences gained from hardships and struggles, ARI has achieved its goal towards living out its mission statement and through which we all have significantly benefited in our leadership careers as well.

2.

**2019 FEAST Section:
Assessing the monetary value of ARI's food system**

In fiscal 2019, the food ingredients the FEAST section used for meals at Koinonia were worth ¥ 9,323,580 (Chart 1).

Item	Amount	Sales price	Total money value
Rice	3792.1 kg	¥ 600/kg	¥ 2,275,260
Pork	822.0 kg	¥ 1,000/kg	¥ 822,000
Pork bone	70.0 kg	¥ 350/kg	¥ 24,500
Chicken layers	205 heads	¥ 500/head	¥ 102,500
Chicken broilers	178 heads	¥ 1,000/head	¥ 178,000
Egg	19,314 pcs.	¥ 30/pc.	¥ 579,420
Milk	1.786 l	¥ 1,000/l	¥ 1,786,000
Wheat flour	413.75 kg	¥ 400/kg	¥ 165,500
Corn flour	42 kg	¥ 400/kg	¥ 16,800
Fish	26.5 kg	¥ 1,500/kg	¥ 39,750
Goat meat	52.2 kg	¥ 4,000/kg	¥ 208,800
Goat innards	16.0 kg	¥ 1,500/kg	¥ 24,000
Soy sauce	17 bottles	¥ 600/bottle	¥ 10,200
Soybeans	90 kg	¥ 800/kg	¥ 72,000
Soy oil	86 l	¥ 10,000/l	¥ 860,000
Leaf vegetables	1504 kg	¥ 300/kg	¥ 451,200
Fruit vegetables	3087 kg	¥ 250/kg	¥ 771,750
Root vegetables	3582 kg	¥ 200/kg	¥ 716,400
Beans (except soybeans)	389 kg	¥ 500/kg	¥ 194,500
Fruits (loquat, kiwi, blueberry)	100 kg	¥ 250/kg	¥ 25,000
Grand total			¥ 9,323,580

Chart 1: FY 2019 food ingredients consumed in Koinonia in money value:

The FEAST section has to sometimes purchase ingredients from outside the campus: onion, garlic, and ginger which we cannot preserve for a long time or when our own production is less than expected. We further buy salt, sugar, some seasonings and spices, coffee, etc., basically things that ARI does not produce. The costs for outside purchases in fiscal 2019 were ¥ 457,224.

April	¥ 38,055	October	¥ 42,836
May	¥ 38,067	November	¥ 34,243
June	¥ 47,647	December	¥ 36,858
July	¥ 49,935	January	¥ 16,682
August	¥ 45,835	February	¥ 28,441
September	¥ 57,560	March	¥ 21,065
total			¥ 457,224

Chart 2: FY 2019 cost of ingredients bought from outside:

The FEAST section serves around 40,000 meals to ARI community members and guests every year. The sales price for one meal was set to a flat price of ¥ 500. The turnover of all meals served in fiscal 2019 was thus ¥ 18,961,500.

Month	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
April	4,362	3,620	3,487	4,525	3,965
May	4,757	3,998	4,326	4,981	4,208
June	4,167	3,763	3,641	4,170	3,856
July	4,741	4,563	4,063	4,915	3,789
August	3,987	4,139	3,000	4,318	4,050
September	4,896	4,034	3,461	5,189	4,033
October	4,792	3,997	3,493	4,369	4,100
November	3,080	2,982	1,982	3,321	2,611
December	2,011	2,397	1,867	2,619	2,322
January	2,399	1,332	2,197	2,376	1,175
February	1,091	1,710	1,363	1,611	1,706
March	1,619	1,607	1,931	2,039	2,108
total meal servings	41,902	38,142	34,811	44,433	37,923
In money value	¥ 20,951,000	¥ 19,071,000	¥ 17,405,500	¥ 22,216,500	¥ 18,961,500

Chart 3: Servings in Koinonia for 5 consecutive years in money value (@¥500/meal)

The figures in chart 4 summarize the monetary calculations of ARI's food circulation system. In fiscal 2019, the FEAST section generated a net profit of ¥ 9,180,696 at a self-sufficiency rate of 95.1%.

Item	Money Value	Remarks
1 Ingredients consumed in Koinonia	¥ 9,323,580	ARI's food self-sufficiency rate: 95.1%
2 Ingredients bought from outside	¥ 457,224	Food dependency on the market: 4.9%
<i>Total value of food ingredients</i>	<i>¥ 9,780,804</i>	
3 Value of servings in Koinonia	¥ 18,961,500	37,923 meals x ¥ 500/meal
4 Net profit	¥ 9,180,696	Income generation from the kitchen

Chart 4: Summarizing the produce in money value, outside purchases in cash, servings:

3.

Applying ARI practices at the family level in Khutsokhuno

In 2013, I attended ARI's regular Field Management Activity in the classroom along with the participants and related staff members for the first time. I recall that most of the time I was at a loss as to the participants' shallow understanding of the kitchen's value, most importantly the connection between the kitchen and the fields. I realized that most participants, especially men, simply felt that they had already done their job by earning money to keep the family going or just working in the field round the clock.

As I dug deeper into the situation, the first question that popped up in my head was, "How do I connect the kitchen with the producers?" Both Mayu, the then-in-charge staff of the Crops and Vegetables section, and I were new and inexperienced in many things. But together, we built a strong relationship between the kitchen and the fields. It led me to build better commu-

Farm production for 5 family members	Calculation of the necessary amount of production for self-sufficiency	Land area	Remarks
Rice production	<ul style="list-style-type: none"> • 100 g of rice/person x 3 meals/day = 300g • 300 g x 5 persons = 1.5kg/day • 1.5 kg x 30 days = 45kg/month • 45 kg x 12 months = 540kg/year <p><i>Note: Their total yield is about 720kg/year</i></p>	0.2 ha	They use the same paddy field permanently, but the rice yield is much lower than ARI's, so if they apply SRI (System of Rice Intensification), the yield can go up, which means they can convert it into money and help the family's income.
Vegetable production	<ul style="list-style-type: none"> • 80 g of veg/person x 3 meals/day = 240 g • 240 g x 5 persons = 1.2 kg/day • 1.2 kg x 30 days = 36 kg/month • 36 kg x 12 months = 432 kg/year <p><i>Note: They also grow 50-60 kg of beans yearly as a protein source</i></p>	0.1 ha	They practice shifting cultivation for this, so if they do organic farming permanently they can stay on the same land, which can help them reduce labor as well as have income generation for their family. Crop rotation can also improve the yield of the vegetables and the beans.
Livestock production	<p>2 pigs, 30 chickens, 10 ducks and 3 rabbits</p> <p><i>Note: They do shifting cultivation to maintain the livestock and the yield of corn for feed is about 1000 kg</i></p>	0.1 ha	If they do organic farming, they can stay on the same land with a crop rotation system for higher yield.
Fruit production	<p>Primary fruit: Oranges</p> <p>Secondary fruits: Passion fruit, pomegranate, pear, guava, papaya, etc. but they are not in the same location.</p> <p><i>Note: This is permanent but needs more skill on pest management</i></p>		During the Western Japan Study Tour, when I was a participant, visiting an orange farmer helped me see the possibility of reviving our local oranges in the village. Several mothers took up initiatives, and it became a regular income source for their families.

Chart 5: Example: My oldest sister's family in Khutsokhuno Village, from my management experiences at ARI:

nication with the farm's staff members. The relationship between the farm and FEAST section helped in developing the concept of a yearly 'family plan.' The family plan can help villagers learn about the food chain that can continue on the same plot throughout one's lifetime.

Calculating food intake, food production, and food costs

Based on the family plan, I made several calculations that reveal the actual and potential farm production, the self-sufficiency rate, and the monetary value that one family can achieve with a limited plot of farm land. The example is given based on my older sister's family of five in Khutsokhuno Village (see Chart 5 on the previous page).

A family of five can raise their self-sufficiency rate and grow the family economy on 0.4 ha of land if the land is taken care of intensively with organic matter. But the most important thing is the considerable contribution towards maintaining good health and improving the environment, which leads to a self-sufficient and sustainable life.

In chart 6, I lay out a food intake plan for one adult in the village, based on the availability of food items that are produced by farmers in the village. (The WHO recommends an energy intake of 2,000 calories a day.)

Item	Calculation	Monthly total	Yearly total (x12 months)	In money value
Rice	110 g/meal x 3 meals/day = 330 g x 30 days =	9.9 kg	118.8 kg	Rs. 4,158 (@Rs. 35/kg)
Meat	80 g/meal x 1 time/day = 80 g x 30 days = <i>Note: with pork as an example</i>	2.4 kg	28.8 kg	Rs. 7,200 (@Rs. 250/kg)
Egg	1 egg/meal x 1 time/day = 1 x 30 days =	30 eggs	360 eggs	Rs. 3,600 (@Rs. 10/egg)
Vegetables	100 g/meal x 3 meals/day = 300 x 30 days =	9 kg	108 kg	Rs. 5,400 (@Rs. 50/kg)
Pulses/ Beans	100 g/meal x 1 meal/day = 100 g x 30 days =	9 kg	108 kg	Rs. 10,800 (@Rs. 100/kg)
Oil	7 ml/day x 30 days =	210 ml	2.5 l	Rs. 300 (@Rs. 120/l)
Fruit	300 g/day x 30 days = <i>Note: with oranges as an example</i>	9 kg	270 kg	Rs. 13,500 (@Rs. 50/kg)
Water	1.5 l/day x 30 days = <i>Note: with mineral water market price as example</i>	45 l	540 l	Rs. 10,800 (@Rs. 20/l)
Total in INR Total in JPY	Converting Indian rupees to Japanese yen. (Exchange rate as of April 17, 2020)			Rs. 55,758 ¥ 78,385

Chart 6: Menu plan of one adult's food intake in Khutsokhuno
(except for eggs which at the moment are not produced in the village)

The figures are based on prices for produce in Khutsokhuno Village. In my tribe, each village has autonomy deciding the price for every product. The village council determines the prices every year, looking at prices in the market. The pricing in the village is lower than the market price, which ARI practices as well. Therefore, when we put the products into monetary value, it will differ a bit from village to village.

This calculation can help the farmers understand how much money they are generating in their profession to feed one person. My sister's family has five members living in the village. 5 persons x Rs. 55,758 amounts to Rs. 278,790 (¥ 391,923) total in a year. This is huge! Farmers do not realize it, and they keep on saying that they are poor and don't have money. They always feel their profession is too low a job. The younger generation always tries to escape to urban places and become day laborers. Farmers also do not realize the value of the quality food that they eat. When they become day laborers, they earn money and consume a lot of unsafe food degrading their health system.

From the time I graduated from ARI, I have been educating farmers on balanced diets and how to do a food assessment for their families. However, it is the first time I evaluated the monetary value thoroughly, so I am also amazed to see how much small-scale farmers earn in their profession! Therefore, using this calculation, my goal is to help them know how precious the farming profession is. At the same time, I want to show them how vital life in the village is and help them understand the value of rural life.

With the COVID-19 crisis, my villagers are becoming more aware of food security and food sovereignty. They are now looking for more paddy fields to cultivate. With the introduction of ginger and cardamom for cash crops, most of the villagers, especially the younger generation, have given up on growing rice.

Daily consumption	Monthly consumption	Yearly consumption	Cost/Money Value
3 meals/person	3 meals x 30 days = 90 meals	90 meals x 12 months = 1080 meals	1080 meals x Rs. 150 = Rs. 162,000
Converting Indian rupees to Japanese yen			¥ 227,320

Chart 7: Serving assessment with one adult member
as an example at an average market price for one meal (Rs. 150)

The price of Rs. 150 per meal in chart 7 was calculated by taking the average of the surrounding villages and towns. In the case of my sister's family with five members living in the village, the family produces and consumes about Rs. 810,000 worth of food if we put it into the market value.

ARI food production practices to introduce in Khutsokhuno

There is a broad range of sustainable farming methods and principles practiced at ARI. Its farm grows almost a hundred different varieties of crops, vegetables, and livestock. I have thought hard about which of those would be most helpful in Khutsokhuno and the surrounding villages.

1. Producing fertilizers in the village

One foremost step to take is making fertilizers: chicken manure, pig manure, and rice bran are used for making bokashi. Another thing is changing the practice of burning weeds or leaves to making compost. Once fertilizer production is achieved, the soil can be tremendously improved. Another achievement will be that the village can become clean—the sanitation will be automatically improved, and an obvious benefit that we can see is a reduction of flies in the summer!

2. Improving vegetable fields plus cornfields away from the village

It is our usual practice to have seasonal vegetable fields away from the village. We still have a lot of indigenous vegetables, and we are even more than 90% seed self-sufficient. However, local indigenous seeds are vanishing due to the introduction of seeds from outside the village. When the farmers sow such outside seeds, they cross-pollinate with the local vegetables and degrade the quality of the indigenous varieties. This also results in a low yield. When the non-local seeds cannot adapt to the environment and the climate, they cannot give good returns.

Three focuses to address this issue are: (1) Preserving indigenous vegetables, (2) crop rotation, and (3) fertilizing the soil (see above). The main target of doing this is to stop shifting cultivation. Once we can achieve this, it is already a considerable contribution towards saving flora and fauna as well as saving the environment.

From my experiences in growing and making my daily supplies while working in Nagaland, I could identify four perennial indigenous plants for my Grace Home Khutsokhuno project with zero money investment. Except for kale, these plants are known in my local language as *tivenugha*, *ghazhe*, and *ghalii*. These four are good vegetables which are familiar, but villagers don't know that they can grow them right outside their homes and use them daily. Every home in my village has space to accommodate them. Since the seasonal vegetable fields are not near their homes, many times they would not feed their children vegetables. Another reason we started GHK was for the children's physical growth, so these plants are very valuable.

3. Paddy field improvement

It is common practice to keep water in the paddy all year round. The SRI method may be difficult to adapt at once, but I want to start with some of the essential lessons that I learned at ARI:

- Ensuring high quality of rice seedlings.
- Keeping the paddy field dry during the winter except for the portion for the fish.
- Letting some grass grow which will become green manure. (Some fields are always dry, but we don't fertilize the soil, so, over the years, the soil degrades, and the yield

- automatically goes down.)
- Fertilizing the field with compost and bokashi.
- Enacting water control during rice-growing time.
- Last but not least—help farmers improve the seedlings!

4. Tree planting

Due to excessive logging businesses, the village forest has been much destroyed. It is a threat to water security in the years to come. The village depends on one main river that flows directly down from the thick and precious God-given natural forest. More than 95% of our village paddy fields depend on that river called Ciekhuneghoki. Saving the forest has been my campaign in the village over the years, but living away from home is a significant hindrance in doing the follow-up steps with the villagers. We need to revive the natural resources to save the future for many generations to come. Fortunately, we have our resources (seedlings and human resources) to be able to do this most efficiently and effectively.

Conclusion

I want to conclude Section 3 with words from our director, Ms. Tomoko Arakawa:

In 1995 when I was looking for a job, money was not my main interest. I experienced working in three schools, but with so many restrictions, I could not find happiness. When I came to ARI, I understood what ARI was trying to do; there was no manipulation, I thought. I found the truth. One huge difference was that at other schools, they have many regulations, but without a clear goal. On the other hand, ARI had simple regulations but with a clear goal. I was committed and sincere, but I also faced challenges dealing with people—at one point, I thought I was judged, that my work capability was not recognized, and certain staff members disliked me.

The whole time my driving force was to believe in ARI's motto and mission statement. I felt that this was worth challenging and worth committing to. Also, my children respected my work, and this might have been the most significant driving force because both of them were raised in ARI. Both of my children believe that farming is the key to human beings' survival and both of them lead a simple life, not wasting any resources for their lives.

When I became director, I believed it was a responsibility given by God, so I try to be more faithful in my leadership. As a director, every day is a learning day for me, and the servant leadership class helps me to grow. I always try to put the teaching into practice in my daily life. Servant leadership is a vast topic, and it is an ongoing process. So my leadership is not only about myself and my role but observing and learning from others and continuing to grow as a leader in the ARI community. Also, showing our weakness is one of the strongest points for leadership; for example, I am the director of ARI, but I also have my weakness and my limitations. I am also learning that a leader doesn't need to do many things. Still, one crucial thing is to create the right environment where people can feel comfortable and build trust relationships with one another.

The world is changing every day, and there are always new issues coming up, so we need to continue to equip ourselves with up to date knowledge to face the challenges, by putting the participants' backgrounds as our priority. As we try to address the issues in our participants' communities, we try to improve our leadership training program. I firmly believe that food self-sufficiency is necessary and

indispensable. Without being self-sufficient in food at ARI, ARI is not ARI. I say this because we could have a lot of opportunities to access cheaper and convenient ways to be able to carry out this program. Still, ARI does the inconvenient way—growing our food with much more effort, but this leads people to better health and saving the world environment.

Japanese farmers believe that soil is food, and at ARI, we practice the philosophy of Loving God, Loving the Soil, and Loving the Neighbor, which are all directly connected to our lives. I recall, when we did fundraising for the Manna House in around 1999, I was in charge of making a pamphlet for it. I asked Takami Sensei for a kind word to put on it. He said, “Jikyû wa jiritsu,” which means “Food self-sufficiency is human independence.” I remember I was very impressed by his words, and since then, I kept using the words in my speeches and my presentations. Later on, I found that Takami Sensei explained this differently in his writing in the early 1970s. He said, “For farmers, freedom simply means growing food on their land within their own free will. For in being self-sufficient in food production for humans means freedom and independence, which makes humans more human.” That means what ARI does is about the freedom and independence of humans, which I like about ARI!



Image 1: Acivo with her oldest sister in her native village

SECTION 4

A MOUTH TO FEED AND A SOUL TO SAVE: *How Grace Home Khutsokhuno Aids Rural Children*

*If one of you says to them, "Go in peace; keep warm and well fed,"
but does nothing about their physical needs, what good is it?*

James 2:16

I. Challenges in My Community

Many years ago, while most of my family was still living in the village, we always had food at home. As I grew up, I went to another town to study and I saw that school education was something that I fancied most. With the realization that our village needed educated people, I thought of starting with my siblings' families, and that is how my empowerment as a girl started. It led me to move some of my family to the city (Dimapur) where we live now. Despite my efforts given on the children's education, the biggest thing that I learned from the time we moved until today is that food comes before anything else, which is precisely the reverse idea of my thinking in those earlier days.

Children's problems in my community

In my village, many younger parents are in their early to mid-20s, and the age of their oldest child is about eight years on average, which means they become parents from around age 14 to 16. Many cannot read and write, which means when their children come back home from school, there is no way that parents can help them with homework or other school-related matters. This leads to the specific challenge that when children graduate from the village school at the average age of 12, they have to move to another school in an urban place. Once there, they have to live all by themselves which from my experience is very difficult to survive at that age.

As in many parts of the world, even in a tiny place like my village, people want to move to urban areas with the expectation of getting a better life. But in the end, many fall prey to social traps as mentioned above. Most gravely, they end up in an early marriage, continuing the cycle of broken homes.

Vulnerability and strengths of rural communities in the pandemic

Currently, the world is facing challenges because of COVID-19—thousands are still fighting their battle. Worldwide we have lost many precious lives. At the same time, thousands are dying from starvation as getting a morsel of food every day has become their battle.

On March 24, 2020, the Indian government ordered a 3-week total lockdown for all 1.3 billion Indians. With only four hours' notice, they announced that no one could leave their home for 21 days. One reporter commented on it as

the most severe step taken anywhere in the war against the coronavirus. [...] Thousands of people emigrated out of major Indian cities, as they became jobless after the lockdown. An estimated 139 million migrant workers from the countryside work in India's cities and towns. With factories and workplaces shut down, they had no livelihood.

I would say that smaller and insignificant places like Nagaland, in the northeastern part of India where I am from, are not included in that count. But people in a small state have their battles to fight, too. One of the most vulnerable places in Nagaland is Dimapur City. With a population of more than 380,000, the medical facilities and food supplies are inadequate. Also, migrant workers from outside Nagaland and Nagas, who migrated from the villages to the cities for labor and petty businesses, are putting a strain on limited resources. Narrowing it further down to the most rural place in Nagaland, like Khutsokhuno and its neighboring villages in the area where we have the most vulnerable groups of people, the shortage is dire especially when it comes to medical facilities. There are zero!

Despite my husband's constant encouragement not to panic, I continued to do so from the time India announced the first coronavirus patient. Then I started to divert my attention to food sovereignty as I continued to think about ARI's self-sufficiency for this paper. As I reflect, I don't mean to undermine any values, lifestyles, backgrounds, or environments. Still, I want to mention how I was able to understand the importance of rural life for my people back home more deeply from this crisis.

When I look at my community, as I mentioned earlier, it is undeniable that we still lack a lot of modern and sophisticated facilities. To fight this harmful virus, there would be almost no chance for people in rural areas to survive. Of course, putting things into a negative perspective scares me. However, it has also been a relief to think about my people being in the most rural place—breathing clean air, drinking uncontaminated water, eating chemical-free food, and staying far away from crowded places. Yes, indeed, they are also under lockdown as the rest of India, but they still go to the fields and spend their days in wide, open spaces. Being with nature is the most blissful life to live in a very depressing moment like this. Even when locked down for an extended period, villagers don't need to worry about food which is the foremost essential need of human beings. Now, when I compare my family members in the cities and towns with my family members in the villages, I can see the contrast clearly:

- In the towns and cities, they worry about two things: coronavirus and food.
- In the villages, they worry about one thing: coronavirus.

And yes, I feel this is a huge difference that we can understand.

Food sustainability in the village is affected at the moment. Monocropping culture, which recently crept into our village, has greatly reduced rice production. The villagers wanted to grow ginger and cardamom to make money, and they preferred buying rice instead of growing it. But, fortunately or unfortunately, when COVID-19 hit the world and the lockdown started, the villagers started thinking about food self-sufficiency more deeply. I now have a precious opportunity to follow-up through my activities with Grace Home Khutsokhuno.

Responsibility as a Christian

During my time at ARI, I wondered how I lived out my faith as a Christian. If I say, "I thank you, God, for some people didn't wake up this morning but I am still alive, some don't have food, but I eat three meals a day, some don't have shelter, but I have a house, some do not have land, but I have, some are sick, but I am healthy..." what will God say to me when I meet Him on my final day? The word of God says in Romans 12:15 (NIV), "Rejoice with those who rejoice; mourn with those who mourn." So, I believe we cannot just sit back and say to our people, "Go in peace; keep warm and well fed," without actions. As a Christian, there are many things to be done. The most exciting is then to be with people in the villages, motivating them and continuing to educate them about the value of rural life and how important it is to grow our food—the most precious thing that no wealth in this world can buy, as we experience it now! The value of the ARI training program grows deeper and deeper roots as the world faces more challenges. The need for ARI's servant leadership is increasing as the people long for true leadership in this world. At one point I was thinking that ARI must put more effort into producing political leadership, specifically in dealing with the situation in times like this. However, if I were not an ARI graduate, I wouldn't have been better either, and that is one strong reason I believe that ARI teaches what it practices.

2.

Grace Home Khutsokhuno — My Answer for Education and Food Security

Now, as I am going back to my community, my goal is to create a place for younger generations to learn about food sovereignty and self-sufficiency through sustainable agriculture. ARI is a living testimony, and I want to keep its spirit burning even in my little village situated amid its God-given greens and abundant vegetation. That is why I launched the Grace Home Khutsokhuno ministry in my native village.

Grace Home Khutsokhuno is a dream that I had after I graduated from ARI in the year 2000. Finally, on April 30, 2017, this dream was realized in partnership with my niece Ms. Zhopovelu Lohe (Apolü) as its pioneer. She is the person in charge of administration. Her younger sister, brother, and their parents are her assistants.

The Grace Home ministry is an all-round development ministry with school education as its backbone to help children develop themselves for any profession for their lives. From the time they enroll in GHK they are involved in agricultural-related matters, to learn the importance of environmental and food issues in the world. In this, Grace Home believes, if they have agricultural skills, they can be self-sufficient and survive in any part of the world.

Another vital principle Grace Home emphasizes is that children will know the importance of farming and the value of being a farmer so that if they decide to stay in the village, they will feel it is not inferior to any urban place. They can be creative in food production, connecting and exchanging ideas, practices, philosophies with other farmers in other parts of the world, producing safe food for people. Keeping the practice of saving the environment to save

our future, leading sustainable and self-reliant lives, they will enjoy their life to the fullest!

We originally started GHK with my money (100,000 yen), and a bamboo house was built using local resources. Despite introducing and explaining about GHK to the villagers and the parents, most of the villagers thought I was raising a lot of money by using the village children. In the first year, we tried our best to answer all kinds of questions and inquiries as though we were fighting the case in court. Both my niece and I became very tired mentally, and especially my niece had a very stressful time. I continued to pray about the situation, and one day an idea struck me: to stop answering their questions! I called my niece and told her, “Apolü, from now on, don’t answer questions or clarify anything anymore. Let us give time for them to talk about us as much as they want. And once they reach their limit, they will be very tired of talking or gossiping about us, and they will naturally stop. As for us, we will continue to carry on with our work and let them see us in action!” Interestingly, that happened precisely as I assessed! Now, not only in our village but even in the neighboring communities, people know the value of GHK’s activities.

Changes that we observed in the past three years (2017 -2019):

1. *Children’s health:* Through a balanced diet, the children’s health improved (for example, their hair color and skin color changed), and through health improvement, they have better concentration in their studies.
2. *Sanitation and cleanliness:* As the children learn these, they impact their family when they go home: clean bedclothes, clean clothes for daily wear, proper body wash, keeping Grace Home surroundings clean and beautiful.
3. *Kitchen Garden:* One of the first impacts that Grace Home had on the parents, children, and staff was the kitchen garden they decided to grow. Parents are in charge of clearing the bush, and the children and Grace Home staff are responsible for growing vegetables for consumption at Grace Home. This is for the children to learn about the importance of food production, as well as for their health.
4. *Improvement of the children’s education*

THE TAKEAWAY MESSAGE

“Acivo, you taught us that if we eat organic food, we will not get sick. Then why were you sick?” As I walked up from my house, I was asked this question first thing in the morning by a participant at ARI. I was speechless. At that moment, I was baffled and did not know what to say! I just smiled and said, “Well!...” and, of course, we had a very awkward ending. In life, no matter how intelligent we think we are, how powerful a message we feel we can give, how effective the work that we do is, we see that there still is “misunderstanding,” “misinterpretation,” and “misconception.” This encounter showed me five ways to be aware of situations that might happen. In a more profound sense, I can improve my conduct/speech and most importantly, my communication skill:

1. **To accept the fact that not everybody is listening and understanding the same way. I**

must always be ready to accept the wrong decoding of my message and to positively clarify with appreciation. I should also remember the difference between people at the grassroots and the intellectual groups of people with whom I will walk and work within my daily life.

2. **To remember not to be defensive.** A defensive attitude will drive away people from their learning opportunities. I have my opinion, but I should remember other people have their opinions. Leading them towards mutual understanding to reach a common goal takes patience.
3. **To continue helping others to understand that sickness is inevitable in life.** Sickness is a sensitive matter where everyone should approach one another with love and care. When I say, "Food is medicine," it represents how we can protect ourselves from many unnecessary sicknesses due to careless eating habits. Also, at the grassroots, there are many resources around rural people, but they are less aware of their value and do not use them for their health benefit. Sicknesses are inevitable due to genetic inheritance, carelessness, social issues, poor home management, and other reasons. But, in many ways, "food is medicine" because it is the first thing that we take to keep us going, and in the same way, ironically, it can be the thing that stops us from living.
4. **To continue learning**—to think deeper, to read more to get people's opinions and principles, and to keep the practices of clear presentation. I know what I am talking about and do not give out things which I do not understand very well. I appreciate ARI's way of equipping people with clarity in one's presentation.
5. In a nutshell, this question from a participant helped me develop everything that I wrote in this paper. To be able to make a concrete commitment **to continue to walk with people** wherever I go throughout my life!

If ARI had started from "richness," it wouldn't have survived after the Great East Japan Earthquake disaster of March 11, 2011. But ARI started from "poverty:" the flood disaster in Bangladesh. Our founder Toshihiro Takami grabbed the vision of God through the simple meal that a Bangladeshi family shared with the Japanese volunteer team who had come to assist the community in rebuilding their lives from the disaster. What they received was not out of luxury—it was out of poverty, and most importantly, it showed how people could love and care about one another and live peacefully even with meager possessions. The founder got the vision, but if he had given up on it, ARI wouldn't be in existence as it is today. He and his team were persistent, and when they gave their best, God on His part blessed them. They came a long way. Now the responsibility is passed on to us. God used the "sharing of food in poverty" incident to start ARI. It is still the same today: we give every effort to make the world a better place for people at the grassroots to live in, and we will continue striving towards fulfilling the mission of ARI.

Indeed, ARI is one unique place that helps anybody to learn and unlearn when necessary, and it transforms us for a better cause. Of only a little more than 1000, I am one of those fortunate persons whom God brought and equipped there, to be sent out to live the motto, 'That We May Live Together.' God Bless the Asian Rural Institute!

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- My husband Shothayi Dozo for his constant prayers and encouragement.
- Above all, I thank the Almighty God for showing His faithfulness throughout my writing.



Image 2: Acivo (right) with the children of Grace Home Khutsokhuno

NOTES

1. Mr. Kusunoki provided some additional information on this excerpt: "In *History* the writer Mr. Miura says it was 1975 that Mr. Asai joined the staff. The chronology in the same book, however, says it was 1974. I think 1974 is correct because that is when Mr. Nozaki joined. They came to ARI in the same year."

2. Kusunoki: *"40 Years of Walking with Grassroots Leaders"*, ARI's 40th-anniversary publication, says on page 5 that in January of 1975, ARI people had fellowship with the Takahata Organic Agriculture Society in Yamagata Prefecture. It seems Mr. Asai moved quickly, and probably smoothly, in the promotion of organic farming at ARI.

Developing Community Seed Banking Practices through Low-Cost Appropriate Technology Use

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1. INTRODUCTION

A number of motivations exist for saving seed at the community level, including crop biodiversity preservation, food sovereignty of local seed, and the potential for improved crop production. Beyond traditional farmer seed saving practices, many opportunities exist for small to medium-sized seed bank entities operated at the community level. This article will summarize some of the work of ECHO and its experiences partnering with community seed banks throughout Southeast Asia.

To date, ECHO has engaged with a growing network of community seed banks (CSBs) throughout the region, serving at the community and/or local NGO level. Current partner seed banks range in scale and scope but share in their implementation of low-cost appropriate technologies for the storage of their seeds.

Given the proper facilities necessary to store seeds long-term, whereby low temperature and low humidity are kept stable over time, it is very possible to store most orthodox seeds for several years at a time in the tropics (Harrington, 1972). Unfortunately, implementation and maintenance of the proper facilities can be very costly, and many existing seed bank and gene bank facility options do not satisfy the needs of many smaller organizations or communities. Thankfully, many diverse options currently exist, with varying levels of investment for a wide range of facilities, from expensive high-tech models, down to low-cost, low-maintenance models. In partnership with these member seed banks, ECHO has assembled over the years, a growing body of knowledge related to appropriate seed storage practices and techniques. This paper will attempt to summarize some of these best practices and appropriate technologies.

2. A NETWORK OF COMMUNITY SEED BANKS IN SOUTHEAST ASIA

2.1. Learning from a Network of Seed Bank Managers

In 2017 the first Asia Regional Seed Bank Managers Forum was hosted at the ECHO Asia Impact Center in Thailand, with 20 participants coming from seven different countries. This provided opportunity and insight into several unique models of community seed banks in the region, as well as the opportunity to discuss the success and challenges experienced by each individual community seed bank. Throughout the discussion, it was noted that community seed banks offer many beneficial services to the communities within which they reside, from the quality seeds they offer to the informal agricultural extension and rural advisory services they make available.

Figure 1 below summarizes a group-wide SWOT Analysis of the 20 individual community seed bank managers present, illustrating the most commonly reported strengths, weaknesses, opportunities, and threats perceived for community seed banks of the respective managers.

Strengths Local Wisdom Support from NGOs Offering additional agricultural training opportunities Connected to existing network of seed banks Creativity	Weaknesses Funding Lack of government seed policies Poor seed inventory management systems Limited labor/staff
Opportunities Serving organic markets Local crop improvement Training local partners Income/profit Advocacy with government	Threats Multinational corporations Loss of crop biodiversity Seed ownership laws Reliance on hybrid seeds Local disaster

Figure 1: Summary of SWOT analysis responses from the 2019 Regional Seed Bank Managers Forum, ECHO Asia Impact Center, Chiang Mai, Thailand.

It should be noted that these responses speak to the multi-dimensional role of a community seed bank, bringing a challenging combination of technical and organizational needs. It was evident that these community seed bank managers are required to become adept in many areas beyond the biological aspects of seed saving; learning to address finances, organizational structure, seed inventory systems, as well as communication with local farmers and local government.

To date, ECHO Asia has spent considerable effort working with its regional seed bank partners, with a specific focus on the physical infrastructure necessary for storing seed. While managers noted several weaknesses and further opportunities for their respective seed banks, seed storage infrastructure was not readily listed, speaking to the traction having been made in these areas. While storage practices at partner seed banks can always be improved, it was encouraging to note that this initial hurdle is being overcome, through some of the techniques highlighted below.

The following sections highlight some of the ‘best practices’ that have been successfully studied and implemented with network seed bank partners serving across different countries in Asia, most of which are small in size and serve only the communities surrounding them. Many seed bank network partners operate on limited budgets, in rural or remote areas, and are typically supported by a local NGO or an association of churches. The typical community seed bank partner within the ECHO Asia network will typically operate under the supervision of only one or two dedicated staff members and an assortment of volunteers.

3. AFFORDABLE COLD STORAGE ROOM OPTIONS

A wide range of seed cold storage facilities exist, including affordable options appropriate for the local community level seed bank. Often falsely perceived to be cost-prohibitive, options for the community level or local NGO entities do exist. Listed below is a survey of some of the different options available to aspiring community seed banking entities. It should be noted that any cold storage unit can serve purposes beyond simply storing seeds, with the potential for multi-purpose use along the fresh produce cold chain as well the potential for storage of medical supplies and other potential applications.

3.1. Insulated Air-Conditioned Cold Rooms

At ECHO, we operate our own range of seed storage facilities at our various seed banks around the world, from a high-tech, walk-in climate-controlled cold storage room, and a retrofitted refrigerated shipping container, to a low-cost, foam-insulated cold room cooled with a standard split-unit air conditioning system. Table 1 (see page 31) is a summary of the various cold storage facilities that exist within ECHO alone, including size, temperature level, and cost estimates.

3.2. Natural Building Techniques

While each of the aforementioned systems has been shown to be effective in storing seeds for our needs over time (Motis, 2016), even our lower-cost long-term cold room options do not adequately address the very real question of how seed storage facilities may be replicated at a farm or local community level. Though we have learned how to bring down costs considerably to establish low-budget facilities, these options remain out of reach for many communities and smaller organizations, and each example currently relies on the need for an uninterrupted supply of electricity, among other barriers. In an attempt to address these

ongoing questions, much of our recent effort at the ECHO Asia Impact Center has shifted into improving the practicality and cost-effectiveness of seed storage options for small community seed banks, and on to the individual farmer level.

Building on ideas observed in the field, and storage ideas passed onto us by ECHO network members, we have attempted to verify the effectiveness and practicality of various options using natural earth-building techniques. A small research experiment was implemented throughout 2018 (Jan–Dec) at the ECHO Asia Seed Bank in Chiang Mai, Thailand, and was replicated by one of ECHO's Community Seed Bank network members in Myanmar.

3.2.1. Natural Building Seed Storage Research Results

This experiment was initiated to test the effectiveness of natural building seed storage techniques, specifically within the Southeast Asian context whereby temperature and humidity are higher than the climates in which these facilities were originally implemented.

Lablab (*Lablab purpureus*, L.) seeds were stored over the course of one year inside of three different natural building facilities, including (1) an earthbag house, (2) a hillside bunker, and (3) a buried clay cistern (Figure 2). Seeds were placed inside of each facility, with half of the seeds (a) sealed airtight in jars using a modified bicycle vacuum pump (Bicksler, 2015; Thompson, 2016), while the other half remained (B) unsealed in paper bags. Four separate batches were placed in each storage facility in order to test seeds for seed moisture content and germination rates over the course of months 3, 6, 9, and 12, with containers remaining unopened until testing during their respective months.

In addition to testing and monitoring the viability of these seeds stored in these environments, data loggers were placed inside and outside of each of these facilities to track storage conditions over one year, specifically temperature and relative humidity. Data loggers recorded temperature (°C) and relative humidity (%) every hour.

3.2.2. Earthbag Houses & Buried Clay Cisterns

Climatic data collected from the Thailand site generally indicated a significant stabilization of temperature and humidity in the earthbag house and buried cistern compared to outside ambient conditions. Temperatures did not drop considerably on average in each of the storage facilities (~23°C), but daily temperature swings were reduced substantially. For reference, our climate-controlled, walk-in seed storage cold room in Florida maintains an average temperature of 6°C, with very little fluctuation, while our spray-foam insulated cold room using a standard split-unit air conditioning system maintains an average temperature of 15°C.

While temperature control and stability were improved, relative humidity inside of these natural building facilities was very high overall, even during the dry season. The underground facilities, and the buried cistern, recorded high rates of humidity, while the free-standing earthbag house appeared to have achieved lower overall humidity.

On their own, natural earth-building facilities appear to be poor storage facilities for seeds, due to their high rates of relative humidity, which can quickly deteriorate seed quality. In both Thailand and Myanmar, seed germination rates of unsealed seeds after sowing plummeted from 94% to less than 50% within just three months of storage. Measuring seed mois-

ture content showed a rapid absorption of moisture in seeds, due to the high moisture content of the air within, rising from 12% seed moisture content to over 20% in just four months. Similar results were found when storing seed in vacuum-sealed and unsealed conditions in a refrigerator, where humidity is similarly high (Croft, 2012).

	Facility	Location	Detail	Size (m)	Average Temp.(°C)	Cost (USD)
Long-Term Storage Options (5+ yrs)	ECHO Global Farm Cold Room (large)	Florida, USA	High-tech, climate-controlled, walk-in cold room	6 x 3 x 2.5	5	35,000
	ECHO Global Farm Shipping Container Cold Room	Florida, USA	Retrofitted refrigerated shipping container, single split-unit A/C system with Cool-Bot sensor	2.5 x 3 x 2.5		10,000
	ECHO Asia ¹ Cold Room (large)	Chiang Mai, Thailand	Foam insulated, double split-unit A/C system with Cool-Bot sensor	8 x 5 x 2.5	15	5,500
	ECHO Asia ¹ Cold Room (small)	Mae Ai, Thailand	Foam insulated, single split-unit A/C system with Cool-Bot sensor	5 x 3 x 2	6	3,250
Year-to-Year Storage Options (1-5 yrs)	Earthbag Storage House	Mae Ai, Thailand	Clay and rice hull filled bags, stacked walls with thatched roof	4 (diam.) x 1.7h	23	750
	Hillside Bunker	Mae Ai, Thailand	Dug-out storage nook, in primarily clay-based hillside or sloping land	2 x 2 x 1.5		80
	Buried Cistern	Mae Ai, Thailand	Large glazed ceramic cistern designed for water storage, buried up to the rim in the ground		23	20

Table 1: Economic summary of various seed bank cold room and seed storage options used at ECHO's various sites around the world. ¹Further details available in ECHO Asia Note #27 (Price, 2016).

4. LOW-COST SEED STORAGE TECHNOLOGIES

4.1. Vacuum Sealing

When in combination with vacuum-sealing, seed germination rates in each of the three natural building storage facilities remained steady over the course of one year, maintaining germination rates above 90% at the end of the experiment (Figure 2). Seed moisture content held constant for the most part as well, increasing less than 2% over the year. It was therefore illustrated that natural building storage rooms must be used in combination with other appropriate seed storage technologies. Similar results were found when storing seed in vacuum-sealed and unsealed conditions in a refrigerator in northern Thailand, where humidity is similarly high (Croft, 2012).

Vacuum sealing has also been shown to be effective in the management of stored grain pests, through the removal of oxygen and the suffocation of bruchid grain pests (Lawrence et al., 2017). However, it is the removal of humidity in the air that most directly impacts the storage capability for orthodox seed, especially important in parts of the world that experience high levels of relative humidity throughout the year.

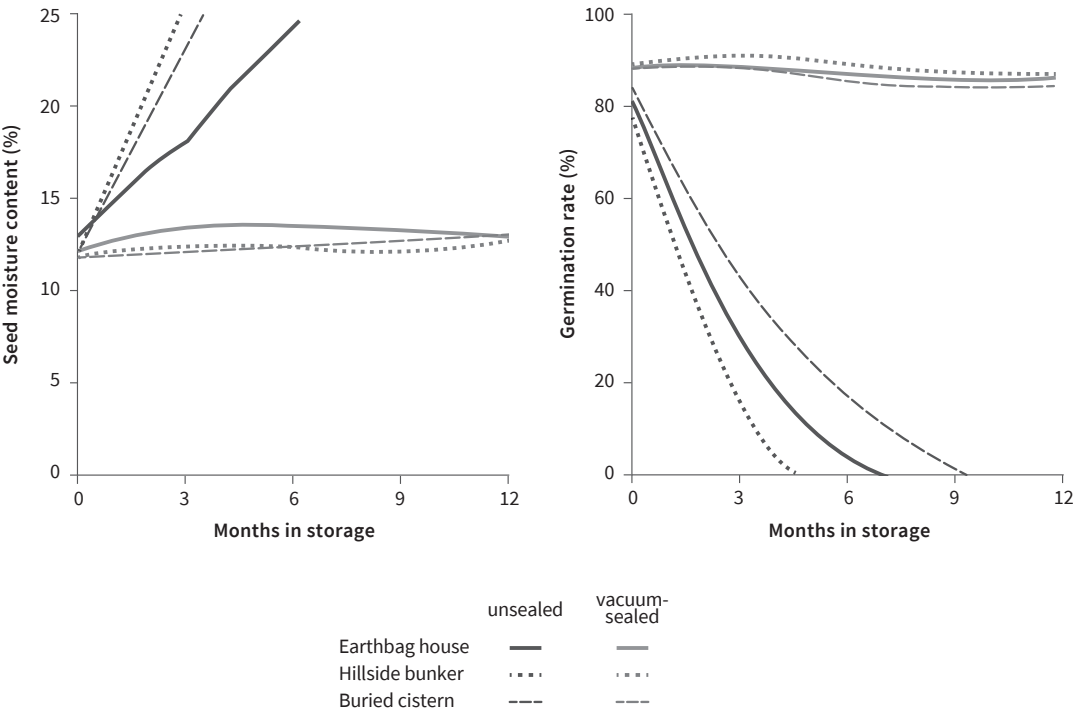


Figure 2: Seed moisture content (%) and germination rates (%) of vacuum-sealed and un-sealed seeds stored in earthbag houses, hillside bunkers, and buried cisterns.

4.1.2. Modified Bicycle Vacuum Pumps

A variety of affordable vacuum sealing machines currently exist on the market, several of which have been used around the world at ECHO and its regional offices. However, in an effort to bring appropriate seed saving technologies to the most remote and resource-constrained areas of Southeast Asia, whereby electricity is expensive or intermittent, a search for affordable alternative practices was undertaken.

It was found that a simple bicycle air pump can easily be modified, by flipping the inside valve to pull air instead of pushing it. This simple apparatus can be used to pull a vacuum on a variety of containers including glass jars and recycled glass or plastic bottles. Further instruction on how to build a modified bicycle vacuum pump can be found in *ECHO Technical Note #93*, titled 'Vacuum Sealing Options for Storing Seeds: Technologies for Small-Scale Seed Bank' (Motis, 2019). Even cheaper vacuum sealing appropriate technology can be made using a modified medical syringe for the same effect.



Figure 3: An example of a low-cost 'modified bicycle vacuum pump,' whereby the flow of air has been reversed to pull air instead of push it.

4.2. Hermetically Sealing with Desiccants (drying agents)

Many other seed storage options exist beyond vacuum sealing, including a wide variety of 'desiccants' that can be included within seed storage containers for the purpose of absorbing moisture and keeping seeds dry. Numerous materials have been experimented with, including charcoal, bentonite, silica gels, lime, and a variety of plant-based botanical powders. These desiccants are most effective when used in combination with 'hermetic sealing,' whereby containers are kept airtight. In hermetic sealing, air is not removed like in vacuum sealing, it simply excludes any additional outside air.

For the purposes of this paper, we will focus on two particular technologies that have been shown to be effective.

4.2.1. Zeolite Drying Beads®

Zeolites are a natural rock material known for their absorptive capacity. Having a unique structure, these highly porous materials have the potential to absorb humidity from the air when stored in hermetic containers. Also known as ‘molecular sieves’, these materials are often used as water filtration materials, but can be dried and used to absorb humidity from air inside of seed storage containers. One advantage of Zeolite Drying Beads® is that they can be redried and used repeatedly.

One downside of Zeolite Drying Beads® is that they have the potential to pull humidity from the air and even additional moisture from the seeds themselves. A recent ECHO research experiment showed that okra seeds stored with Zeolite Drying Beads® were dried down so low that within just one month, germination rates dropped from 90% to 40%, killing most of the seed by month 12. While Zeolite Drying Beads® have the potential to be a very useful technology when used properly, they can be risky due to their potential to over-dry seed.

4.2.2. Calcium Oxide

Calcium Oxide (CaO), also commonly referred to as hydrated lime or quick lime, works in a similar manner to that of Zeolite Drying Beads® albeit for a fraction of the cost, and more widely accessible to the average farmer. Comparing seed stored with Calcium Oxide to seeds stored with Zeolite Drying Beads® in the experiment mentioned above, it was shown that Calcium Oxide was much less likely to over-dry seed but effective enough to remove excess moisture in the air in the storage containers, making it a very useful and affordable desiccant for stored seed.

5. CONCLUSION

Many different appropriate technologies and practices exist for improving the effectiveness of seed storage. The examples listed above are by no means an exhaustive list, and only highlight some of the technologies that have proven successful within ECHO’s network of seed bank partners.

While there are numerous examples of different seed storage facilities available, and numerous examples of seed storage container technologies that exist, it is the combination of improved storage infrastructure and seed storage container technology that seem to be most effective. At ECHO we have found that if we can reduce and stabilize ambient temperature through low-cost natural building techniques, and address humidity control through vacuum sealing or the use of an effective desiccant, orthodox crop seeds can be effectively stored over several years.

Storing seeds from 2-3 years becomes a significant advantage to farmers that are used to only storing seed from year to year, from harvest to planting, typically less than a single year. By simply increasing the length of seed storage from one year to three years, we can offer farmers and communities more planting options year to year, allowing for better crop rotation and increased diversity of species that can be grown.

6. ACKNOWLEDGMENTS

The authors would like to recognize and thank the many individuals involved in this work. We would like to specifically acknowledge the role of our Seed Bank Network members and ECHO partners that have helped identify, test, and replicate these practices and techniques. Your feedback has been instrumental. We would also like to acknowledge the role of the many ECHO staff members that have contributed to this work, both at the ECHO International office in the United States and the Regional Impact Center in Thailand.

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見直される小規模・家族農業と アグロエコロジー

持続可能な社会への移行にむけて

関根 佳恵

1. はじめに

2020年に発生した新型コロナウイルスのパンデミックは、私たちの社会がいかに脆弱なものであるかを露見し、過密な都市の暮らしに潜むリスクの高さを改めて示した。近年の気象災害の多発と合わせて、現行の社会システムのあり方を根底から変革する必要性に気づき、行動する人が増えている。同時に、コロナ禍においても食料を供給してくれるエッセンシャル・ワーカーとしての農林水産業の生産者の役割が、医療従事者と同様にクローズアップされた。

2021年はコロナ禍をのり越えて、持続可能な農業・食料システムへ移行するための飛躍の年としたい。コロナ禍によって消費者の食への意識が高まり、都市の過密を避けて農村に移住する人も増えている。ひたすら経済成長を追い求めてきた社会は曲がり角に来ており、私たちの価値観や社会の仕組みを根底から見直す流れが強まっている。この流れを農業・農村再生の追い風にできるか。私たち一人ひとりの行動が問われている。

持続可能な社会への移行にむけて、コロナ禍以前から国際的に見直されているのが小規模・家族農業とアグロエコロジーである。本稿では、国連「家族農業の10年」(2019～2028年)と「農民の権利宣言」(2018年)の意義を確認し、持続可能な農業・食料システムとしてのアグロエコロジー、土壌と私たちの健康のつながりを示すブラウン・レボリューションとワン・ヘルス、種子と生物多様性、関連する農業政策について論じ、持続可能な社会を構築するための手がかりとしたい。

2. 国連「家族農業の10年」

2-1. 国連「家族農業の10年」誕生の背景

国連総会が2014年を国際家族農業年(International Year of Family Farming: IYFF)と定めたのは、2011年のことだった。この国際家族農業年の設置を求めるグローバルな運動を率いてきたのは、スペインのバスク地方に拠点を置く国際NGOの世界農村フォーラム(World Rural Forum: WRF)である。2007～08年に発生した世界的経済危機と食料危機を受けて、それまでの新自由主義的な農業発展モデルやそれにもとづく政策(経営規模拡大を促進する構造政策、貿易自由化と輸出促進政策、規制緩和・民営化等)の有効性を問い直す機運が各国で高まった。政策的支援からこぼれ落ちていた小規模・家族

農業の役割を再評価し、支援強化する運動の象徴として、WRF は 2008 年から国際家族農業年の設置を国連に求める運動を始め、世界各国・地域の政府、農民団体、市民団体、NGO 等が次々にこれを支持して立ち上がった。

2014 年の国際家族農業年の設置のために、世界 40 カ国あまりで家族農業全国会議 (National Committee of Family Farming: NCFF) が組織化され、現在も活動が継続されている。さらに、国際家族農業年やその後継活動である国連「家族農業の 10 年」設置を求める国際キャンペーン「IYFF+10」のサポーター組織が 60 カ国あまりで設立された。日本で 2017 年に設立された小規模・家族農業ネットワーク・ジャパン (Small and Family Farming Network Japan: SFFNJ) は、日本で唯一のオフィシャル・サポーター組織であった¹。NCFF やサポーター組織は、農業団体、消費者団体、市民団体、研究機関および諸個人が立場を超えて参加し、既存の食料・農業・農村のあり方、政策のあり方を問い直し、新しい時代の食と農のあり方を検討するために設立された。

上述のように 2007～08 年の世界食料危機がこうした変化の直接の契機になっていることは間違いない。しかし、こうした変化が表面化する前段階として、いくつかの重要な点を指摘しておきたい。第一に、化学農業・肥料の開発、機械化、新品種の開発、灌漑等に代表される農業の近代化は 19 世紀にはすでに始まっていたが、それによる環境破壊への警鐘もほぼ同時に始まっていた。近代農法の浸透とそれに対するオルタナティブ(代替案)としての有機農業や自然農法の広がりとは 20 世紀に引き継がれていく。特に、近代農法が広く普及した 1970 年代になると、日本を含む世界各地で有機農業運動やそれに連動した産消提携の運動が展開されるようになった。

第二に、1980 年代から新自由主義的政策が世界を覆い、1990 年代の冷戦終結と GATT ウルグアイラウンド交渉の妥結、WTO 体制への移行の下でいっそうの貿易自由化が進むと、それに対する反グローバリゼーションの市民運動、農民運動も世界的に興隆をみせる。インターネットや携帯電話の普及等が、こうした市民・農民運動の世界的ネットワーク化を促進したことはよく指摘される点である。この草の根の運動は、WTO 交渉を事実上決裂に追い込むほどの力強さをみせ、これ以降、国連の議論の場で市民団体、農民団体、環境団体等がオブザーバーとして発言力を増していく。

第三に、時を同じくして関心が高まった環境問題や気候変動に関する議論もまた、それまで功績が称えられてきた緑の革命に代表される近代農法に対して厳しい評価が下される契機となった。今日、国連の気候変動枠組条約やミレニアム開発目標、それを引き継ぐ持続可能な開発目標 (SDGs)、生物多様性条約等が、私たちが目指すべき農業のあり方を大きく規定しているといつてよい。

このように、19 世紀末に始まり 20 世紀を通じて追及されてきた価値観や技術、それを後押ししてきた諸政策・制度が、20 世紀後半から 21 世紀において環境問題、農村と都市の格差、食料危機等の社会的課題に対して有効な処方箋を提示することができないことが誰の目にも明らかになってきた。世界経済危機や食料危機をへて、世界各国はすでに生産性や経済的効率性を優先してきた価値観を見直し、よりよい社会、持続可能な社会、経済中心ではなく人間中心の社会、人間と自然が調和して暮らせる社会への転換を本気で模索している。その文脈の中で、小規模・家族農業の価値が再評価されていると理解すべきだろう。

こうして 2010 年頃を境に、国連食糧農業機関 (FAO)、国際農業開発基金 (IFAD)、国連貿易開発会議 (UNCTAD)、国連世界食料保障委員会 (CFS)、世界銀行グループ等の国際機関は、相次いで家族農業や小規模農業に関する国際会議を開催し、報告書を発表して、それまで国際社会が黙止してきた家族農業の役割と潜在的能力を高く評価し、各国に政策的支援の強化を求めるようになった。このような経緯から、2017 年 12 月の国連総会で、国連の「家族農業の 10 年」設置は全会一致で可決された。このとき、日本政府は議案の共同提案国になっている。

2-2. 家族農業の定義と期待される役割

家族農業 (family farming) といったとき、私たちは一般的に「家族によって営まれている農業」全般をイメージするのではないだろうか。日本の農業センサスでも「家族経営体」というカテゴリーが存在する²ので、混同する人が少なくない。私たちが家族農業の議論をするときに注意したいのは、その定義である。実際、論者によって多数の定義が存在するが、ここでは国連が国際家族農業年および家族農業の10年で用いている定義を確認しよう。

国連は、家族農業を「家族が経営する農業、林業、漁業・養殖、牧畜であり、男女の家族労働力を主として用いて実施されるもの」と定義している (FAO 2018a) (表1)。国連の小規模農業 (smallholder agriculture) の定義は、「家族によって営まれており、家族労働力のみ、または家族労働力をおもに用いて、所得の (...) 大部分をその労働から稼ぎ出している農業 (耕種・畜産・林業・養殖業) のこと」である (HLPE 2013)。さらに、国連の「農民の権利宣言」によると農民 (peasant)³とは、「家族および世帯内の労働力、ならびに貨幣を介さないその他の労働力に大幅に依拠し、土地に対して特別な依存状態や結びつきを持った人を指す」とされている (船田 2019)。

いずれも、労働力の保有状態に注目しながら、幅はあるものの、農業労働力の中で家族労働力が中心 (過半) であることを一つの指標としている。この定義から、家族農業、小規模農業、農民はほぼ重なる存在として位置づけられているといえるだろう。当然、そこに込められた意味や運動の背景、歴史は少しずつ異なってくるが、家族農業の10年や農民の権利宣言が議論の対象としているのは、いずれも家族労働力を主体とするような小規模な農業なのである。

なお、「家族」農業といっても血縁にもとづく直系家族だけでなく、養子縁組や事実婚、同姓のパートナーシップ等、家族のあり方が多様化しているのは世界各国でみられる現象である。封建的で家父長的な「イエ制度」のイメージが強いかもしれないが、農村では新しい時代の新しい家族関係、ジェンダー関係にもとづく「家族」農業が誕生している。また、ひとりで経営している場合も個人経営として家族農業に含まれる。さらに、家族「農業」といっても、国連の議論では林業、漁業・養殖、牧畜も含まれており、狩猟や採集もこれに準じる生業に位置づけられる。よって、家族農林漁業と訳した方が正確だろう。

国連の統計によると、世界の農場数の90%以上 (5億戸以上) は、家族または個人によって経営されており、世界の農地の70～80%を用いて、世界の食料の80%以上を供給している (FAO 2018a)。日本でも、家族経営は全体の97%を占めている (2015年農業センサス)。このことから、家族農業は食料

表1 家族農業、小規模農業、農民の定義の比較

資料：関根 (2020a) より転載。

	国連の定義
家族農業	家族が経営する農業、林業、漁業・養殖、牧畜であり、男女の家族労働力を主として用いて実施されるもの
小規模農業	家族によって営まれており、家族労働力のみ、または家族労働力をおもに用いて、所得の (...) 大部分をその労働から稼ぎ出している農業 (耕種・畜産・林業・養殖業) のこと
農民 (小農)	家族および世帯内の労働力、ならびに貨幣を介さないその他の労働力に大幅に依拠し、土地に対して特別な依存状態や結びつきを持った人を指す

保障の要であり、貧困と飢餓の撲滅、環境的持続可能性等をめざす SDGs の実現において、最も重要な役割をはたす存在と位置づけられている (FAO 2018b)。また、家族農業を営む人びとは、家族農業部門に対する最大の投資主体であるとともに、世界最大の雇用創出部門である (FAO 2018b)。家族農業を営む人びとの多くが地元を経済的基盤を置いていることから、地域経済やコミュニティの活性化にも大きく貢献している。さらに、地域のレジリエンスを高め、郷土の伝統や遺産、生態系や景観を守ることにも寄与している (FAO 2018a)。

同時に、家族農業が数多くの課題に直面していることも事実である。2018 年現在、世界ではいまだに 6.8 億人が飢餓に直面している (FAO 2020)。こうした世界の貧困・飢餓人口の約 80% が農村地域で生活しており、その大部分が農林水産業を生業としている。つまり、こうした状況に置かれている家族農業の現状を変えるためにも、家族農業のための公共政策が求められているのである。

2-3. 国連「家族農業の 10 年」の実施体制と行動計画

家族農業の 10 年は、国連総会の決議によって実施が決定されており、すべての国連加盟国が取り組みの責務を負う。運営のために、国際運営委員会 (International Steering Committee: ISC) が設置され、世界 7 地域から選出される 14 ヶ国、国連 3 機関 (FAO、IFAD、WFP)、世界 5 地域の農民組織 5 団体、国際 NGO 3 団体、合計 25 の国・組織によって構成されている (表 2)。

家族農業の 10 年の実施主体は、各国で組織される家族農業全国プラットフォームや NCFF であり、農民団体や協同組合、消費者団体、市民団体、研究機関等によって構成される。FAO は各国におけるステークホルダーのネットワーク化を、家族農業の知のプラットフォーム (Family Farming Knowledge Platform: FFKP) を通じて支援しており、多様な主体によるエビデンスにもとづく政策対話を後押ししている。特に日本は、アジア地域におけるネットワーク形成のパイロットカントリーとして選ばれており、世界からその動向が注目されている。

表 2 家族農業の 10 年の国際運営委員会の構成

資料：関根 (2019) より転載。

	国連の定義	地域レベル	日本
国連加盟国	7 地域 (アフリカ、中東、欧州、北米、南米、アジア、南太平洋)	各地域から 2 か国、計 14 か国 (アジア：インド、フィリピン)	—
国連機関	世界食糧農業機関 (FAO) 国際農業開発基金 (IFAD) 世界食糧計画 (WFP)	各組織の地域事務所	各組織の日本事務所
農業団体	—	アジア農民の会 (AFA) 西アフリカ農業者ネットワーク (POPRA) 拡大メルコスール家族農家組織連合 (COPROFAM) 等 5 団体	(公社) 全国愛農会
国際 NGO	世界農村フォーラム (WRF) ピアカンパシーナ (LVC) 世界農業者機構 (WFO)	アジア農民の会 (AFA)	(公社) 全国愛農会 SFFNJ (サポーター組織) 農民運動全国連合会 JA 全中、全国農業会議所

ISC は 2019 年初頭に世界レベルで意見公募を行い、家族農業の 10 年のアクションプランの草稿を作成した。2019 年 3 月下旬、スペインのバスク地方で開催された第 6 回世界家族農業会議では、世界各地から集った政府、農業団体、国際機関 (FAO、IFAD)、各国の家族農業全国会議、農村開発組織、NGO、協同組合、研究機関等の代表者、65 か国、約 180 名がこの草稿をもとに熱い議論を交わした。日本からは小規模・家族農業ネットワーク・ジャパン (SFFNJ) が招待を受け、筆者を含む呼びかけ人らが会議に参加した。スペインの世界会議での議論を反映してアジェンダは最終決定され、2019 年 5 月 29 日にローマで開催された家族農業の 10 年の開幕式 (ローマ) で正式に発表された (表 3)。今後、目標達成にむけたモニタリング指標等が作成され、世界における取り組みは、毎年 10 月にローマで開催される世界食料保障委員会 (CFS) の際に報告される予定だ。

2-4. 家族農林漁業プラットフォーム・ジャパンの設立

2019 年 5 月の国連「家族農業の 10 年」の開幕を受けて、日本では国連の呼びかけに応えた有志らが「家族農林漁業プラットフォーム・ジャパン」(Family Farming Platform Japan: FFPJ) を 2019 年 6 月 14 日に設立した。2020 年 12 月現在、26 団体 (表 4) および 80 余名の個人が、プラットフォームの趣旨に賛同して会員になっている。団体会員の会員数を含めると、総勢約 10 万人が集う組織になった。さらに、生活協同組合等の団体や研究者等の団体・個人がオブザーバーとして活動に参加している。

設立以来、FFPJ は首都圏で院内集会やシンポジウム、フォーラム、ワークショップ、学習会等を重ねているほか、地方のシンポジウム、講演会、学習会等に複数の講師を派遣し、国連「家族農業の 10 年」の理念や農政をめぐる国際的な潮流の変化、日本における農政の見直しの必要性、地域に根差した活動の重要性等を訴えてきた。農業系の新聞を中心にメディアにも取り上げられ (例えば阿高 2019、日本農業新聞 2019)、関係者の協力を得ながら日本における国連「家族農業の 10 年」の普及に取り組んでいる。また、各地でプラットフォームを設立する動きもあり、2019 年 10 月には家族農林漁業プラットフォーム

重要事項	柱
1. 政策	家族農業の強化を実現できる政策環境を構築する
2. 若者	若者を支援し、家族農業の世代間の持続可能性を確保する (横断的柱)
3. 女性	家族農業における男女平等と農村の女性のリーダーシップを促進する (横断的柱)
4. 農業組織	家族農業組織とその知識を生み出す能力、加盟農民の代表性、農村と都市で包括的なサービスを提供する能力を強化する
5. レジリエンス (回復力)	家族農家、農村世帯および農村コミュニティの社会経済的統合、レジリエンス (回復力) および福祉を改善する
6. 気候変動	気候変動に強い食料システムのために家族農業の持続可能性を促進する
7. 多面的機能 / 多就業	地域の発展と生物多様性、環境、文化を保護する食料システムに貢献する社会的イノベーションを促進するために、家族農家の多面性を強化する

表 3 家族農業の 10 年の行動計画における 7 つの柱

資料：FAO and IFAD (2019) より作成。

和歌山が、2020年11月には家族農林漁業プラットフォーム福島浜通りが誕生した。さらに、これに続こうとプラットフォーム設立を準備・検討している都道府県が複数出てきている。このように、国連「家族農業の10年」を推進する組織が日本でも誕生し、会員を増やすとともに、国際運営委員会との連絡体制を確立している。

日本においても、家族農業は農業の太宗を占める。他国と同様に食料供給や農業の多面的機能（国土保全、環境保護、生物多様性の維持、景観や伝統文化・遺産の維持・継承、農村地域における雇用創出や地域活性化等）において重要な役割を担っている。特に、利潤追求を第一義的な経営目標としない家族農業は、短期的な収益性にもとづいた農業参入・撤退を行うことは少なく、農業生産を安定的に営み、地域社会の持続的発展のために貢献する存在として、再評価されるべきだろう。

1. 公益社団法人 全国愛農会	9. 国民の食糧と健康を守る運動全国連絡会（全国食健連）	18. NPO法人 和歌山有機認証協会
2. 全国沿岸漁民連絡協議会（JCFU）	10. 全国有機農業推進協議会	19. 肥後農産出荷組合
3. NPO法人 自伐型林業推進協会	11. NAGANO 農と食の会	20. 合同会社 杜の学校
4. 農民運動全国連合会	12. NPO法人 秀明自然農法ネットワーク	21. 人農舎
5. NPO法人 アジア太平洋資料センター（PARC）	13. NPO法人 秀明インターナショナル	22. 株式会社 垂里屋
6. NPO法人 日本有機農業研究会	14. 全日本農民組合連合会（全日農）	23. 一般社団法人 ALFAE
7. 小規模・家族農業ネットワーク・ジャパン（SFFNJ）	15. 一般社団法人 日本スローフード協会	24. 一般社団法人 BMW 技術協会
8. NPO法人 21世紀の水産を考える会	16. スローフード横浜・鎌倉	25. 生活協同組合あいコープみやぎ
	17. 紀ノ川農業協同組合	26. オーガニックファーマーズ名古屋一

表4 家族農林漁業プラットフォーム・ジャパンの団体会員（2020年12月現在）

資料：家族農林漁業プラットフォーム・ジャパンのウェブサイト（<https://www.ffpj.org/member>）より筆者作成。

表5 家族農業および農民に関する国際社会の主な動き
資料：関根（2020b）より転載。

2008年	リーマンショック、世界食料危機発生 ビア・カンベシーナが「農民男女の権利宣言」を発表 世界農村フォーラムが「国際家族農業年」の設置を求める運動を開始
2011年	国連総会が「国際家族農業年」（2014年）の設置を決定
2014年	「国際家族農業年」、世界各地で家族農業関連イベント相次ぐ
2015年	国連の持続可能な開発目標（SDGs）誕生 家族農業がSDGs達成の鍵として位置づけられる
2017年	国連総会が国連「家族農業の10年」（2019～28年）設置を決定 日本は議案の共同提案国
2018年	国連総会が「農民と農村で働く人びとの権利宣言」を採択
2019年	国連「家族農業の10年」が開幕 G20新潟農相会合宣言に家族農業、小規模農業が明記される
2020年	新型コロナウイルス禍で、G20農相が臨時会合で家族農業、小規模農業を含む農家の支援強化を合意

3. 国連「農民の権利宣言」

日本政府は、2017 年 12 月の国連総会で国連「家族農業の 10 年」設置を共同提案し、議案は満場一致で採択された。こうした経緯から、日本の農林水産省も国連「家族農業の 10 年」の窓口およびウェブサイトを設置している。しかし、2018 年 12 月の国連総会で採択された「農民と農村で働く人びとに関する権利国連宣言」(以下、農民の権利宣言)に対して、日本政府は異なる対応をとった。宣言採択の投票を棄権し、採択された宣言については「国際条約ではないので履行の法的義務はない」との立場をとっている。なぜ、日本政府の対応は国連「家族農業の 10 年」と「農民の権利宣言」で分かれることになったのだろうか。そして、そもそも農民とは誰のことなのか。国連「農民の権利宣言」とはどのような背景で構築されたのか。本節では、日本における同宣言の意義と実質化の課題と合わせて検討する。

3-1. 農民の定義

国連「農民の権利宣言」で用いられている「農民」の英語表記は「peasant」である。辞書を引くと「(昔のヨーロッパの)小作農、小百姓、農場労働者」「農民、小百姓、小作農」と掲載されている。驚くなかれ、以下のような説明が続く。「怠惰の象徴、いなか者、粗野で無学な人」⁵「粗野な人、田舎者」⁶。また、「現在では特に発展途上国の小作農について用いられる語」⁵という記述もみられる。

非公式の情報によると、日本政府はこうした辞書的な解釈を国連「農民の権利宣言」の「農民」にあたえており、「国連『農民の権利宣言』は発展途上国の問題である」という立場をとっている。そして、外務省や農林水産省の立場としては、「農民や農村で働く人びとの権利を保護すること自体は重要なことと認識」しつつも、「彼らの権利を固有の権利として同宣言で保護することについては、国際的議論が収斂していない」ことから国連人権理事会や国連総会の採決では棄権票を投じたと説明している⁴。

日本農業新聞は、日本政府の棄権について、日本政府が(採決で反対票を投じた)アメリカの顔色をうかがった可能性、大規模・法人経営体を中心とした農業の成長戦略との齟齬、主要農作物種子法の廃止等の食料主権に背く政策への後ろめたさがあるのではないかと指摘している⁷。

日本政府の棄権に加えて、もう一つ残念なことは、農民の権利宣言における農民の定義が正しく浸透していないことである。同宣言によると農民とは、「家族および世帯内の労働力、ならびに貨幣を介さないその他の労働力に大幅に依拠し、土地に対して特別な依存状態や結びつきを持った人を指す」とされている(船田 2019)。前節で述べたように、労働力に注目したこの定義は、「家族農業」や「小規模農業」を営む人びとの定義と実は重なっている。日本政府には、国連「家族農業の 10 年」と同様に「農民の権利宣言」への取り組みにも積極的かつ主体的な関与を期待したい。

3-2. 国連「農民の権利宣言」誕生の経緯と画期性

国連「農民の権利宣言」は、2018 年 12 月 17 日の国連総会で全体の 7 割近い 121 か国の賛成多数によって採択された(船田 2019)。アメリカ、イギリス、オーストラリア等 8 か国は反対票を投じ、日本、フランス、イタリア等 54 か国は棄権した。

この国連宣言には、土台となった宣言が存在する。80 か国、2 億人の農民を代表する国際的農民運動組織ピア・カンペシーナが、2008 年 6 月に発表した「農民男女の権利宣言」である。こうした流れをもとめとつづいたのは、ピア・カンペシーナ加盟組織のインドネシア農民組合(SPI)であった(岡崎 2019)。SPI は、農民の権利を守る国際法制を新たに確立することの必要性を 2000 年から主張してきた団体である。その後、ピア・カンペシーナが宣言起草を加速化させた背景には、2007～08 年の世界的食料危機とそれ以降拡大したランドグラブ(土地強奪)、それに立ち向かった農民リーダーの相次ぐ殺害といった深刻な人権問題があった(船田 2019)。国連「家族農業の 10 年」の前身である国際家族農業年

(2014 年) の設置を求める国際運動も同時期に始まっている (表 5)。

その後、関係者の努力が実り、2012 年からスイス・ジュネーヴの国連人権理事会において国連「農民の権利宣言」の議論がスタートした (船田 2019)。国連人権理事会の議論は紆余曲折をへたが、最終的に 2018 年 9 月に草稿が採択され、同年 11 月の国連総会第 3 委員会をへて、同年 12 月の国連総会で採択された。当初は「実現不可能」と言われた同宣言が国連総会の賛成多数で成立したのは、まさに当事者である農民自身の 10 年以上にわたる努力と国際的な連帯の成果である。

船田 (2019) は、同宣言が画期的な宣言として位置づけられる理由を 3 つあげている。第一に、「農民と農村で働く人びと」を人権擁護のための特定「社会グループ」として認定していること、第二に、当事者である農民自身が宣言の土台を起草し、国連人権理事会での議論で重要な役割を果たしたこと、第三に、同宣言の中で数々の「新しい権利」が提起されたことである。同宣言の中では、食料主権、種子への権利、土地への権利、生物多様性への権利、結社の自由とともに、不平等・差別の禁止、農民女性と農村で働く女性の権利等を定めている。特に、食料主権、土地への権利、種子への権利、および集団的権利については、国連人権理事会で攻防が激しかったが、最終的には農民組織や市民社会、専門家の主張がほぼ認められた。

また、同宣言の成立においては、アジア、アフリカ、中南米の旧植民地諸国が重要な役割を果たした (船田 2019)。種子への権利保護等を主張するこれらの国々に対して、旧宗主国側は自国のバイオメジャーの知的所有権の擁護を主張したが、当事者である農民や専門家は「それはヒューマニティ (人間性) の危機より小さな問題である」として退けた。さらに、女性農民および農村女性の国際的連帯により、同宣言に女性の役割の可視化とその権利保護が明確に位置づけられたことも、高く評価されるべきだろう。

3-3. 問われる日本の政策的選択

国連「農民宣言」の採択は、「家族農業の 10 年」の開幕とともに日本の農林水産業関係者、および農村で働く人びとを勇気づけるものである。日本では農林水産業関係者および農村住民の高齢化が進み、日本農業の未来を AI (人工知能) やロボットによるスマート農業に託そうとする政策とそれを歓迎する論調が強まる中、こうした時代の流れは抗しがたいものと受け入れるムードが漂っているように感じる。しかし、国連における新たな潮流は、日本農政の進路に対してオルタナティブ (代替案) があることを明確に示している。持続可能な社会への移行に向けて、国連は家族農業や農民的農業の重要性を高く評価している。日本でもそのことを踏まえて、今後 50 年、100 年先の社会を見すえた政策論議をする必要があるだろう。同宣言に謳われている諸権利は、先進国、発展途上国の別を問わず、あまねく実現されなければならない。さらに、日本国内の農林水産業および農村の問題だけでなく、日本が政府開発援助 (ODA) や企業活動等を通じて関わる発展途上国で生じている問題においても、同宣言に謳われている権利の実質化が急務である⁸⁾。

4. アグロエコロジー

アグロエコロジー (agroecology) という言葉は、日本ではまだあまり浸透していないが、10 年程前から国連の報告書や国際研究プロジェクトに頻繁に登場するようになり、現在では未来の農業のあるべき姿として認知されるに至っている。直訳すれば「農業生態学」となるが、一学問分野にとどまらず、生態系サービスを活用して営まれる農法の実践であり、またその実現のための社会運動である (アルティエリ他 2017)。国連「家族農業の 10 年」や「農民の権利宣言」と同じく、2008 年の世界食料危機の前後から国際的に注目されるようになった。本節は、アグロエコロジーがどのように歴史の表舞台に登場

したのか、アグロエコロジーとは何か、日本におけるアグロエコロジーの実践の歴史と今後の展開の可能性について論じる。

4.1. 世界が注目するアグロエコロジー

アグロエコロジーという言葉が最初に用いられたのは、農学者バジル・ベンジンの1925年の著作だとされる(表6)。当時は、農業生態学という純粋に学問的な位置づけだった。その後、1970年代にカリフォルニア大学のミゲル・アルティエリ教授(当時)らが、中南米の伝統的農業の中に農法としてのアグロエコロジーの実践を見出す。その農法とは、当時普及が進んでいた農薬・化学肥料に依存しないもので、有機農業や自然農業といった伝統的農業と重なる部分が大きい。

日本では、この頃までに自然農業や有機農業の実践や技術普及が始まっており、1970年代には有機農家と消費者が直接結びついて産消提携が各地に広がった。第3者による有機認証に頼らず、生産者と消費者が直接結びついて信頼関係を構築する提携システムは、後に参加型認証制度(PGS)のモデルとして世界各地に普及した。

しかし、当時はまだ世界の多くの国で慣行農法が支持され、その普及が貧困・飢餓を撲滅すると信じられていた。緑の革命に代表される近代的農業は、その後、1990年代半ばに遺伝子組み換え作物の商業栽培に連なっていたが、同時にリオで開催された国連地球サミットでは環境問題への警鐘が鳴らされ、環境汚染、資源枯渇、気候変動や生物多様性の危機が認識されるようになった。

年代	世界の主な出来事	日本の主な出来事
1920年代	農学者ベンジンが農学として唱える	
1930年代		福岡正信氏が自然農法の実践を開始
1940年代		有機農業を学ぶ「愛農塾」設立
1970年代	アルティエリ教授が農法として研究開始	日本有機農業研究会設立 産消提携が興隆、後に参加型認証制度(PGS)のモデルになる
1990年代	リオの国連地球サミット 遺伝子組み換え作物の商業栽培開始 中南米(ブラジル、キューバ)で農業政策に取り入れられる	
2000年代	エセックス大学の国際比較研究実施 世界食料危機発生 世界銀行等の報告書がアグロエコロジー支持	JAS有機認証開始 有機農業推進法施行
2010年代	食料への権利国連特別報告、国連貿易開発会議の報告書がアグロエコロジーへの転換を勧告 国連食糧農業機関が国際農民組織とアグロエコロジー推進で連携の覚書 アグロエコロジー国際会議、地域会議開催 フランスが農業未来法で推進を打ち出す	農林水産省にアグロエコロジー研究会設置 日本アグロエコロジー会議誕生 京都アグロエコロジー宣言 アグロエコロジーを支持する家族農林漁業プラットフォーム・ジャパン設立

表6 アグロエコロジーの歴史的展開

資料：アルティエリほか(2017)、吉田(2019)を参考に筆者作成。

転換点となったのは、2008年の世界食料危機の発生とそれにとまなう慣行農業や新自由主義的経済体制に対する懐疑論の広がりである。人口増加と発展途上国における食料消費形態の変化（動物性たんぱく質摂取量の増加）による将来的な食料需要の増加、農地の減少と土壌浸食、農的生物多様性の喪失、気候変動、水資源や化石燃料の枯渇、都市化と農業従事者の減少と高齢化等は、いずれも持続可能な農業・食料システム、ひいては持続可能な社会への移行にとって大きな課題として立ちはだかっていることが広く認識されるようになった。おりしもエセックス大学のジュール・プレティ教授らが2006年に実施した国際比較研究が、農業・化学肥料に依存した慣行農法から農業・化学肥料を用いないアグロエコロジーに切り替えれば、平均で8割も収量が増加することを明らかにしていたことから、一躍、アグロエコロジーは国際的に注目されるようになった（Pretty 2009）。2009年の世界銀行等の報告書では、農業の未来はアグロエコロジーに託すしかないと結論づけている（IAASTD 2009）。

2010年代にはいと国際社会では相次いでアグロエコロジーを支持する報告書等が発表された。2010年には食料への権利に関する国連特別報告官 O.D. シュトゥールがアグロエコロジーの重要性に言及し、2013年には国連貿易開発会議（UNCTAD）が『手遅れになる前に目覚めよー気候変動時代における食料保障のために、今こそ真に持続可能な農業への転換を一』と題した報告書のなかで大規模企業の農業から小規模家族農業によるアグロエコロジー的農業への転換が急務であることを訴えた（UNCTAD 2013）。2014年には国連食糧農業機関（FAO）が国際農民組織ピア・カンペシーナとアグロエコロジー推進で連携するという覚書を交わし、第1回アグロエコロジー国際シンポジウムを開催した。同年にはフランスが農業未来法でアグロエコロジー推進を打ち出し、2015年には世界各地でアグロエコロジーの地方会議を開催している。このように、世界では農業・食料・農村政策をめぐる基本的パラダイムが大きく転換したといつてよい。

日本でも全く動きがないわけではない。農林水産省は2014年にアグロエコロジーに関する研究会を立ち上げている。残念ながら、日本の農業政策にはいまだにアグロエコロジーという用語や概念が取り入れられていないが、産学の活動は活発に行われている。2015年には第1回アグロエコロジー会議が開催され、現在までに3回の議論が重ねられている。2016年には京都の総合地球環境学研究所がM. アルティ教授らを招いてアグロエコロジーに関する講演会やワークショップを開催しており、その成果を2016年京都アグロエコロジー宣言として発表している（アルティエリ他 2017）。さらに、2019年には日本における小規模・家族農業によるアグロエコロジーの実践を推進する家族農林漁業プラットフォーム・ジャパンが誕生した。また、有機農業に対する環境直接支払の水準が2020年から大幅に引き上げられており、2020年3月に閣議決定された第5期食料・農業・農村基本計画では中小の家族経営に対する支援が謳われた。

4-2. 持続可能な農業・食料システムとしてのアグロエコロジー

アグロエコロジーは農的生物多様性を守り、飢餓や気候変動、経済格差等の社会問題にも対応することができると期待されている。また、アグロエコロジーは伝統的な農法や知に立脚しており、小規模・家族農業を中心とした農業・食料生産と産消提携による流通・消費を通じて、食料主権の実現にも重要な役割を果たすと評価されている。すなわち、オルタナティブな農業・食料のあり方を求める今日の社会運動の多くが、アグロエコロジーの下に集結しているといつてよい。それでは、アグロエコロジーを定義普及をはかることは可能なのだろうか。

アグロエコロジーの推進は、ピア・カンペシーナが食料主権とともに長年唱えてきた政策である。第3者認証制度の整備の過程で、多様な運動と結びついていた有機農業が単に「農業・化学肥料・遺伝子組み換え作物を用いない農業」に矮小化されてしまった経験を踏まえて、アグロエコロジーの世界共通の定義や基準を設けることに対して、アグロエコロジーの担い手は長年懐疑的であった。しかし、ア

グロエコロジーをマイノリティの農業に留めておくことなく、地球規模でアグロエコロジーへの転換を進めるためには、定義の問題は避けて通ることができない。

そこで、FAO は、2018 年にアグロエコロジーの 10 要素を発表した (表 7)。この 10 要素には簡単に定量的評価ができない基準が数多く盛り込まれており、認証や模倣によって大規模企業的農業がビジネスとしてアグロエコロジーの名前を語ることを事実上制限する内容になっている。例えば、農薬・化学肥料・GMO を使わなければ単一栽培 (モノカルチャー) であっても有機認証を取得することができるが、アグロエコロジーの第 1 の要素「多様性」を考慮すれば、無農薬・無化学肥料であっても単一栽培のアグロエコロジーはありえないということになる。同様に、バイオメジャーによる種子の知的財産権の囲い込みは、アグロエコロジーの第 2 の要素「知の共同創造と共有」に反することになる。また、第 4 要素「資源・エネルギー効率性」を追求すれば、化石燃料に依存する大型機械・施設は用いることができず、自ずと経営規模は小規模・家族サイズとなる。さらに、アグロエコロジーは農と食だけでなく、地域の循環経済、連帯経済の推進も謳っており、社会経済システムの変革に関わるものでもある。

家族農業は、持続可能な開発目標 (SDGs) で掲げられる貧困・飢餓の撲滅、気候変動への対応、およびジェンダー平等など、17 の目標に貢献することが期待されている (小規模・家族農業ネットワーク・ジャパン編 2019)。また、2019 年 5 月に発表された国連の家族農業の 10 年の世界行動計画では、7 つの柱が掲げられている (表 3)。これらの内容を踏まえると、家族農業が早急に慣行農法からアグロエコロジーに転換することが、SDGs 達成のためにも、家族農業の 10 年の行動計画達成のためにも欠かせないことが分かる。各国政府は、家族農業が SDGs の実現に貢献できるような、すなわち、アグロエコロジーへの転換を可能にするような環境を政策的に整える責務を負っているのだ。

日本は 1930 年代から自然農法、有機農業の実践の歴史があり、1970 年代に普及した産消提携の実践も積み重ねてきた「アグロエコロジー先発国」である。日本の農業関係者および消費者、市民が幅広く連帯して小規模・家族農業によるアグロエコロジーへの転換を求めれば、日本の農業政策を変えることは決して不可能ではないはずだ。むしろ日本は長年にわたって培ってきた経験を生かして、持続可能な農業・食料システムへの移行において世界をリードすることが期待される。

10 要素	内容
1. 多様性	自然資源を保全しつつ食料保障を達成するための鍵
2. 知の共同創造と共有	参加型アプローチをとれば地域の課題を解決できる
3. 相乗効果	多様な生態系サービスと農業生産の間の相乗効果を
4. 資源・エネルギー効率性	農場外資源への依存を減らす
5. 循環	資源循環は経済的・環境的コストの低減になる
6. レジリエンス (回復力)	人間、コミュニティ、生態系システムのレジリエンス強化
7. 人間と社会の価値	農村の暮らし、公平性、福祉の改善
8. 文化と食の伝統	健康的、多様、文化的な食事を普及する
9. 責任ある統治	地域から国家の各段階で責任ある効果的統治メカニズムを
10. 循環経済・連帯経済	生産者と消費者を再結合し、包括的・持続的発展を

表 7 アグロエコロジーの 10 要素

資料：FAO(2018c) より筆者作成。

5. 健康な土壌と種子を求める運動の広がり

5-1. 気候変動と持続可能な社会への移行を目指す国際的枠組み

2019年9月にニューヨークで国連気候変動行動サミットが、同年12月にはマドリードで気候変動枠組条約第25回締約国会議(COP25)が開催され、気候変動を乗り越えて持続可能な社会への移行するための具体的な方策が話し合われた。COP25において、日本は2019年に最も気象災害を受けた国として名前があがっており、日本政府や市民による真剣な行動が求められている。

気候変動に関する政府間パネル(IPCC)が2019年8月に発表した特別報告は、現在排出されている温室効果ガスの21～37%はグローバルな食料システムに由来していると推定している(IPCC 2019)。すなわち、私たちがどのような農と食のあり方を選択するかが、今後の気候変動や災害の発生頻度、被害の規模に影響を与えるということが明確に示されているのだ。こうした文脈の中で、国連や国際機関は、大規模な工業的農業から小規模な家族農業による環境と社会に優しいアグロエコロジーへの転換を求めるようになっていく。国連「家族農業の10年」がパリ協定や持続可能な開発目標(SDGs)、その他の国連の10年等と連動して進められているのは、こうした背景があるからだ(表8)。本節は、以上の状況を踏まえながら、農業の根幹を支える土壌と種子が現在直面している課題と新たな運動の広がりについて論じる。

5-2. 健康な土壌と健康のつながり—ブラウン・レボリューションとワン・ヘルス—

土地は農業の基本的生産要素であるが、ポスト植民地時代において新たな土地囲い込み(ニュー・エンクロージャー)が発生している。将来的な食料不足や資源不足を懸念して、主に先進国の国家や企業、投資家が発展途上国等の土地を大規模に買収したり、長期的に賃借したり、開発したりするケースが2000年以降急増している。この現象は「ランドラッシュ」や「ランドグラブ」と呼ばれており、日本も関わっている(池上2015、NHK食料危機取材班2010)。このような大規模な土地開発によって先祖伝来の農地を追われた小規模農家らは、生業を失い、生存権を脅かされている(小規模・家族農業ネットワーク・ジャパン編2019)。こうした人道の危機が、国連をして2018年の「農民の権利宣言」を成立させ、2019年からの「家族農業の10年」をスタートさせた。また、過熱する国際的な土地投資に対して、世界食料保障委員会(CFS)は責任ある農業投資(RAI)の枠組みを定め、これの順守を求めている(CFS 2014)。

持続可能な開発目標(SDGs)(2016 - 30年)	国連「生態系の回復の10年」(2021 - 30年)
生物多様性の10年(2011 - 20年)	パリ協定(2015年採択、目標2030年)
国連「土壌の10年」(2015~2024年)	食料への権利実現に向けた任意ガイドライン
国連「栄養の10年」(2016 - 25年)	土地保有に関する責任ある統治の任意ガイドライン
国連「水の10年」(2018 - 28年)	持続可能な小規模漁業を保護する任意ガイドライン
国連「家族農業の10年」(2019~2028年)	農民の権利宣言

表8 持続可能な社会にむけた農業・食料分野の枠組み

資料：国連資料より筆者作成。

もうひとつ重要な課題となっているのは、土壌の中に豊かな微生物相が存在している状態、すなわち健康な土壌の状態をいかに維持するのか、あるいは回復するのかということである。土壌の微生物相の活性化は、三つの点から現在注目を集めている。第一に、土壌の中に存在する豊かな微生物相が、食物を通じて人間に摂取されることで体内の微生物の種類や数を増やし、人間の健康維持に重要な役割を果たしていることが、近年医学的にも明らかになってきた(モントゴメリー・ピクレー2016、吉田2018)。昔から先人たちは「身土不二」、すなわち私たちの身体は土と二つ別々のものではなく、土から生まれたものが人の身体を造っていると言い、その伝統的な考え方を私たちに伝えてくれた。今日、巷では発酵食品等を摂取して健康的な腸をつくり、健康や美容に役立てようとする「腸活」が流行しているが、腸内細菌はそれだけでなく、数多くの慢性疾患やアレルギー等の自己免疫疾患、発達障害等にも関係していることが明らかになってきている。さらに、2020年に世界的なパンデミックとなった新型コロナウイルス(COVID-19)により、土壌を含む環境の健康(健全性)、動植物の健康、および人類の健康は切り離すことができない、すなわちワン・ヘルスであるという考え方が強調されるようになり、世界保健機関(WHO)、FAO、および国際獣疫事務局(OIE)は従来の健康の定義を見直すことを呼びかけている(WHO 2017)。

第二に、微生物相が豊かな健康な土壌は、農業生産を飛躍的に向上させることが国際比較実験から明らかにされている(Pretty 2009)。化学肥料や除草剤、農薬は、「緑の革命」と呼ばれる近代的農業の技術パッケージとして20世紀後半に浸透したが、その使用によって土壌中の微生物が死滅すると、いくら化学肥料を施肥しても増収は望めなくなる。長期的にみれば、土壌中の有機物を増やして微生物相を回復・活性化することが、食料生産の持続可能性にとっても望ましいことが認識されるようになった。

第三に、気候変動対策として土壌の中に温室効果ガス(二酸化炭素、一酸化二窒素、メタン等)を固定するためには、土壌中の微生物相を回復し豊かにすること、そのために有機質堆肥や不耕起を採用する環境保全型農業やアグロエコロジーが推奨されている。フランスでは2014年の農業未来法の中でアグロエコロジー推進を打ち出し、不耕起栽培や有機質堆肥の施用による温暖化対策を本格的に実施しており、作られた有機農産物を学校給食等の公共調達で買取を義務付ける法律も2018年に成立した(関根2020c)。アメリカの土壌学会も国連食糧農業機関(FAO)等と連携して不耕起栽培や土壌の生態系回復を推進している。

以上のように、土壌中の微生物相のあり方が、健康、食料保障、および気候変動対策という現代的課題解決にとって重要な意味を持っていることから、土壌の健康がクローズアップされている。これは、一般に「ブラウン・レボリューション」(茶色い革命)と呼ばれており、2015年の国際土壌年の頃から国際的に議論されるようになった。

遺伝子組み換え食品が多く生産されているアメリカでは、8年前から母親達が食の安全を求めて立ち上がり、決して「あきらめないお母さんたち(Unstoppable Moms)」として非営利団体「マムズ・アクロス・アメリカ」(アメリカ中のお母さんたち)(MAA)を組織化している(ハニーカット2019)。彼女たちは遺伝子組み換え食品の表示を求めるとともに、遺伝子組み換え作物の栽培と合わせて使用される除草剤グリホサートの残留検査を実施しており、その危険性を訴えている。創立者のゼン・ハニーカット氏は、グリホサートは土壌中の微生物相を破壊するため、土壌中に固定できるはずの温室効果ガスを大気中に放出し温暖化にも影響していることを指摘している。アメリカではグリホサートの発がん性も問題となっており、裁判でグリホサートを開発したモンサント社への高額賠償命令が相次いで下っている。また、欧州をはじめとする主要国ではその使用が相次いで禁止されているが、日本では残留基準値を緩和した。そのため、日本のお母さんをはじめとする消費者にも危機意識が広まっており、「マムズ・アクロス・ジャパン」(日本中のお母さんたち)(MAJ)が発足し、「マムズ・アクロス・ザ・ワールド」(世界中のお母さんたち)(MAW)とつながっている。これらの運動は、日本各地で学校給食の食材を有機農

産物・食品に変えることを求めており、2020年現在、千葉県いすみ市、愛媛県今治市等の複数の自治体で実現している。2020年10月には、農林水産省もようやく学校給食の有機化支援を打ち出した。

5-3. 種子を守る人たち

種子は、農業におけるもう一つの基本的生産要素である。人類は長らく生産者自らが種子を採り、選抜することで野生種から栽培品種を作り伝えてきたが、品種改良技術はやがて国・自治体の研究機関による公的育種、民間の種苗会社、多国籍企業のバイオメジャーの手に移り、自家採種をする農家は劇的に少なくなった。1990年代後半からは遺伝子組み換え作物の商業栽培が始まり、現在はゲノム編集作物が生産されるようになっていく。農家の手を離れて開発された種子は、開発企業の知的財産権で厳重に保護され、高収量や機能性を謳う種子は高価格で取引される商品となる。

そのような中、植物の新品種に関する国際条約(UPOV条約)加盟国では、農家が自家採種する権利を制限または禁止する法律を整備する流れが生まれている。日本では、主要農作物種子法(通称:種子法)が2018年4月に廃止された。また、2020年11月には種苗法改正案が国会で承認されたため、2021年4月から農家による登録品種の自家増殖は原則禁止・許諾制となる。これは、国連「農民の権利宣言」で謳われている農民の種子への権利を大きく制限するものであり、農業関係者や消費者を中心に、企業による種子の囲い込みや管理が強化されること等への批判の声が相次いでいる。

他方で、気候変動に対応するためには、より多様な遺伝資源を残すべきだという声が高まっており、商業栽培される一部の遺伝資源に人類の食料の大部分を依存することに対する警鐘が鳴らされている。地域の固有種を収集して種子バンクを作り、長期保存するプロジェクトが国際的に進められているが、やはり種子は農家の手で毎年栽培され、採種されてこそ元気な種子を後世に遺せる。かつては「緑の革命」を牽引したフィリピンの国際イネ研究所(IRRI)では、現在はフィリピン北部の少数民族(先住民)が栽培する地域固有の伝統品種の自家採種を支援するプロジェクトを担っており⁹、時代の流れの変化を感じる。さらに、日本では現状に疑問をもった15歳の青年が、種子流通の会社を設立した(小林2019)。また、自家採種の種子を交換するネットワークも健在であり、種子を糸口として食の安全や現在の社会システムに関心を持ち行動する人たちが増えている。

気候変動という人類共通の課題を前にしている今、「健康な土壌」と「多様な種子」というキーワードが浮かび上がっている。そして、その双方を守ることができるのが、家族農業によるアグロエコロジーの実践であると言われている(小規模・家族農業ネットワーク・ジャパン2019)。こうした文脈から、2018年に国連総会で採択された農民の権利宣言では、農民の種子への権利、土地への権利が謳われている。国連「家族農業の10年」という新しい潮流の中で、今私たちの足元で起きていることを冷静に見つめ直し、危機の時代を生きのびるために私たち一人ひとりが目を覚まし行動するときだ。

6. おわりに

—農と食を軸に、持続可能な未来を構築しよう—

2021年に国連「家族農業の10年」は3年目を迎える。本節では、これまでの国連「家族農業の10年」と「農民の権利宣言」にかかわる国内外の主要な動向と国内で見られた変化の兆しについてまとめる。続いて、2020年3月に閣議決定された第5期食料・農業・農村基本計画の策定にむけた議論の動向と論点を示し、最後に今後、日本として国連「家族農業の10年」のための行動計画を策定し、農と食を軸に持続可能な未来を構築するという展望を論じる。

6-1. 国連「家族農業の10年」の初期にみられた変化の兆し

国連「家族農業の10年」に先立ち、2014年に国際家族農業年のキャンペーンが行われたが、このときは国内のメディアがほとんど報じなかったため、農業関係者の間でさえ認知度が低かった。また、当時は家族農業や小規模農業の問題は発展途上国の問題だとする先入観が行政や農業関係者の間でもあり、国会で野党議員がこの問題を先んじて取り上げたため、「家族農業は野党の政策」というイメージも強かった。

しかし、2017年12月の国連総会で日本政府が国連「家族農業の10年」の決議案に賛成票を投じ、全会一致で採択されたこと、また国内で農業関係紙等がそのことを報じ、小規模・家族農業ネットワーク・ジャパン (SFFNJ) や家族農林漁業プラットフォーム・ジャパン (FFPJ) 等がメディアやSNSで情報発信を続けた結果、この国際的な流れは徐々に日本の農業関係者の間で認知されるようになった。SFFNJが2019年3月に出版したブックレット(小規模・家族農業ネットワーク・ジャパン編2019)は増刷となり、国際家族農業年の頃の認識は塗り替えられていった。

2019年夏の参議院選挙では、与野党ともに家族農業への支援を公約として掲げる政党が目立った。野党だけでなく、与党自民党でも地方選出議員を中心に「中小規模の家族農業を大切に」という発言が相次ぐようになった。2019年12月に発表された「農業生産基盤強化プログラム」では、輸出拡大の政策は維持しながらも「中山間地域や中小・家族経営」への支援が明記された(日本農業新聞2020a)。2020年1月の通常国会では、安倍首相の施政方針演説に対する野党からの質問に対し、安倍首相は「中山間地域の中小家族経営も含め幅広く生産基盤の強化を進める」と述べた(日本農業新聞2020b)。

メディアの報道にも変化がみられる。2019年11月にはNHKのEテレ「TVシンポジウム食料フォーラム」で国連「家族農業の10年」をテーマに議論が行われた。同月18～20日に開催された日本経済新聞社主催、農林水産省後援の農業イベント「第3回アグリテック&フードテック・サミット」でも、国連「家族農業の10年」と小規模農業の可能性が共通テーマとして位置づけられた。2020年1月26日放映のテレビ朝日「林先生のなるほど! 社会見聞録」(JAグループ提供)では、国連「家族農業の10年」が特集された。2020年10月28日放映のNHK総合「クローズアップ現代+」では、「小さな農業」が注目されているとして、国連「家族農業の10年」や自然農法、CSA(地域支援型農業)が紹介された。これまで、メディアにおける農業報道は「規模拡大」「企業参入」「輸出」「スマート農業」に偏っていたが、「家族農業」「小規模農業」が新たなキーワードになっている。農業書籍の出版や農業誌の特集でも、「家族農業」「農民」や「小さな農業」といったタイトルが増えた。

学会でも議論に変化がみられる。日本農業経済学会では、2019年3月末の大会シンポジウムの討論で国連「家族農業の10年」や持続可能な開発目標(SDGs)を踏まえた農業政策を展開する必要性が議論された。これを受けて、2020年3月28日の同学会の大会シンポジウムでは、2040年の日本農業を構想するというテーマで議論をさらに深め、小規模・家族農業によるアグロエコロジーへの転換の重要性が唱えられた(関根2020c)。他にも、農業問題研究学会、日本村落研究学会、日本農業経営学会、農業・農協問題研究所研究例会等で、相次いで家族農業や小農をテーマにしたシンポジウムの開催や関連出版が行われている(秋津編2020)。また、2015年に設立された九州を拠点とする小農学会も2019年に書籍を出版している(小農学会編著2019)。

6-2. 新食料・農業・農村基本計画をめぐる議論

2020年3月に閣議決定された第5期食料・農業・農村基本計画は、2019年9月から農林水産省の食料・農業・農村政策審議会企画部会で議論された。この計画は、2030年までの日本の食料・農業・農村政策の基本方針となり、林業、漁業を含めて関連政策にも影響を与える。

1999年の食料・農業・農村基本法では、農業が食料生産と多面的機能の役割を担うために、産業政策(経営政策)と地域政策(農村政策)を車の両輪としていくことが謳われた。しかし、農地の集約

化や経営規模の拡大、法人化、輸出やスマート農業と呼ばれる最先端技術の導入に予算や施策が集中し、地域政策が不十分であったとの指摘が審議会委員や与野党の国会議員からも相次いだ。そうした政策の下で農村の人口減少と高齢化が進み、耕作放棄地の増加と農地の減少により生産基盤の弱体化が進んだ。2018年の農業産出額は4年ぶりに減少に転じたことで、既存の政策の有効性を問う声が高まった。TPPや日欧EPA、日米FTAの締結・発効といった貿易自由化の流れの中で、政策的支援を受けてきた大規模農家や集落営農でさえ後継者がおらず、高齢化が進行している。

2020年1月29日に発表された同基本計画の方向性では、従来の経営政策は維持しながらも農村政策の中で小規模農家や家族経営の役割を重視することが示された(日本農業新聞2020c)。審議会委員であるJA全中の中家会長は、食料安全保障の視点から中小・家族経営への支援を新基本計画に明記することを求めた。また、同日開催された自民党の農業基本政策検討委員会でも、同様に食料安全保障の重視と中小規模・家族経営、中山間地農業等の多様な経営への支援を求める声が相次いだ。

このように、農林水産省や与党自民党の中でも既存の政策を見直す動きが顕著になってきた。しかし、依然として中心的な政策が変化したとは言い難い。こうした中、FFPJは、会員から募った新基本計画への意見を取りまとめ、ワークショップを開催して議論した後、2020年1月31日にプラットフォームとしての提言を農林水産省に提出するとともに、院内集会を開催して国会議員や報道関係者、および一般参加者らにそのビジョンを示した(家族農林漁業プラットフォーム・ジャパン2020)。FFPJは、中山間地域に限らず小規模・家族農林漁業の役割を評価し政策的支援をすること、および気候変動対応等のために早急に持続可能な農法へ転換すること等を求めた。さらに、基本計画の審議会に小規模・家族農業を代表する委員を置くこと、小規模・家族経営の意見を幅広く聞くことも求めている。2020年3月に閣議決定された新基本計画を読むと、こうした要望は一定程度反映されていると考えられるが、農地の集約化や農産物・食品の輸出拡大の目標(2030年までに年間5兆円)、スマート農業の推進等が盛り込まれていることから、従来の農業近代化や新自由主義的貿易政策の路線から脱却することはできていない。

他方で、農林水産省は2020年5月に「あふの環2030プロジェクト」を立ち上げて、大手企業を含む産学官連携による持続可能な農業の推進の枠組みづくりに着手した。また、2020年10月に2040年を目標年度とする「みどりの食料システム戦略(仮称)」を2021年5月までに策定する方針を示した。さらに、菅首相は2020年10月の所信表明演説のなかで、2050年までに脱炭素社会を実現することを宣言した。持続可能な社会を構築するうえで、農業・食料システムの転換がその成否を握っていると言っても過言ではない。これらの目標を達成するためにも、既存の政策や価値観を根本的に見直す必要がある。

6-3. 日本の「家族農業の10年」行動計画策定を

国連「家族農業の10年」の開幕式(2019年5月)では、10年間の世界の行動計画が策定され、7つの柱が示された(表3)。国連加盟国は、今後この世界行動計画と国連「家族農業の10年」の趣旨にのっとり、国内の行動計画を策定する義務がある。アジア地域では、すでにドミニカ共和国、ガンビア、インドネシア、ペルーで行動計画が策定され、コスタリカ、ニカラグア、シエラレオネ、チャド、フィリピン、ネパール等の国々でも策定に向けた準備が進められている。

国連が示す行動計画のガイドラインによると、各国政府は国内の家族農林漁業プラットフォームと連携して政策対話を行い、行動計画を策定することとなっている。また、政府とプラットフォームは策定された行動計画に基づいて、毎年達成度のモニタリングと国連への報告を実施する。国連への活動報告は、SDGsの活動報告と合わせて行うことが求められており、国連「家族農業の10年」が持続可能な社会への移行を進める上で鍵と位置づけられていることが分かる。

日本においても国連「家族農業の10年」のメカニズムを活用して、持続可能な農と食を実現し、

私たちのよりよい未来を構想する契機としたい。その際、国連「農民の権利宣言」の精神を政策に反映し、実現することが不可欠である。農と食のあり方を転換し、持続可能な未来を構築するために、立場の違いを超えてすべての関係者が結集する10年にしよう。

さまざまな議論が繰り広げられた2019年3月のスペインの世界家族農業会議の中で、特に印象に残っていることがある。アジア農民協会 (Asian Farmers Association for Sustainable Development: AFA) の代表からのこんな発言だ。「私には夢があります。その夢とは、2028年の朝、目覚めた子どもが『私、農家になりたい』と願い、農家は『僕は農家であり続けたい』と心から思えるようになっていくことです。」さあ、日本でもこの夢を実現できるだろうか。どのような立場にあっても、私たち一人ひとりが家族農業の10年間で当事者として生き、パラダイムが大きく転換する時代と正面から向き合うことが、新しい社会をつくることにつながる。「農家なくして食料なし、未来なし (No Farmer, No Food, No Future)」。

注釈

1. SFFNJ は、2019年6月に設立された家族農林漁業プラットフォーム・ジャパン (Family Farming Platform Japan: FFPJ) に活動を引き継ぎ、2020年8月末に発展的に解散した。詳しくは SFFNJ ウェブサイト (<https://sffnj2017.wixsite.com/sffnj>) を参照のこと。
2. 家族経営体は2005～2015年の農業センサスで採用されていた統計区分であるが、2020年には廃止された。なお、2020年農業センサスでは、旧家族経営体のうち法人化されていないものは個人経営体に、法人化されているものは、団体経営体のうちの法人経営体に分類されることになった。
3. Peasant の訳としては、農民のほか小農や百姓を充てる場合もある。
4. 国連小農宣言・家族農業10年連絡会主催院内集会 (2019年2月18日) における外務省担当者の回答より。詳しくは同連絡会ウェブサイト (<http://unpesantsrights.blog.fc2.com/>) を参照のこと。
5. 『ジーニアス英和大辞典』大修館書店。
6. 『リーダーズ英和辞典』(第2版) 研究社。
7. 「論説：『小農宣言』の意義 官邸農政見直し契機に」『日本農業新聞』2018年12月19日付。
8. 2020年7月、日本の外務省は、国際的にランドグラブとの批判を浴びてきたモザンビークにおけるプロサバンナ計画の中止を発表した。
9. 筆者による2019年9月の調査による。

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Essays • 小論文

The Food Supply Chain is Breaking

RAYMOND EPP

PREFACE

For readers, I want you to think about the meaning of chains.

Chains take on very different meanings depending on your social location. Chains take on a very different meaning for slaves than they do for executives of transnational corporations. A broken chain for a slave results in freedom, whereas a broken chain for the transnational corporation would result in a loss of profit and control. The COVID-19 pandemic has resulted in the breaking of supply chains in the global food system. Major players in the global food system and perhaps many consumers in the developed world want to see the chain fixed so that the world can get back to business as usual. Fixing the chain as it exists now will not alter the exploitation of farmers and the ecological damage caused by the expansion of modern industrial agriculture and livestock production.

Some critics have argued that supply chains need to be shortened between farmers and consumers. It makes logical sense, but a chain is still a chain no matter the length. I would like us rather think in terms of food *circles* as a metaphor for maintaining our life, as opposed to food *chains*. Human beings have more bacteria living in us and on us than we have cells in our body. Likewise, healthy soils contain billions of species of microorganisms in a single teaspoon. Our health and the world's health is one. The circle I envision is farmers and eaters joining hands together with the community of all creation to create an economy and culture of caring. The Bible speaks of being called out from Babylon as the image to break free from the chains of exploitation to join in a world made new. Gandhi spoke of non-cooperation with exploitation as the first step in being free. In short, we need new metaphors to stimulate our imagination to create a more liveable world. Chains will no longer do.

PANDEMICS AND GLOBAL FOOD SUPPLY CHAINS

"The food supply chain is breaking", warned Tyson Foods in a full-page *New York Times* advertisement on April 26 this year. Workers in Tyson-owned meatpacking plants are getting sick from the coronavirus and plant shutdowns for not only Tyson Foods' meat processors but also the likes of Cargill, Smithfield Foods, and JBS USA are affected. As the plants shut down

farmers are being forced into the almost unthinkable problem of “depopulating” (a euphemism for killing) otherwise healthy livestock from their farms because there is no way to process them. The prospects of shortages of meat in the US could last for months. Thousands of tons of fresh vegetables are being plowed under and dairy producers are dumping an estimated 14 million liters of milk a day because processors are unable to process them and move them through existing supply chains, even though there are shortages of food in stores and food banks in the US are seeing a doubling in the request for food assistance during this time in which 30 million US workers have lost their jobs in a six week time period.

In the midst of this pandemic, the idea of operating a food system based upon market principles of supply and demand are not working. Supplies of food exist and demands for food also exist. But the complex system that has been created through the economic logic of economic growth of companies through increasing efficiencies, as well as the economies of scale and increasing market share has created a monster that is not only hurting farmers—it is threatening our health, our soil health, and our food security. This problem is unfolding right now in the US and there is no news about this in the Japanese media. Problems in the food supply chain are not only a problem for the US since most of the food, grain, and beverage companies are operating on a global scale. This problem has the potential to become a serious problem in Japan if the pandemic continues for an extended time.

In this article, I want to think together about the wisdom of relying on global food supply chains and what we can do to restore health and resilience back into our lives in the context of the coronavirus shutdown. I want to do this by briefly reviewing the history of global pandemics to see that they are not unprecedented events but rather a recurring event that has happened throughout history. Secondly, I want to look at why the system is breaking down in a section entitled ‘The Inflexibility of Large-Scale Food Supply Chains.’ Thirdly, in a section entitled ‘Japanese Food Security and Global Supply Chains amid the COVID-19 Pandemic,’ I discuss possible impacts of supply chain breakdowns for Japan. In the fourth section, I included a chapter on biblical politics entitled ‘Coming out of Empire’ as a guide on how to respond to the unfolding crisis. As an organization whose foundations are rooted in the God of the Bible, I believe that it is important to study the Bible to understand this God and understand what it means to be humans created in the image of God. ‘Breaking the Chains of Babylon’ is the next section. We need to think about shortening supply chains and building stronger connections between farmers and eaters, but why doesn’t it happen? Are there ways in which we are enslaved or blinded from the need for fundamental change? Could this be one of those moments for fundamental change to occur in Japan? I believe a fundamental change needs to take place in how we understand the relationship between human health and soil health. This will influence how we grow food, what we eat, and what kind of food supply chain we need. Systemic breakdowns offer the potential for new beginnings. I do not know what the future holds with this unfolding pandemic in Japan. Regardless, it is clear that a more resilient food system is necessary to respond to the needs of people throughout Japan.

THE HISTORY OF PANDEMICS

Pandemics are an infrequent but common occurrence. Due to the length of this article, I cannot offer an exhaustive history, but I want to give a sense that diseases have in the past spread over wide areas, leaving in their wake widespread illness and death. Perhaps most well known is the “Black Death” or bubonic plague which swept through Europe in the Middle Ages. One hundred years ago the Spanish Flu swept through the world, infecting one-third of the world’s population and killing between 17–50 million, and some estimates say as high as 100 million people. The world was at war and governments were not being straightforward in communicating the severity of this disease. According to John M. Barry, a historian of the Spanish Flu pandemic of 1918, “civilization was a few weeks away from disappearing from the face of the earth.” People were getting sick and government leaders did not tell the truth. Straightforward communication may have hindered the ability to mobilize people to produce goods in support of the war effort. People died from a lack of food because neighbors in some communities were afraid to bring them food. Panic and fear were so intense that it led to a near-total breakdown of society. “People lost faith in everything—in their government, in what they were being told, in each other.”²

In the 1950s, polio and tuberculosis affected many parts of the world. Also in the 1990s, HIV AIDS hit the African continent particularly hard as well as other parts of the world. In 2009 it was feared that an H1N1 virus similar to the 1918 Spanish Flu virus would repeat itself, but fortunately, it did not come to fruition. Since then, the Ebola, SARS, and MERS viruses were thought to be the next cause of a worldwide pandemic, but they mutated to less virulent forms, sparing the world once again.

One of the lessons learned is the importance of being diligent in watching for potential viral diseases. This is especially true in a world in which people and goods travel all over the world. Novel human diseases have been known to originate in livestock, and it is one of the potential sources of the coronavirus.³ It could very well be that large-scale, industrially-raised confinement livestock production is the cause of the recent pandemic. The politics of raising such a possibility is highly controversial since the corporations involved are powerful and have their own access to public relations departments which are capable of shaping public and political discourse, deflecting attention away from themselves and their financial interests by placing the blame on small producers or wild animals.⁴ Another important lesson is truth-telling. The purpose of government is to look after the welfare of its people. Truth-telling by governments was compromised in the name of a higher national goal of winning the war during the 1918 Pandemic. We see this compromising of truth-telling in the US for fear of tanking the stock market (which happened anyway). In Japan, the government does not want to test for the virus out of fear of what it will cost or to jeopardize the hosting of the Olympic Games. Part of our humanity dies when the value of human life is reduced to an economic calculation. We learn that we are really on our own in a social Darwinian dog-eat-dog world.

THE INFLEXIBILITY OF LARGE-SCALE FOOD SUPPLY CHAINS

As news began to appear on the internet about the extent of the collapse of the US economy because of the order to self-isolate, I began to speculate what could possibly happen to the global food system. It wasn't more than two weeks later that news began to trickle out about "logistical challenges" to getting food to the market. Sonny Perdue, from the USDA, assured people, "There is plenty of food. There is nothing to worry about." The US government has promised the USDA funding to supply a steady and safe supply of food for the American people. But I am beginning to feel that regardless of how much money is thrown at this problem it may very well not work. The scale of the system is just too big to nimbly pivot to feed local markets all over the country from centralized locations.

The problem that we are facing today is the concentration of ownership and control of food supply chains that function on the basis of pure market principles. Trade laws like the Uruguay Round of GATT opened up the global market for transnational food, grain, and beverage companies to operate without hindrance. Corporations lobbied for harmonization of regulations regarding food safety and toxic residues, packaging, and labeling requirements in accordance with standards of the Codex Alimentarius which they also helped to create. This has allowed global mergers and acquisitions to take place, consolidating market share in various commodities like grains, meat processing, dairy processing, and beverages. And it allowed for the unhindered movement of commodities around the world. Further regional and bi-lateral trade agreement rules weaken member nations' ability to protect their own domestic agriculture, food processing, and marketing. Foreign transnational corporations are to be afforded "national treatment." In other words, they need to be treated as equals, with foreign companies having access to the same contracts and markets. Farmers around the world are left to compete against each other on the supposedly level playing field of the global marketplace which is tipped toward favoring large-scale, capital-intensive farms. Local markets and local or regional processors get swallowed up in such a context. This is historically what had happened in the US when there existed many smaller regional dairy processing plants and small meatpacking plants that served regional markets. When investment rules changed allowing for the inflow of speculative share capital to create new mega processors and livestock production facilities with contractual ties to the mega processors then the family farm-sized operations either shut down voluntarily or they went bankrupt. This was all veiled in the logic of market economics as the farms became inefficient or unable to compete. Most of these new meat processing ventures had contract arrangements with a select group of farmers and they only bought from non-contract farmers when they were unable to acquire their daily processing quota. The "free market" does not exist for small farmers because only a small group of mega processors control the demand.

In meatpacking, Smithfield Foods (Chinese-owned), Tyson, Cargill (privately owned family business), and JBS (USA and Brazil) dominate the global industry. As I mentioned above, farmers are linked (chained) to particular packers and these packers are in turn linked to food service contractors serving domestic and global food service companies and restau-

rant chains. The meat processors and the food services companies are financially powerful links in the global food chain, and they are politically well connected. They help to write the rules for international trade. But what we are finding is that regardless of their political and financial might, the chain can drag the entire food system down. It can be brought to an abrupt halt by a tiny virus.

Chains are about market power and market control. But what happens to a food supply chain when a pandemic strikes? On March 11, Donald Trump announced the closure of all non-essential businesses due to COVID-19. Overnight, demand from restaurants, hotels, and schools dried up as they were forced to close due to the quarantine measures. At the same time, a spike in food demand in grocery stores occurred because people were now eating nearly all of their meals at home. Shortages of supply began to show up in the supermarkets. According to an article in the *New York Times*, dairy farmers are being forced to dump an estimated 14 million liters of milk a day. And many think these numbers will grow. Why is this happening? The specialization of dairy processing plants, which were set up to package large food service-sized bags of cheese or school lunch-sized boxes of milk, are not retooling their packaging lines to make smaller packages for the retail market, so farmers are left with no other choice than to dump their milk. Vegetable growers who have contracts to supply food services and schools are facing the same problem. Package sizes for food services and retail are different. Not knowing how long the shutdown will last makes it difficult for the processors to justify the cost of retooling their lines because financially it may not pay off. So in the meantime milk is going down the drain and vegetables are being plowed under. Some conscientious farmers are taking milk and vegetables to food banks to feed the growing numbers of unemployed people and those who cannot afford to buy food. Food bank usage has more than doubled in the United States since March 11. But food banks are overwhelmed by the demand. To add to the chaos, food banks are not set up to receive large quantities of fresh produce since they have only limited storage facilities for fresh produce. The workforce of food banks is made up of mostly retired volunteers. But their desire to serve people in need comes with great risk since the coronavirus presents serious health risks for those over sixty. Sanderson Farms is destroying 750,000 eggs a week which they would otherwise raise to sell as broilers to restaurants. Since the restaurant closures occurred they made the decision to cease production. "Hatching hundreds of thousands of eggs for the purpose of charity is not a viable option," according to the CFO of Sanderson Farms. "We're set up to sell that chicken." The purpose of the food enterprises is not to feed people but to make money. Decisions are being made every day by corporate food companies of who will be fed and who will not. This pandemic is only making this more clear.

By the end of April outbreaks, the virus and deaths amongst meatpacking workers in the US were exposing fears for the strength of the US food supply chain. A virus cluster outbreak at Smithfield Food's Sioux Falls, South Dakota plant resulted in Smithfield closing down the plant. Smithfield, the world's largest pork processor, processes between 4-5% of the annual US pork consumption at this plant. Three thousand seven hundred people worked at the plant. Farmers will no longer be able to sell hogs and this will have disastrous consequences. Tyson Foods, a major poultry processor, has also shut down plants in the US due to workers

falling ill from the virus. Eight hundred ninety workers out of a workforce of 2,200 tested positive for COVID-19 at a Tyson's pork slaughtering and meat processing plant in Logansport, Indiana forcing it to close due to a lack of workers.⁵ JBS, a Brazilian company with operations in the US, has also had disease outbreaks amongst its workers in its Colorado plant raising questions about the fragility of the US food chain. Many of these plants in the US produce meat for global markets and it is feared that a two-week shutdown will exhaust the meat stocks in storage resulting in shortages of meat in the global supply chain. Farmers are "depopulating their farms" (killing their livestock) because they are unable to process them and the costs for feed make keeping them alive uneconomical. Iowa, the nation's largest pork producer, has asked for federal assistance in euthanizing their livestock. Forty thousand pigs a day from Iowa's farms normally go to meatpacking plants, according to the *Des Moines Register*.

Public relations messaging from corporations who have, up until now, benefitted from the dismantling of a more localized smaller-scale meat production and processing system are attempting to assure a nervous American public that they are doing everything they can so that people will not lose faith in the power of these mega meat processors. President Trump has even gone so far as using the Defense Production Act to mandate that meatpacking plants stay open as a matter "critical to the nation's infrastructure and food supply."⁶

*Given the high concentration of meat and poultry processors in a relatively small number of large facilities, closure of any of these plants could disrupt our food supply and detrimentally impact our hardworking farmers and ranchers.*⁷

(Donald Trump, emphasis mine)

There is nothing "given" about the concentration and control of the meatpacking industry. It is a political reality that has been created over the past few decades by political decisions, the creation of laws and regulations and investment rules based on the logic or ideology of market economics. What we are experiencing is, in economists' language, a market failure—supply is being destroyed while demand for food goes unmet. It is bigger than this. Reading news of farmers killing healthy livestock while people are going hungry is like a gut punch. There is something terribly wrong about this. It has nothing to do with the individual morality of the people involved, many of them I am sure are very good people. It is a belief or faith in the **necessity** of this system as if no other means were possible. That is the problem. It is a failure of the imagination which I want to get back to later.

JAPANESE FOOD SECURITY AND GLOBAL SUPPLY CHAINS AMID THE COVID-19 PANDEMIC

Prime Minister Abe suggested voluntary quarantine rules only after researchers from Hokkaido University found that doing nothing could result in as many as 400,000 deaths in Japan. It appears that up until then the Japanese government, driven by the economic incentives of hosting the Olympics, attempted to play down the significance of the spread of COVID-19 by carrying out minimal amounts of testing. If the virus becomes more wide-

spread within Japan, we all face very significant challenges in moving food from farm to table or from port to table. I do not want to merely speculate to stir up fears. Since the Japanese mass media is not reporting on the breakdown of the global food chain, I felt it was necessary to share what I have gleaned from news reports and from my own research. Again, this is all very fluid. I am writing about these events as they are unfolding in real-time, trying to discern trajectories not knowing if the virus will miraculously subside or whether we will have a second wave this coming fall and winter. As a farmer, I believe one of the things we all can do is plant some seeds and prepare.

Since the country is highly dependent on imported food, the problems that Japan will have in securing food later this year (if trends continue as they are) have both an international and a domestic dimension. First of all international. On the bright side, the Japanese *sôgôshôsha* (総合商社, general trading companies that trade internationally in a comprehensive range of goods) historically have been very good in committing themselves to secure supplies for the Japanese market which defies the way in which most transnational corporations function in the global marketplace. Most transnational corporations do not have that same commitment to a home market. Meat products from American plants do find their way to Japanese markets, so the potential exists for shortages to occur in Japan. Will it be possible to secure from other sources?

A problem that Japanese importers have no control over is the issuance of export bans by various countries. Vietnam issued a temporary export ban on rice. Eurasian countries have banned the export of onions, garlic, turnips, wheat, rice, buckwheat, millet, whole wheat flour, soybeans, and sunflower seeds until June 30. Likewise, a lack of shipping containers is also occurring while containers are piling up in ports around the world due to dockworkers falling ill to the coronavirus. There are reports that containers of refrigerated meat at ports in China could not be unloaded during the peak of the crisis, becoming unavailable for further usage where they are needed. Newspaper reports give numerous examples, but space doesn't allow me to elaborate on them. Illness has also affected ground transportation of containerized food, causing bottlenecks. For Japanese farmers, especially larger-scale farmers in Hokkaidô who use many imported farm machines, parts availability could be an issue since European factories and ports are operating on a limited capacity. I have heard from a private source that domestic soy sauce makers are aggressively seeking contracts for domestic soybeans out of fear of shortages. Foreign workers are not being allowed into the country to work on Japanese farms which could create labor shortages and a reduction in domestic production.

A further spread of COVID-19 could have serious impacts on domestic transport, city wholesale markets, or regional vegetable packing facilities. The food would exist, but it would not be able to get to the consumer. There are many possibilities for the food supply chain to break down due to the move towards larger, more specialized farms and a shift towards national and international markets. Breakdowns in food supply chains is a polite way to speak about the possibility of hunger, the potential for social breakdown, political upheaval, and even death. No politician wants to talk about this and therefore the hope is that infusions of subsidy money and a technical solution can be quickly found to maintain "business as

usual.” We need to be reminded that maintaining “business as usual” is to be propping up a system that, although for the moment is providing people with food, has historically exploited farmers and impoverished our soils. Such a system, ultimately, cannot endure. But how can we break free?

COME OUT FROM EMPIRE

The dominance of economic institutions and ideologies together with the power of science and technology has shrunk our capacity to imagine alternatives to the systems which have come to dominate our lives. It is as if life cannot exist apart from the system. Therefore, economic subsidies or new techniques or technologies are proposed to help prop up the system or even strengthen its domination. The system becomes totalitarian.⁸ The present experience in America in which livestock are being killed while people go hungry is a moral outrage. This should not be happening. It is being justified by saying that the given system cannot economically justify paying for this. Money is more important than life. The fact of food chains now being a global reality can very well become part of our own reality. Matters of who eats and who doesn’t are being handled by political decision-makers governed by economic logic and many are feeling sad about this but are morally paralyzed from being able to act.

It is perhaps not common to hear someone discuss the Bible in relation to economic systems and politics, but for me, the topic of the Bible is politics.⁹ The God of the Bible is concerned with bringing health and wellbeing (translated biblically as peace and salvation) to the lives of all people and all creation. We, however, live in a state of fallenness and for many this is ill-understood. Fallenness is not just the reality of evil in this world but it is “a loss of identity and sense of alienation, as well as a sense of disorientation and of death. This affects all creation, all human beings and all institutions, economic and technological systems guided by many and various political, economic and scientific ideologies.”¹⁰

The problem that we are facing with the food system and the global food chain is not that we have a few bad people that are acting greedily. It is more because, as William Stringfellow points out, we have “morally retarded men” who lack any conscience, men who have been “dehumanized by the powers (governments, bureaucrats, Japanese Agricultural Cooperatives employees, and corporations, to name a few) that they work for.”¹¹ They are incapable of speaking out against the official thinking of the system on which their work depends. Biblical faith acknowledges the existence of the fallenness of the powers and equips people to live as human beings in the world as it is. Contrary to what many people think both within the church and outside, salvation is not an otherworldly hope. It is a hope lived in the presence of oppressive systems and ideologies militantly against the needs of life for all humans and all creation. We need to confront these systems.

Any so-called hope is delusory and false without or apart from the confrontation with the power of death, whatever momentary or circumstantial form that may have. It is a person’s involvement in that crisis *in itself*—whatever the apparent outcome—which is the definitively humanizing experience. Engagement in specific and incessant struggle against

death's rule renders us human. Resistance to death is the only way to live humanly in the midst of the Fall.¹²

Historic first century precedents of exploitation and exploitative food chains are also written about in the biblical record. In the *Book of Revelation*, also known as *The Apocalypse of John*, the author is writing to small Christian communities located in Asia Minor. Apocalypse means *unveiling*, a revealing of the sovereignty of God over all of life. This region was being transformed into large scale Roman latifundia (plantations), growing high-value crops for the city of Rome. Roman tax and land ownership laws favored Roman citizens over the native residents of the conquered territories. This meant that the local people were poor, hungry, and in debt.

Apocalyptic literature is not a foretelling of the future. In symbolic language, it unveils some universal truths which serve as a source of encouragement and hope to those being exploited by unjust systems in the present time. Babylon is to be understood symbolically as a representation of any nation, corporation, or system that demeans human life and exploits the creation for the sake of gaining power or wealth.¹³ In chapter 18, Babylon perceives itself as being indestructible, without rival, and incapable of failure. "In her heart she boasts, 'I sit as queen; I am not a widow, and I will never mourn (7b).'" But systems that do not serve the needs of life fall under God's sovereign judgment. Along with Babylon, all the kings of the earth and all of the merchants of the earth, who grew rich from her excessive luxuries and who joined in her exploitation, will weep and mourn, "Woe! Woe, o great city, o Babylon, city of power! In one hour your doom has come (10, see also 16-17 and 19)!" This literature is not a historic recalling of events nor a prediction of the future. It is literature to encourage believing communities that God is sovereign over the nations.

In the Bible we read that God became a human being in Jesus and that he demonstrated a way of living freely in obedience to God in the midst of an oppressive economic and political system known as the Roman Empire. His nonviolent life threatened the existing political order and he was put to death as a political insurrectionist. Witnesses who saw Jesus alive once again contemplated the meaning of this event and came to understand his resurrection as a victory over the power of death and all powers, rulers, institutions, and authorities who claim dominion over the integrity of human life and all creation.

The end of globalization is not the end of the world. It is the end of a system that is enslaving people and leading the world to death. Never in the history of the world has a pandemic so thoroughly shut down the economy of the whole world. It is a sign to me that the systems of the world are coming under judgment for not doing justice. There is no life, there is no hope, there is no salvation in this system. Therefore an angel calls to the communities on the edge of Empire who are unjustly exploited to, "Come out of her, my people (Rev. 18:4)."

However, we can no more come out of Empire than we can crawl out of our own skin. We remain in Empire, occupying the same territory. But we attempt to live on the fringes of its influence, free from the propaganda that attempts to keep us as slaves. 'Coming out of Babylon' is therefore meant not only in a physical sense but also ideologically—our loyalties are not to the same structures or ideas.

Imagination plays an essential role in discerning the meaning of coming out from

Babylon. In order to imagine new ways of living essentially, our thinking needs to change. We need to commit ourselves to live in right relationships with the people around us and find ways to care for the land that sustains our lives. We need to become aware of how much of our mental space has been occupied with abstract concepts that lull us into not thinking. Concepts like: “the Market” or “Humankind” keep us from thinking of ethical principles of justice and fairness for real human beings. New ways of living are then the way in which our words become flesh. In recognizing the limits of our wisdom and the desire to live with integrity in relationship with others and the earth it is possible to work together to forge more resilient local ways of feeding ourselves, as well as our cities and regions. But this work cannot be accomplished if we do not learn to know and care for our soil which is the foundation of what sustains our lives.

We must begin by giving up any idea that we can bring about these healings without fundamental changes in the way we think and live. We face a choice that is starkly simple: we must change or be changed. If we fail to change for the better, then we will be changed for the worse. We cannot blunder our way into health by the same sad and foolish hopes by which we have blundered into disease.... The aims of productivity, profitability, efficiency, limitless growth, limitless wealth, limitless power, limitless mechanization and automation can enrich and empower the few (for a while) but they will sooner or later ruin us all.¹⁴

BREAKING THE (FOOD) CHAINS OF BABYLON

Earlier in my life, my wife Akiko and I, together with our family and others, ran a Community-Supported Agriculture (CSA) project in which we grew food to feed, what we considered, the Menno Village Family. At our peak, we were growing food for ninety families in Sapporo and some of the smaller surrounding cities. Over the years many government and university researchers came to us and inevitably the question came up: why isn't this idea spreading? I came up with all kinds of reasons, but looking back now, perhaps the time was not right. When I think back to the time in which I helped to organize a CSA pilot project in Winnipeg thirty years ago, a farm crisis was enveloping the rural areas due to the US government's dumping wheat into the global market, driving prices down to a level in which Canadian farmers could not survive. Bankruptcies and farm suicides were a regular part of the news and city people felt helpless in knowing what to do. With the help of journalists, rural development experts, and university researchers, we began to discuss the possibility of a new way of linking farmers and city people in a new partnership that would liberate farmers from the control of decision-makers in Washington DC and the whims of the Market. In four-months time we organized a 200 member CSA and this project was the beginning of shifting the consciousness of the entire city and region towards supporting local farmers and the importance of local and in-season food.

Is now the time for creating a more just, caring, and resilient local food web in Japan? CSAs offer one way to break the global food chain by going directly from farm to table. That chain wants to tie everybody together into a system that, if—or should I say *when*—the system

fails, we all die. This is the system the angel is calling us out of. We can work to organize local food webs that connect people in their localities. Rather than being a part of the global food chain, we can find our identity and hope in God who empowers us by the Holy Spirit to bring people together to live in the right relationships with our fellow human beings and the earth. I believe that now is the time to share together in the task of caring for the soil, caring for our health, and caring for one another. Now is the time to rethink what we eat and how we grow our food. By eating to feed our inner garden, we will be cutting back on the amount of animal products we eat which will give us more land to grow grains and vegetables.

Regenerative no-till vegetable and grain production holds promise in cutting back on energy usage, enhancing soil health and nutrient density of food while sequestering atmospheric carbon, mitigating the problems of climate change. The unveiling of the problems of global food chains is also an opportunity to see food and how we connect with the forces of life in a new way. I want to share a few things about soil and human health before closing with some final words.

HUMAN HEALTH AND SOIL HEALTH

The coronavirus further gives us an opportunity to rethink the relationship between ourselves and nature. We are far more closely connected to the world of nature than most of us can imagine.¹⁵

Although too small to see, the number of microbes that live on us and within us outnumber the cells of the human body. All told, every human being is a living host to a few kilograms of microbes. Without them, life would be impossible. It is estimated that microbes make up over half of the weight of all living things on earth.¹⁶ Their presence in and on living creatures and in the soil make the continuation of life in this world possible. This microscopic world is home to bacterias, fungi, and viruses who freely exchange genes, mutate, and adapt to their environment both within us and all around us. Agricultural policies and the development of high yielding varieties of seeds has encouraged farmers to adopt chemical fertilizers in order to raise yields. Simplified agronomic ecosystems which features crops growing in monoculture dominate the landscape. Monocultures do not exist anywhere in nature. These agricultural methods have resulted in a significant drop in soil organic matter and the population and diversity of life in our soils. Such soils are prone to soil erosion, are less able to absorb rainfall, and are more likely to succumb to insect damage and disease. This kind of approach to agriculture then tempts us to find a solution to the insects and disease by finding some kind of method or chemical to control or kill the particular pest or disease. We do not realize the relationship that exists between the microbes in the soil and the microbes both in us and on us. To attack them is to attack ourselves and others. In this worldview, it is difficult to conceive that pests and disease are a result of impoverishing the soil and the diminishment of microbial diversity. Soils however can be regenerated by the way we farm.

More recent scholarship in soil microbiology confirms what earlier advocates of organic farmers believed but could not prove: soils rich in organic matter are able to protect plants

from disease. Plants secrete root exudates, attracting soil microbes that feed on the sugars and the decaying cells of plant roots. It is believed that 30-40% of the sugars that are captured by plant leaves are released into the soil. With the promise of free food, a wide diversity of bacterias and mycorrhizal fungi surround the plant root transforming the exudates into nutrients for the plant while at the same time providing a protective barrier from disease. Nature does not work on the basis of “just in time” supply chains for nutrients. Instead, a resilient nature can only function where there are abundant soil carbon reserves keeping bacteria well-fed. The result is a steady supply of balanced nutrition for plants that also helps to protect plants from disease. A side benefit to “carbon farming” is that atmospheric carbon is being fixed and stored, mitigating the problems of climate change.

Modern farming methods promote monocultures that are dependent on additional outside sources of nutrients and various chemicals to protect plants from insects and disease. It is an agriculture that has created an addiction to chemicals. Farmers cannot do without them. Global corporations, through advertising, are shifting the dietary habits of people around the world. Some refer to this as “McDonaldization.” My point is not to bemoan corporate profits and corporate hegemony—but that we are losing biodiversity within ourselves. Just like our soils, the diversity and the population of microbes within those who are adopting this diet are declining. Scientists are now finding a significant link between chronic diseases and intestinal bacterial health. They find that perhaps our approach to eating needs to change, which is more in line with the thinking of organic farmers. Conventional agriculture’s approach to plant nutrition is to feed the plant whereas organic farmers think about feeding the microbes in the soil which in turn feeds the plant. Rather than thinking, “I would like to eat a pizza tonight,” we need to think of what the microbes within us want to eat who will, in turn, supply us with nutrition. Providing the microbes within us with the complex carbohydrates they thrive on (think about eating as mulching your inner garden) also helps to protect the body from disease. To give an idea of what mulching the inner garden would look like, think of a dinner plate that was divided into three sections that looked like a half of a peace sign. In one half of the plate would be vegetables and fruits. In the upper third of the other side would be proteins made up of beans and nuts with some sources of animal protein (only not too much). The small lower triangle would be for unprocessed whole grains like brown rice or whole-grain floured breads. This thinking about diet is encouraging and is actually good news in the face of the COVID-19 crisis. By changing our diet we can strengthen our immune system and a shift to less dependence on animal proteins will reduce our dependence on imports from a global supply chain that is teetering on collapse.

FINAL WORDS

In concluding, I want to circle back to the question, “Will post-plague life be a return to normal or a new beginning?” Japan, for the most part, has been spared the dire consequences of the systemic problems in the global food supply chain. Japanese corporations have cash surpluses on hand of 484,000,000,000,000 (484 trillion) yen at the end of March of this

year, which is the equivalent of 89% of Japan's annual GDP.¹⁷ These are profits earned from domestic and international business. Because of these huge cash reserves they have been able to shield the Japanese public from swings in the global market. The idea of promoting global supply chains by the powerful is to force the powerless into dependence on the system through debt creation. The language used is that of "helping" other nations or "providing aid," or even promoting "sustainable development". Japanese corporations and the Japanese government are no different from other countries in this respect. But what we have learned from the experience that unfolded in the United States is that money alone cannot, and has not, fixed the system. The system was incapable of connecting farms with processors and consumers, resulting in farmers having to kill their livestock, dump their milk, and plow under their crops because immigrant workers in the processing plants were sick and dying or the packing plants' package sizes were wrong for the retail market. Fifty-four million people were using food banks to meet their food needs, and this is in the supposedly richest nation in the world. The pandemic has exposed the system and revealed to us the vulnerability of the global food system. I want to repeat what I said earlier: This is the first time in history that the entire global economy has been shut down. This is the result of the global interdependence of supply chains, the high mobility of human beings, and the highly contagious nature of the coronavirus. This is a moment in which I have been shaken to see this system for what it is. As a Christian, I am called to go to those places where the powers of death in the food supply chain are at work, with the hope that the power of God's love will open people's hearts to choose to be part of a community of reconciliation and new life for all people and all creation, amid a system that resists change and is, in fact, in love with death.

There are a number of concepts and ideas that are being discussed in light of the problems of global food chains and the coronavirus. Resilience, is one such concept. It is defined by the FAO as:

the ability to prevent disasters and crises as well as to anticipate, absorb, accommodate or recover from them in a timely, efficient and sustainable manner. This includes protecting, restoring and improving livelihood systems in the face of threats that impact agriculture, nutrition, food security and food safety.¹⁸

Introducing food circles or circles of conviviality where food is rightfully embedded in relationships with both people and place, diversifying sources of food, and then local food markets, like CSAs that supply people with seasonal produce, may be the kind of networks needed to connect farmers in a region with eaters in the cities. These small efforts need to be scaled up to promote a *nation of local networks*. These networks will not only be for supplying food but they can also be educational networks and social support networks. For example, we can learn more about how nature works, the skills of growing food, living in the right relationship with *place*, and we can learn social skills in organizing, listening, and cooperation.

Systems can unexpectedly collapse. A little over thirty years ago totalitarian governments came down; the most symbolic was the fall of the Berlin Wall. In 2011, nuclear reactors in Fukushima failed. Now, global food chains are failing and it is uncertain what will happen in Japan. Our hope is in knowing God's love for each one of us and the whole of creation. It is God who loves us and sustains the world. It is God who stands above the powers at work in

this world bringing down systems and opening up opportunities for new beginnings. To care and to selflessly love is not the exclusive ability of a narrow sect. Whenever or wherever love for others is being expressed, wherever and whenever land is being lovingly cared for, and wherever and whenever justice is being done, there God is. There, in the struggle, we discover our humanity and chains, even those of an oppressive global food chain, are broken.

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New Plots Towards Disruption: Small Farmer Fissures

SUE HALL PYKE

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I acknowledge that this essay was written on
unceded Eastern Maar Country and Wurundjeri Country.

INTRODUCTION

Farming must fundamentally change over the next ten years, if humans are to flourish for future generations. Our species, like most other species in this world, thrive with nourishing food, fresh air and unpolluted water. For many decades, intensive farming has been reducing food's nutritional value, significantly contributing to greenhouse gases and toxifying waterways. In the continent now known as Australia, a shift to regenerative agriculture, led by Indigenous knowledges, and accompanied by consumer migrations to plant-focused food consumption, offers an alternative to health-threatening agricultural modes that are contributing to the precarious escalation of climate damage.

I lay no claim to practical expertise as I make this argument. A mortgage over five acres of rocky rural land, and a city rental with a parking space called a courtyard does not qualify me as a farmer. Rather, the impetus behind this paper is my commitment to reparations for the harm done by the settler¹ farmers in my family.

My advocacy for a disruptive change to farming is driven by this cultural knowledge. It is further informed by my academic work in literary studies and ethnography, and a decade spent leading research for a government body focused on building sustainable futures. This experience gives me hope for differently organised farming processes, even as I am aware of the enormity of this challenge.

ADAPTIVE FARMING AND CULTURAL REVITALISATION

As I cannot hold myself up as an exemplary farmer of influence, actively collaborating with local expertise in Indigenous farming practices, my argument begins with the expertise of Uncle Bruce Pascoe, a writer who identifies as a Tasmanian, Bunurong and Yuin man. Pascoe

is working with his Yuin community to create a 'resurgence' in the grains that kept his Indigenous ancestors in health, while benefiting the region's soil and waterways.² Pascoe is a well-recognised leader of arguments for farming practices that return to the long-established 'code for sustainable living' developed by his Indigenous community, and many other communities throughout Australia.³ These practices include fire management, tilling, composting and terracing.⁴ Revitalising these practices, Pascoe argues, is what this continent's vibrant topsoil desperately needs.⁵ Drifting topsoil has been of concern to Australian soil scientists focused on pastoral productivity for nearly three decades.⁶ Action that mitigates this concern is urgently needed.

Indigenous crops, most particularly, 'tubers and fruits', are at the core of Pascoe's vision.⁷ This mode of 'regenerative agriculture' fits with the definition provided by the Melbourne Sustainable Society Institute: farming that can 'reduce emissions while improving soil health, supporting climate adaptation and improving ecosystems, landscapes and the health of farmers and communities'.⁸ Pascoe is collaborating with the University of Melbourne's Faculty of Veterinary and Agricultural Sciences to further this vision.

Pascoe's focus is moving to the mainstream, joining Charles Massy's leading voice for regenerative agriculture in Australia. Massy, a settler farmer and social scientist, made the decision to adopt regenerative farming at a personal crisis point, when the conventional farming methods followed by his family for five generations were no longer possible due to pasture desertification. Drawing on decades of research, Massy argues for 'a new kind of agriculture', recognizing that this requires 'a new kind of society'.⁹

Massy respects the work of Indigenous communities as 'carers, nurturers and skilful managers of vast complexes of country', and, in contrast, describes conventional farming as 'exploitative'.¹⁰ However, even as he advocates for Indigenous ground cover that attracts pest-managing birds and spiders, Massy continues to work the land he occupies without noting any engagement with the Indigenous cultural farming practices of the sovereign owners of this territory.¹¹ Perhaps the sixth generation of Massy farmers might be open to a vision that includes the Indigenous people whose land is being regenerated according to the terms of settlers who occupy their Country.¹² Perhaps my children might do the same with my tightly-held five acres.

The healing potential of Indigenous sovereignty is partially evidenced in 'cultural burning', an important aspect of Indigenous regenerative farming. Cultural burning is a complex and continuing practice, performed at specific times of the year, to meet social, spiritual and ecological needs. The practice is differently enacted from place to place and from time to time, and is always governed by ancestral connections and eons-old scientific knowledge passed through a system of eldership.¹³ Each 'Right Fire' must account for intricate factors, such as animal breeding and plant pollination. Cultural burns are very different to wildfires. The flames are no higher than thirty centimetres, with enough heat to generate seeds while not harming canopies and ancestral trees.¹⁴ It is vital for food production. As one fire Elder puts it, speaking with Tagalaka Country in the region known as North Queensland, 'Fire promotes yam production, [it's] like a warm blanket'.¹⁵ Nurturing and controlling fire are cultural obligations for the First Peoples of this continent, and in this context, lighting a fire is a sacred and healing act.

This farming method gained mainstream attention after Australia's disastrous fires in early 2020. According to white settler and cultural historian Tom Griffiths, the only way to mitigate the risk of these 'hot fires' is to learn the 'fine-grained, local language of fire' that has been 'developed over millennia.'¹⁶ As Griffiths argues, the stakes are high, not only for pastoralists, but for global populations, as current wildfire accelerates the 'spiralling, accelerating fireball of change' increasingly referred to as a climate emergency.¹⁷

Some government departments, including the Victorian Government's Department of Environment, Land, Water and Planning (DELWP), are beginning to consider the environmental benefits of cultural burning to control and manage bushfires. The Victorian Traditional Owner Cultural Fire Strategy, launched in 2019, was funded by DELWP, led by the Federation of Victorian Traditional Owner Corporations, and developed in partnership with Parks Victoria and the Country Fire Authority (CFA).

This cultural burning strategy outlines an 'adaptive management approach' that will transition, over ten years, to a mode of farming where Indigenous Country is able 'to respond properly to cultural burning' after decades of ineffective fuel reduction burning.¹⁸ Adaptive management, or 'learning by doing', involves a structured experimental approach that is monitored for continuous improvement.¹⁹ The communities of practice formed by Indigenous fire Elders, who are learning from each other so they might better 'adapt the thresholds and indicators for right fire', are practicing adaptive management in a way that specifically meets their cultural needs.²⁰ These Indigenous communities describe their attentive cultural work as 'Reading Country'.²¹ This readiness to test, learn and adapt, building on ancestral knowledges attuned to working with change in the environment, has always been fundamental to building Indigenous knowledges. Government systems for adaptive management are different but, as the cultural burning strategy indicates, there are relations enough for productive partnerships.

During my work in the governmental sector, I was involved in the implementation of a strategic vision that incorporated a degree of adaptive management. Led by objectives, adaptive management turns decisions into experiments, seeking to find the 'most effective' procedures to achieve specified outcomes.²² The work of a senior advisor to state and federal Australian agencies, settler social scientist Brian Head, was significant in the planning for this work. Head, together with settler public administration expert John Alford, argues that complex governmental programs prosper with an adaptive management approach. However, as Head and Alford explain, this approach needs careful communications between funding bodies, project managers and stakeholders, based on collaborative 'trust and mutual commitment'.²³ Building trusting and committed communications take time. This means that in the case of revitalising Indigenous foodways, a bipartisan approach is required.²⁴

Head goes on to argue, with Chinese social scientist Wei-Ning Xiang, that adaptive management approaches are most useful for policy responses to 'wicked problems', which they define as complex challenges that involve stakeholders with contesting approaches in an uncertain environment. The question of Indigenous food production in the global context of rapid climate change, and the regional context of sovereignty disputes, certainly involves such complexities.

For example, as the cultural burning strategy makes clear, while Indigenous communities are committed to implementing this practice, they maintain that cultural burning must

be adopted alongside other cultural agricultural practices, in line with Indigenous knowledge sovereignty. However, implementing a holistic Indigenous agricultural model, in a political environment marked by ongoing government refusals to consider Indigenous sovereign rights, is no small task. It is not enough to simply employ Indigenous community members to practice their community's method of land management. As the cultural burning strategy points out, some Indigenous communities prefer to perform cultural burning without their over-stretched members being bound to a government agency's workforce.

Such intricacies illustrate Head and Xiang's argument that 'wicked problems' need a 'panoramic social lens rather than a scientific microscope'.²⁵ An adaptive management approach leaves room to develop such viewpoints over time. The willingness of the Victorian government and the Indigenous stakeholders involved to move together where they can, while working to mediate their different cultural standpoints, avoids impasse. Culturally-managed agricultural fires are now being conducted on 'Aboriginal freehold land or private land (with permission of landholders)' as well as on local council-owned land, with CFA involvement.²⁶ Potentially intractable obstacles become learnings along the experimental pathway.

This example shows the possibilities of adaptive management to make room for deep changes in the agricultural sector, the kind of changes needed to mitigate the damage of accelerating greenhouse gases. Wildfires, water toxicity and water shortages reveal structural problems in the long-term extractive land use suffered by Indigenous Country in this region since colonisation.²⁷ A revitalised focus on Indigenous grains, legumes and fruits offer a healing way forward.

A TRUCE IN THE HUMAN WAR AGAINST OTHER CREATURES

In the last ten years, a wealth of scientific literature has outlined the greenhouse gas reductions made possible through reduced consumption of animal products. Australian government accounts show 'livestock emissions' are responsible for at least a tenth of Australia's greenhouse gas emissions.²⁸ In a study led by Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO), beef production is calculated as the biggest agricultural contributor to greenhouse gas emissions.

While conservative institutional perspectives tilt towards 'technical and management interventions', particularly carbon sequestration, and an 'intensification' of 'livestock systems', this is not the only way forward.²⁹ As research led by UK veterinary scientist Pol Llonch makes clear, mitigation measures based on intensification of mainstream agricultural practices need to be 'quantified and contrasted', taking into account the full range of sustainability measures, including animal welfare benefits or deficiencies.³⁰ It might therefore be simpler to address the need to orient Australia's agricultural focus away from meat production.

CSIRO acknowledges the potential for shifts in food crops, envisaging change driven through 'consumer preferences or via stringent climate policies and emissions pricing'.³¹ As was demonstrated in 2020, a time of unprecedented crisis, consumer habits can literally

change overnight, when driven by government regulation. However, the Australian government is unlikely to have the political will to drive such a change without global precedent.

As well as these policy barriers, plant-focused farming is yet to become a feature of regenerative agriculture. In fact, permaculture processes assume the use of animals. Massy does not consider, at any depth, a move from animal agriculture, dismissing this question as 'complicated' with 'vested interests and opposing world views' at play.³² This statement obscures the vested economic interests of large scale meat producing farmers and the hegemonic world view that accompanies this perspective. That is, while I question the right to use sheep and cattle as unpaid agents for soil regeneration, and point to the welfare considerations at play when creatures are held in tightly constricted areas to manure and till the soil for human use, in the governmental, pastoralist and academic commentary that considers the methods popularised by Massy, there is little questioning of this method.

A plant-focused future is also not a given in the revitalisation of Indigenous regenerative farming. Mi'kmaq anthropologist Margaret Robinson suggests this is related to a perception in some of these communities that a plant-based diet is a turn away from culture. Robinson's counter-argument is that her community's stories ask humans to go 'gently' alongside their animal others.³³ Māori literary studies scholar Kirsty Dunn concurs, pointing out that her community's 'knowledges and practices' that relate to other species are less about 'meat consumption and animal exploitation' than 'connectedness'.³⁴ Dunn's choice of a plant-based diet is, she writes, informed by – not constrained by – the cultural knowledge present in her '*whakapapa* connections to Te Rarawa and Te Aupōuri'.³⁵

Robinson and Dunn are making arguments at the margins of Indigenous regenerative agriculture, but they do offer an allowance to consider Indigenous, plant-focused agriculture as a possible way forward. Their arguments are supported by the Indigenous communities' leading conservationist thinking in new directions when it comes to working with animals that the dominant culture consider 'pests' (for example, donkeys, pigs, buffalos and camels).³⁶ Thinking outside Western animal agricultural methods is not, in any way, new for these communities.

BEYOND RURAL/URBAN DIVIDES

The potential for the agricultural sector to incorporate Indigenous farming practices, supported by policy recognition of Indigenous sovereignty, and emphasising the climate-appropriateness of Indigenous plant-focused crops, is not only a rural story. Regenerative farming is not limited by geography or magnitude. It can apply to city backyards, balconies and rooftops, as much as to rural land.

Urban food production is well situated to adopt new modes of sustainable farming, and urban communities are a strong force in building this capability. Indeed, as North American settler urbanist geographer Nathan McClintock writes, 'urban agriculture' is replacing 'community gardening' in many conversations.³⁷ This shift in nomenclature is not to occlude the fact that, as Mumbai science educators Deborah Dutta and Sunjay Chandrasekharan note, it is the community orientation of urban agriculture that is the 'strength of the practice'.³⁸ What this

shift in terminologies suggests is a new orientation towards 'food communities', rather than privileged individual consumers. For example, in Melbourne/Naarm the CERES Community Environment Park is demonstrating a food economy that is able to 'reduce energy use and carbon emissions, reduce packaging, processing and refrigeration, increase diversity, increase food security and create employment'.³⁹ Importantly for my argument here, CERES is working in partnership with the Wurundjeri Bushfood Growing Project as part of their commitment to a sustainable future.⁴⁰ The Wurundjeri community is also practicing cultural burning through their settler-occupied Country in parkland managed by local government councils who are seeking alternative fire management solutions.

Green roofing projects, a key development in the worldwide sustainability movement, are also a growing focus for councils in Melbourne/Naarm. Some of these projects are now including Indigenous plants and planting methods.⁴¹ These projects demonstrate the potential for urban agriculture to turn from water-dependent European fruit trees and vegetables to more climate-appropriate crops, such as quandongs, murnongs (or yam daisies) and finger limes.

Composting is part of this story of a shift to urban farming. Landfilling organic products results in volatile greenhouse gases emissions. In contrast, composting food waste creates and regenerates soil, and it does this most effectively when plant-based. Governments have been working in the organics recovery sector for some years, but mostly with a focus on market gardens, vineyards and crop farms with 'large tracts of land'.⁴² A significant barrier is the prohibitive cost of transporting organic matter from urban areas to rural areas.⁴³ This issue is alleviated when composting occurs close to where the waste is produced. Further to this point, pilot testing of organics recovery processes have had problems with 'product quality assurance' as not all waste providers are able to rigorously exclude poisons, glass or other hazardous materials in the waste they offer for collection.⁴⁴ This is not such a risk when the community creating the compost is also eating the food it produces.

Upscaling these solutions needs more than community support and a positive policy environment. A long lead time is also needed. As Mumbai/Canadian social scientist Vanmala Hiranandani notes that it took ten years for Cuba to shift from a 'high-input, non-sustainable monoculture to a diversified, organic and sustainable model'.⁴⁵ As the cultural burning strategy points out, a decade can create a world that relates in a very different way.

The community advocacy necessary to push political will towards this future includes the demands of nonhuman creatures. Settler visual artist Paul Allatson and settler geographer Andrea Connor are working together to describe the increasingly visible presence of the ibis in Sydney, depicting these avian migrants as 'refugees from drought and environmental degradation'.⁴⁶ Ibis are one of the many nonhuman species who are radically adapting to life in urban environments as a matter of survival.⁴⁷ The requirements of these new community members, sharing human-dominated urban spaces as a result of exponential habitat loss, furthers the need for significant food policy change.

Leaders in multi-species design are taking note. Settler and architectural scholar Stanislav Roudavski, responding to creatures like the ibis, who represent a 'biosphere in crisis', is testing 'prosthetic habitats' to bridge nonhumans into a prospering future, arguing that humans must accommodate nonhuman needs for a healthy, functioning ecology.⁴⁸ Such

developments might helpfully inform farming practices that, even at their most progressive, are locked into patterns of exploitative harvests that use other animals without considering their rights or their requirements just to live.⁴⁹

CONCLUSION

The opportunities in farming this continent differently are being made clear by Indigenous knowledges. Pascoe's research debunks settler Australian myths of agribusiness as a solution for deeply degraded land, offering a counter-narrative of healing under germinal production practices that do not involve intensive animal agriculture. The innovative insights of Dunn and Robinson suggest that intensive animal use does not need to be a part of this endeavour. Indigenous Australians have farmed regeneratively for many thousands of years, using methods such as cultural burning, without exploiting the other animals who are part of their community. A revitalisation of such knowledges has the potential to sit well with aspects of Massy's progressive permaculture agronomics. This is relevant to urban, as well as rural farming projects. As urban understandings about the work involved in food production meet the efforts of rural work to meet market demand, humans and other animals might begin to interact with food sources in healthier and more sustainable ways.

I take hope from the range of experimental pilots informing governmental work with the 'wicked problem' of producing food in ways that do not escalate climate damage and am advocating here for changes in rural and urban farming that consider the needs of animal others. Emergent sustainable farming practices are underway, and ready for mainstream adoption. The lifestyle changes experienced in 2020's crisis-driven pandemic management demonstrate that a different but liveable future is only a disruption away.⁵⁰ A shift to sustainable plant-based food production in the city and the country, centralising Indigenous regenerative farming methods that make allowances for all creatures as kin, can advance climate change mitigation in a radical way.

Urban and rural farmers are moving towards such a change, as the crisis in conventional farming is felt through the windswept topsoil and smoke haze throughout this continent and seen in the parched waterways around the Murray-Darling Basin. There are fissuring pathways into a sustainable future that resist mainstream profit-driven modes of conventional farming. These shifts are not impractical. In a time of climate emergency, it is the status quo that makes no sense.

I am one of an increasing number of people in this continent being educated through our bodies to seek ways to avoid a future that is literally unpalatable. We hear this narrative in the language of extreme fires, desert-like farming land and the migrations of creatures such as the Australian white ibis. This learning leads me towards a path that seeks to redress ecological disfunction. It is time to repay colonialist loans against a foreclosing future. For this to happen, farmers in both rural and urban regions need substantial funding, so they might grow differently-prioritised food, following Indigenous regenerative farming practices. This should be a national priority.

NOTES

1. 'Settler' is a general term used to denote the ancestry of non-Indigenous people who inhabit colonized territories. The term was theoretically situated by settler historian Patrick Wolfe (Carey and Silverstein, 2020 p. 4). As settler political scientist Sarah Maddison writes, this 'diverse and multi-ethnic group' represents the history of white colonialist privilege (2019, xiii). Amplifying the argument of Potawatomi environmentalist and political theorist Kyle Powys Whyte, Maddison notes that the dispossession of Indigenous peoples is a requirement for settler privilege, and 'thinking of ourselves more consciously as settlers may give us pause to consider how it is that we can feel at home on the homelands of others' (xiv).
2. Allam, Lorena and Isabella Moore, n.p.
3. Pascoe, Fletcher, and Cumpston, 2020.
4. Pascoe, 22-23.
5. Pascoe, Fletcher, and Cumpston, 2020.
6. Pickup, Geoff, p. 54.
7. University of Melbourne, 2 September 2020.
8. Melbourne Sustainable Society Institute.
9. ABC, 28:17.
10. Massy, p. 28.
11. The term 'sovereignty' is contested. Gomoro political scientist Nicki Moodie speaks of sovereignty in terms of recapitalisation. A more common term is repatriation, or, for those pushing against patriarchal terminology, rematriation (see Tuck).
12. The term 'Country' has been 'adopted by Aboriginal people [to refer] to their traditional land estates inherited from their forebears as a matter of custom and according to traditional land tenure laws of each people or society.' (Langton et al, 2017, n.p.). I use the term 'Indigenous Country' to signal my non-Indigenous speaking position when not referring to a specific territory.
13. Victorian Traditional Owner Cultural Fire Knowledge Group, p. 8 and p. 13.
14. Victorian Traditional Owner Cultural Fire Knowledge Group, p. 18.
15. Victorian Traditional Owner Cultural Fire Knowledge Group, p. 19.
16. Tom Griffiths. "Savage Summer."
17. Tom Griffiths. "Savage Summer."
18. Victorian Traditional Owner Cultural Fire Knowledge Group, p. 14 and p. 16.
19. The New South Wales Government's Office of Environment and Heritage is leading in this area (New South Wales Government 2018, n. p.).
20. Victorian Traditional Owner Cultural Fire Knowledge Group, p. 14.
21. Victorian Traditional Owner Cultural Fire Knowledge Group, p. 14.
22. New South Wales Government 2018, n. p.).
23. Head and Alford, p. 721.
24. I have observed, with much interest, a very interesting elaboration of the adaptive management approach in the work of the not-for-profit organisation Bridging Lanka (Bridging Lanka ND). This project is currently a key focus for a project investigating resilience and 'inclusive urban governance' (Mulligan and Moloney, 2016).
25. Head and Xiang, p. 4.
26. Victorian Traditional Owner Cultural Fire Knowledge Group, p. 15.
27. This is not limited to Australia. As illustrated by the documentary *Gather*, which traces the stories of the White Mountain Apache Nation (Arizona), the Cheyenne River Sioux Nation (South Dakota), and the Yurok Nation (Northern California), this is an international movement. (2020)
28. Australian Government. "Livestock."
29. Herrero et al, p. 452.
30. Llonch et al, p. 283.
31. Herrero et al, p. 456.
32. Massy, p. 405.
33. Robinson, p. 192.
34. Dunn, pp. 47-48 and Dunn, p. 44.
35. Dunn, pp. 47-48 and p. 44. This complex term, '*whakapapa*' is a Māori-based genealogical concept that 'links all animate and inanimate, known and unknown phenomena in the terrestrial and spiritual worlds' (Taonui 2015).
36. See Bowman and Robinson, Celermajer and Wallach, Collier et al, Ens et al and Koichi et al.
37. McClintock, p. 192.
38. Dutta and Chandrasekharan, p. 1196.
39. CERES 2020, n.p.
40. CERES 2019, n.p. As Indigenous studies scholar Paora Tapsell argues, from his Te Arawa perspective, a 'lighthouse of understanding' is needed, a 'Pou Mārama' that allows for government engagement with Māori farming practices to shift how farm produce is managed and harvested. This does not involve governments appropriating these practices and nor does it mean wholly plant-based approaches are expected. Rather, governments and non-Indigenous communities need to listen to and follow the advice of the Indigenous leaders who have deep knowledge of caring for their ancestral lands.
41. Mata et al, 2020.
42. Sustainability Victoria, p. 32.
43. Sustainability Victoria, p. 32.
44. Sustainability Victoria, p. 32.
45. Hiranandani, p. 770.
46. Allatson and Connor, p. 384.
47. Ritzel and Gallop, 8.
48. Roudavski, p. 734. Roudavski is designing spaces for all urban creatures as part of his work to respond to the relationship between human-centred ways of living that have led to the 'planetary crisis' that threatens the next human generation (p. 732).
49. For settler Australian and political scientist Dinesh Wadiwel, a truce on animal use might be the best way forward. Wadiwel asks if humans are ready to surrender the human sovereignty inscribed upon the bodies of animals whose territory has been taken. Following Wadiwel's lead, I suggest the time is right for a truce on animal use through a move towards plant-focused food production (see Wadiwel p. 276).
50. Humans can survive in the face of near-extinction, as this country's First Nations people showed when their lives were invaded by disease and violence more than two-hundred years ago. While such circumstances should never be replicated, these communities' resilience offers hope at a slant.

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生きたモノに囲まれて暮らす

ネパールから

藤井 牧人

筆者は2004年アジア学院卒業後、同じ2004年卒業生で妻のティルクマリ・ブン（以下ティルさん）と、2010年からネパールで肩書のない一農民として暮らしている。手がまわりかねても急ぎのないペースで、ここでのありふれた日常に浸っている。土地の人と同じ作物、家畜、樹木を育て、同じように採算の合わない、同じような小農を営んでいる。本稿はそこから見える風景にこだわり、その立ち位置から見える、その在地と結びついた小農の営みとはどういうものであるかを考える。

土に生きる未来学の「土」がある場所

ネパールから一時帰国した際、私の楽しみは京都の中山間地域¹、南丹市日吉町の胡麻^{ごま}にある生産者グループ、（有）アグロス胡麻郷の代表、橋本昭さんにお会いすることである。グループの若者と深夜まで農業について、葉撒いたか撒いてないか、進んでいるか遅れているか、とは異なるところの話を聞くことである。中でも駅へ見送りいただいた時、車中で聞いた話から始めたい。

昔、「胡麻でグリーンツーリズムについて京都から先生が来られ講演を聞く集会があった」とのこと。ちなみに田舎で言うところの先生というのは、学校や病院の先生だけを意味するのではないと思われる。守田志郎（農業経済学者）の言葉を借りるならば、田舎をより良くするために、都会で決まったことを田舎に持ち込もうとする人も先生と呼ぶらしい。そしてその講演は恐らく1990年代前半と考えられる。当時、自然を求めている都市住民に緑豊かな農山村がレクリエーションを提供する、農業体験サービスを提供する。そうすることが農村の活性化にもつながる。新しい時代の成長産業であると、そんな類の話だったであろうと推測される。

さて「何かが違うような」と思いつつ、橋本さんも参加された。ところが意外なことに田舎の農家、じいちゃんばあちゃんらは目を輝かせながら、何度もうなずきながらその講演をのめり込むように聞き入っていたようだ。そして講演が終わった後、みんなで食事に行くと今度は、みな口々に「うーんグリーンツーリズムなあ」「あんなん言うておましたけれどもなあ」と。歯切れの悪いことを言い出すので、橋本さんは「せやけどあんさん、何回もうなずいておましたやないですか？」と、問い返したようだ。そしたら「いやいや違いまんがな」と。「あれはこう、飛んで来るのが、突き刺さらんよう、よけながら聞いたったんですよ」と。よけるために何度も深々とうなずきながら、講演を聞いておったという。

現在、日本では“そんな”農家はあまり見かけなくなった。ネパールでも少なくなって来たかもしれない。しかし、まだまだそんな農家農村があるのではないかと。そんな会話を橋本さんと交わして車を降りた。

グリーンツーリズムがどうかという理論展開を越えて、日本もネパールもあれだこれだと小さな農山村に上からというか、中央というか、都市というか、とにかく外から。新しいご要望がどんどん浸透して来る時代となった。だけど、そんなご要望を聞いているようで、ただ聞いているだけのような。外

からのもくろみを聞いていない(効いていない)ような。そうやって、計画的でも意識的でもないが“何かを拒む”人たちがいる。その何かとは、例えていうなら「ある単一のある決まった方向の流れ」と表現したい。

土に生きる未来学の「土」とは、そんな何かを拒む人たちの生活現場の土とつながらなければいけないのではなからうか。

カファルダンダ村への道

マガル人の一氏族集団ブン・マガルのティルさんが平地へ移住前、幼少期を過ごしたブン・マガルの故地、ミャグディ郡カファルダンダ村に私は通っている。郡庁のあるベニから山道を登り、深い谷筋からきつい崖道を歩いた先、標高 2000 メートル近くにカファルダンダ村がある。村周辺の一定領域が妻と地縁血縁関係にあたるが、付き合いの深い家を訪ねては、健康、家族、農作業のことを聞く。

村への道中、いろんな人に会う。例えば、初等教育の修了証書をもらいにベニへ行ったおばさん。息子が骨折したが村では簡単な処置しかできないため、ベニの病院に滞在していた親子。都市ポカラに住む娘に頼まれて、ダカヨと呼ぶ森林に自生する植物(サトイモ科テンナンショウ属)の茎葉の発酵乾燥野菜を担ぐ母親。吊り橋を渡り、共同の水場で休憩していると放牧中の水牛がやって来る。水場には通りがかりの水牛も水が飲めるよう、水溜めが備えてあった。道中、路傍の木陰に湧水を割石の囲いで溜めた場所もある。その上側には古い祠が見える、これは水神様である。険しい崖道には、妻の祖母の追悼に義父らが割石を運び造った素朴な石積みのピサウニ(休憩場)がある。通りがかる時は草花を摘み供え、ナマステと手を合わせる。山道には、石畳の道やヒマラヤ桜の木陰に石積みのピサウニがいくつもある。こうした道行く人を思いやる場所は、ここに住む人らが故人を偲んで寄進したものである。地元の人は、その一つ一つが誰の意志で造られたのか知っている。

この道沿いの切り立った崖と崖下の地所名を“マハビル”と呼ぶ。マハとはハチミツ、ビルは崖で直訳すると“ハチミツの崖”を意味する。ここは昔、ハチミツ採集を生業としたブン・マガルに伝承される、祖先神パルパキエーの神話の舞台となった崖である。

神話によると、パルパキエーがハチミツを採りに縄梯子を伝いマハビルに登った時、崖下で縄梯子が切られ地上へ戻れなくなった。――岩穴でハチミツを食べて飢えをしのいでいたある日。鷹の巢の雛を襲おうとしていた蛇を追い払って雛を助けた。そこへ戻って来た鷹が恩返しにパルパキエーを翼に乗せて地上へ降ろすという。それは不可能であろうとパルパキエーが断ると、鷹は巨大な岩を担いで見せ不可能でないと実証して見せた。――かくして鷹はパルパキエーを乗せ地上へと飛び立った。ティルさんから聞いた神話のほんの一場面である。この神話、ブン・マガルの先祖儀礼で祈祷師の唄に載せて語られる。文字を持たない時代から、口頭伝承されて来たパルパキエーの神話。人と動物が闘い、会話を交わし、助け合っているあたりに、自然と向き合ってきたここでの暮らしの一端が見えて来る。

尾根筋にさしかかると学校がある。寒季は教室を出て日向に座り、あちらこちらで授業をする。ある時、一人の先生が「お元気ですか」と声をかけてくださった。先生の横には、布を敷詰めた竹編の穀物カゴがあり、カゴの中に赤ん坊が寝ていた。先生は1年生に算数を教えながら子守りをして授乳もする。生徒らは授業を受けながら子守りをする。

いつも最初に泊めてもらうのはチェマ(義伯母)の家。2年前訪ねた時、チェマは14匹のヤギを飼っていた。家の中は寝床を確保するのがやっとなくらい、床にかぼちゃが20個転がっていて、6つある背負いカゴには隼人瓜と新芽が伸びた播種期のジャガイモ。天井には、収穫したトウモロコシが吊るされてあった。片隅にワラで編んだ新しいムシロもあって、聞けば米が獲れる地域の人とジャガイモを交換して手に入れたという。夕食が済むとチェマは石臼でトウモロコシをひき、かぼちゃを割いては薪をく

べて煮込む。明日、ヤギに与える“朝食”である。

カファルダンダ村への道すがら、私は人に会い、水牛に会い、先祖に会った。ひっそりとした山中には、生きたモノに囲まれた生活世界があった。

牛飼いかかを訪ねる

カファルダンダ村の隣、パチャン村の牛飼いかか（義叔父）を訪ねた。かかは暑季、涼しい標高 3200 メートルのブンヒル近辺の林野で、ありあわせの素材で作った仮住まい、ゴートで寝泊りしながら水牛を放牧して過ごす。そして搾った牛乳を近くのトレッキングルートの中継地グレパニのロッジに売る。寒季は、寒さに弱い水牛を連れて村へ戻り、搾った牛乳をギウ（バターオイル）に自家加工して過ごす。かかは水牛が適応しやすい気温と、ヒマラヤの高度差に応じて異なる植生を巧みに利用しながら、放牧地と定住地を季節移動する移牧を黙々と 40 年以上続けている。それで 2 年前、かかがちょうど村に戻る季節、ワクワクしながら訪問したらかかは留守でした。

実はかか、家の下方の段々畑でまたゴートを作り、水牛と寝泊りしていたのである。家から離れた傾斜地の畑に、牛糞堆肥を運ぶ負担を軽くするためであった。そして今何頭飼っているかと聞くと「7 頭飼っている」と。でも 6 頭しか見当たらないのもう 1 頭は？と問うと、「牡 1 頭は一緒に戻って来なかった」という。失ったのかと聞くと「失ってはいない」と。では、どこにいるのかと聞くと「わからないが森にいる」と答える。森しかないようなところで、水牛はいなくなっても森にいるのは当然であるがかかは全く動じない、なぜだろうか。

かかは語る。放牧中、陽当たりの良い草地のゴートから森に向かって「ウォーウォー」と水牛のように叫ぶと、森から水牛が「アァアァ」と叫ぶ返事が聞こえる。しばらくして、水牛はゆったり集まって来る。そして暑季は週 1 回、少し寒くなると月 1 回、握った塩を口元に持って行くか、決まった岩に塩を載せて舐めさせる。塩をほしがらない場合も、水牛は遠くから「アァアァ」と返事をするので所在がわかるという。塩を与え馴じませた水牛は、数か月いなくなっても、必ず塩を求めて同じ場所へ戻って来るのである。

かかは若い頃、寒季は家畜と山を下りて、カリガンダキ河周辺の低地で放牧をしていた。暖かくなると山腹の自宅パチャン村へ移動し、暑季は高地ブンヒル近辺へ移動していた。ところが近年、低地へ放牧に降りる必要がなくなったという。

森林減少に対するネパール政府による 1993 年森林法改正、地元住民が維持管理するコミュニティ・フォレスト、開発援助による植林プロジェクト。…それらを大きく超える勢いで、農山村から人口が流出したためである。結果、過疎化で耕作をあきらめた土地が増加。人手不足で一戸当たりの家畜飼養頭数が大幅に減少。反対に森での飼料木や採草地の確保に、わざわざ低地へ移動する必要性がなくなったのだ。

かかと初めて出会ったのは 9 年前。当時 16 頭の水牛を飼い、4 頭から乳を搾っていた。6 人の息子がいるが若い子どもら 3 人は、道を登り下りしながら背負いかゴで堆肥を担いでいた。三女が購入した米を担いで帰る道中、サンダルが鼻緒が切れても何食わぬ顔で素足になり、歩いていたのが忘れられない。現在、長男はもっとも移住者が多いインドで軍人として働き、次男は二国間協定を結ぶ韓国へ出稼ぎに出て 5 年。長女はインド軍で働く男性と結婚してダーズリンへ。韓国で 5 年の雇用期間を終え、ポカラで再雇用許可を待つ次女。そこに同居して韓国語を勉強しながら、日本も出稼ぎ先としてどうか？と聞く三女。四女もポカラへ進学中で、2 年前かかの家を訪ねた時は、夫婦二人だけだった。16 頭いた水牛も今は 7 頭で 2 頭から乳を搾る。ゆっくりと水牛を減らし縮小させながら、「時が来れば山を下りる」とかかはいう。

生活の中で育む農業

内タライと呼ばれる平地の亜熱帯圏ナワルブル郡カワソティ。ここで暮らすティルさんの有用樹木との関わりについて触れる。

ティルさんの家の耕地奥に 10 アールの小さな屋敷林がある。家の住人はここを“シソーバリ”と呼ぶ。シソーとはローズウッドの木、バリとは畑のことで直訳して“ローズウッドの畑”という意味である。ところが実際、そこでは雑多な樹木に混じって、シソーが 1 本確認できるだけである。

1980 年代後半。地元森林局が換金目的に、良質な木材として知られるシソーを地元住民に無償配布したことがある。当時、堆肥運搬や作物生育が不十分だった耕地奥に、ティルさんら家族もシソーを何本か植えたのが名前の由来である。そして 3～4 年後、シソーは他と同じく、管理方法か地質に合わないのか大半が枯死した。ただ時を同じくして、隣の耕地に残ってあったサラノキ（沙羅樹）の種が飛散して自生するようになった。サラノキは木材としてだけでなく、枝葉は水牛・ヤギの飼料となり、良質な薪燃料であり、儀礼時に葉で皿を作るなど様々な用途に利用される。その後、薪や飼料木として生長が早いセンダンの種を蒔いたり、鳥が種を運んできたと思われる飼料木カニョ（クワ科イチジク属）が発芽した苗を移植したり。近所でもらった飼料木のカファル（ヤマモモ科）やライムを挿し木で増やし、お裾分けでもらったジャックフルーツは、食後に種をそのまま植え、果樹・飼料木として利用。パイヤやマンゴーも食後に種を蒔いて発芽した苗から選抜。支柱や柵、背負いカゴなど農業資材となる竹。緑肥として利用されるセスパニアダインチャ（マメ科）。旅先や知人、親戚や近所に種苗を譲ったり譲り受けたりして現在、屋敷林や敷地周辺に約 30 種の有用樹木が育っている。

耕地奥に単一樹種のみを植えた経済的林業は脆くもすぐに終わり、その後約 30 年をかけて育った屋敷林。そこにある有用な樹木は、ここでの農的暮らしと深く結びつく。

ティルさんは語る。12 月下旬にあたるブース月（ビクラム暦²⁾になると、「水牛はカニョやトテ（和名不明）の飼料を好むが、アサール月（6 月～7 月）サウン月（7 月～8 月）の雨季はあまり喰わない」「反対にサラノキの飼料は先日までよく喰いついていたがブース月の寒季になると、あまり喰いつかなくなる」。「センダンやダブダベ（カンラン科）はヤギが好み、樹皮まで食べ尽くすから乾きが早く薪にも良い」。ティルさんは敷地境界や屋敷林、休耕地、畦からヤギ・水牛に与える飼料、青草を刈ることを日課としている。そしてグアバは「母が近所のラナさんから買い、美味しかったので実が落ちて発芽した苗を譲ってもらい育てた」。分類上は樹木でなく草本類であるがバナナは、4 年前亡くなった父が「十数年前、隣町の親戚から株分けしてもらったのを植えて増やした」。「この品種は家だけだったけれど、今ではバッターライさんの家にもセティさんの家でも見かける」。譲り受けた苗をまた譲ったりするうち、どんどん近所で増えていった。さらにティルさんは語る。屋敷林内に「1 本だけあるケムナ（和名不明）は、あまり家畜は喰いつかないけれど、乾かした樹皮と葉柄を煮出せば咳・風邪の薬になる」「確か他にバンダーリさんの敷地に 1 本だけあった」。同じく、実をすり潰して煮出すとさまざまな薬効があり、飼料木や資材としても利用されるハリタキは、「家にはないけれどタバさんの敷地とカルキさんの敷地にある」と。

家畜の放牧、採草地で草刈りが子どもの頃から仕事だったティルさんは、家の範囲を超えて様々な草木が誰の敷地に植えられてあるのか。どこに自生してあるのか、名称・場所・用途・特徴を把握している。こうした日常生活の積み重ねがここでの田畑、家畜、有用樹木（有用植物）からなる農業を育む。そして、こうした農業を通して、地域の中で交わされる日常会話の蓄積が在地の暮らしを育む。

食っていけない農業

有用樹木（有用植物）と生活の結びつきは、山の暮らしに目を向けるとさらに色濃くなる。

パチャン村の牛飼いかかは、段々畑周辺の樹を眺め、「ドゥデロ（クワ科イチジク属）は乳用水牛に良い」「パーゾ（和名不明）も喰うがドゥデロほど喰いつかない」という。カファルダダ村では、道案内を頼んだ13歳の男の子が途中。道脇の低木の葉をちぎり吹いて見せ、「ペーペと音が鳴るからこれはペーペ（和名不明）、家畜は喰わないけど薪に使うよ」。「これはアラカシ、水牛もヤギも喰う」「あれはトチノキ、水牛が好むけどヤギは喰わない」と。同じくカファルダダ村でマイジュ（遠い親戚の叔母）に、台所のモノを一つ一つ見せて頂いたことがある。ヤギが樹皮まで喰い尽くしたドゥデロとシャクナゲの薪をくべた竈。ダブダベの柱には、発酵乾燥野菜や刺草の粉袋が吊るしてある。天井には細長く裂いた竹材があり、竈の煙で乾燥させているが虫を寄せ付けなくする殺菌効果がある。ジャガイモやシコクビエを保管するバカリという竹編みの囲いを作るためである。家屋の建材は、高地帯に自生する高木のヒマラヤスギ、窓枠や家財は集落周辺に植林されたマツ。床にはスプライトのラベルが貼られたペットボトル（山村では貴重な容器）が置いてある。中身は、ルエシュ（和名不明）の樹皮の煮汁で作った膝関節の痛み止め。別のペットボトルにはヌンデキ（和名不明）の樹皮を煮込んだ鎮痛薬、クルミの樹皮を煮込んだ胃腸薬も。感心していたら、それならと家畜の下痢症に効くアオモジの実、家畜の毒出しにバジュロー（和名不明）の根茎などを出して見せてくれた。つまり、畑も森も山も在地丸ごと、台所とつながるのである。

最近、山岳部出身でご近所の電気修理屋のおじさんが山暮らしの話聞かせてくれた。主人に雇われ、羊飼いの仕事に6ヵ月従事したがあれは辛かったとか。山の中では手持ちぶさたから一日中、鉋鎌で竹や枝葉の繊維を裂いて、バカリやほうきを作って過ごしたとか。古老と話していたら、どうも家が7つもあることに驚いたとか。それは田舎の富豪という意味でなく。草分け的な農家が分散した土地を手に入れ、家畜番小屋や出作り小屋³も含めて移動する暮らしがあった。そういう生存戦略、生活世界があったという意味である。しかし現在、農山村の生活、農業について語る時、現実的に考えてどうかとか、おカネがないと食っていけないとか。そういう言葉・表現が日本を越えてネパールでも一般に流布するようになった。食っていけないとは、飢えるという意味ではないとわかっていながら、ご多分にもれず自分自身もその言葉を使い、そう考えることがある。…しかし…そんなご時勢に、おじさんが山暮らしを回想しながら平然と言った。「おカネはある」「だけどおカネがあるだけでは食っていけない」。

現実的に考えて、在地の一木一草を熟知していなければ食っていけない。山里では、生きるに適した自然がないと食っていけない農的暮らしがある。電気修理屋のおじさんが語った何気ない言葉は、農業の根源的な意味を問いかけている。

牛の心、ティルさんの心

コロナ禍であるがいつもと変わらない様子の、山岳部パチャン村の牛飼いかかに連絡した。2年前自宅を訪ねた時、かかは水牛を7頭飼っているのに6頭しかおらず、牝1頭は「どこにいるのかわからないが森にいる」といつていた。それが去年訪ねたら「今回は一緒に村へ下りて来た」と、確かに段々畑のゴートに7頭つながれていた。それで今年は？と気になりケータイで尋ねると、高地の放牧地の寒さが増し、「そろそろ村へ連れて帰ろうと思っていたら水牛が1頭もいなくなってしまうて…」。「しょうがなく自宅へ一人で戻ってみると水牛たちはすでに家に帰っていた」と。

わが家も舎飼いの水牛がいるが5年前。日中の炎天下にティルさんの実家（隣家）で、買い替え

たばかりの乳用水牛が首につなぐ太い縄を残して、突然いなくなったことがある。近隣をいくら探しても見つけれない、ところがみなこれまで水牛を育てた経験から、だいたいどこへ行ったか察しがついていた。水牛の習性から「水が豊富なところ」か「生まれたところ」である。ところがいなくなった水牛、当てにしていた場所に現れず見つけれない。それでようやく夕方になって、これまで飼われていた家から連絡が入り見つけることができた。どうやら、一度も歩いたことがない方向へ突き進み、泥水に浸り、町中を歩き、国道を横切り、ずいぶん遠回りしながら元々いた畜舎、生まれた床の匂いがする場所へようやく辿り着いたようである。忘れられない出来事であった。

先日は深夜2時、36か月齢の成牛が突然鳴き声を上げた。深夜でも鳴く時は、発情かヤギが小屋から逃げるなど周囲で何かあった時である。それですぐに察しがつき飛び起きた。成牛は、隣の母牛が仔牛を産んだのを“知らせてくれた”のだ。

ティルさんには、そんな水牛や牛の話が尽きない。「子どもの頃は学校から戻ると水牛と耕作用のコブ牛の牡2頭と、4～5頭連れて日帰り放牧に出た。ある日、発情した牛が突然走り出した、その牛は追えば追うほど遠くへ逃げた。行方がわからず、一日中探して家に帰ったが母は全く心配しなかった。はたして、夜中に牛は自分で戻って来た」。「放牧中、友だちと遊びに夢中になって、気付くと牛がいなくなったこともあった。見つからず家に戻ったところ母にひどく叱られた。理由は、家へ自分で戻って来た牛が天日で乾かしていた菜種を喰ってしまったから」。その後も「放牧中、特に牡牛が牝牛を探しにいなくなることがよくあったけれど、必ず畜舎に自分で戻って来た。真夜中に戻って来る時もあり、今頃帰って来やがってと母がよく怒鳴っていた」。「放牧はどこへ向かうか、誘導もするけどいつも牛の後を付いていく。放牧した日は稲ワラも水もほとんど与える必要がなかった」と。時々夢に出て来るといふ田畑を耕すコブ牛（在来牛）の牡2頭は、「口元へ刈草を持ち与えて馴じませていた。だから私の声を覚えた牡牛は、放牧中に大声で誰かと会話をすると草をもらえると勘違いしてすり寄って来た。そのうち1頭がある日死んでしまった。2頭だての耕作用牡牛の左側が居なくなり、右側だけとなった。左側に新しい牡牛を買おうと2～3年探したけれど、釣り合うサイズの牡牛が手に入らず。1頭だけになったので、これを機に耕作用の牡牛を飼うのを父はもうやめることにした。残った右側の1頭も売ってしまったけれど後で屠畜されたと聞き、涙が止まらなかった。水牛の出産や体調が悪く心配になる日の晩には、今でも牡牛2頭の夢を見る」という。ちょうど牛耕からトラクターによる耕耘に変わり始めた1980年代後半の記憶である。

ティルさんと牛・水牛が心を通わすような語りは、細々と尽きることがない。なぜなら、ここでの農家生活とは、思い通りにならない牛と付き合い続けることだから。

ヤギの心、ティルさんの心

日中、ヤギと会話しながらノミ取りをしているティルさんは、生後2～3日の子ヤギを両手で抱えては、民謡の一節を唄い聴かせる。唄いながら、子ヤギをおもちゃのようにリズムよく両手で楽しく踊らせる。あまり長いと子ヤギもしんどそうであるがおかまいなしで、唄の終わりに子ヤギを2～3回高く掲げる。そうして母ヤギのいる方へと乳を吸わせに離してやる。また次の子ヤギを抱えては、同じ唄を聴かせる。畜産として考えたなら、ヤギと会話したり、ノミ取りをしたり、唄を聴かせたりといった作業は、全く不要とは言わないがなくてもよい作業である。そんなことに「忙しい」と時間を費やすティルさん。でも、以前は母もカファルダグダ村のチュマも近所のセティさんも、子ヤギに唄を聴かせていたという。

同じように子犬や子猫に唄を聴かせ、おもちゃのようにリズムよく手を使い、踊らせているティルさんの姿を納めた動画。それを日本の方らに見てもらったり、送ったりしたことがある。そしたら、

父も母も姉も知人らも興味深く見ながら大いに笑う。何かわからないけれども面白いに違いないと、先述の京都、胡麻の橋本さんにもその動画を送った。そしたら、それがなぜ興味深く感じるのか、その意味が少しわかった。橋本さんは、動物に唄を聴かせおもちのように扱うティルさんの動画を見て、「あやす」とか「なつく」とか、そこにはいろんなヒントが含まれてあると。今、世間はスマートフォンにあやされたり、なついたりしているけれども、生きたモノに接していたいモノですね、とコメント。

ティルさん（私たち）が暮らすナワルプル郡カワソティでは現在、近郊では家畜の放牧に出る人は少なくなった。幹線道路沿いを中心に、人口の流入や都市化の進展著しい地域である。ティルさんらが移住した当初、「水を汲む水源地周辺の地価が一番高かった」。「それが今では都市化された幹線道路沿いの地価の方が高くなった」と、生活の中心地が変わったことを語る。耕地が宅地物件（商品）となり、生産と消費の分業あるいは分断の過程にある中、プン・マгалの一人がいった、「食えることから稼ぐことを考えるようになった」と。これまでの思い通りにならない水牛を飼うより、薄型テレビやスマートフォンを“飼う”暮らしへと地域は変わりつつある。生きたモノと関わらなくても生きていける時代へと変わりつつある。そんな中、意識的でも計画的でもないけれども、ティルさんは生きたモノを気にする、実感のある暮らしを大切にしている。いつも共に生きているモノ、それが突然なくなる。けれども、「ヤギも牛もコトバが違うだけで心がある」と、ティルさんはいふ。

ヤギに唄を聴かせるような間延びした時間を過ごす、現代の資本主義経済が許さない農業。資本主義経済の中では全く通用しない農業。あるいは、自然に合った農業、心に合った農業、在地と結びつく小農の営みの、ほんの一例を本稿に書き記した。

注釈

1. 農林統計の地域区分の一。都市や平地以外の、中間農業地域と山間農業地域の総称。山間地とその周辺の地域を指す。農地面積は全国の4割を占めるが、傾斜地が多く平地に比べ農業経営には不利。過疎化や高齢化が進行している。山林に接しているため鳥獣の被害などを受けやすい一方、田園風景や良好な自然環境など、都市住民をひきつける資源がある。
2. ネパールの公式の暦として使われる太陽暦。この暦の起年は紀元前57年である。
3. 耕地が家から遠くにあるとき、耕地の近くに寝泊まりして耕作すること。出作り小屋は、その際に寝泊まりする仮小屋。

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Life Surrounded By Living Things

Notes from Nepal

MAKITO FUJII

Translation: Meredith Hoffman

The author, a 2004 ARI graduate, has been living as a simple farmer in Nepal since 2010 along with his wife, Til Kumari Pun (hereafter referred to as Til), also a 2004 ARI graduate. Despite the many tasks at hand, he works at an unhurried pace, immersed in the commonplace everyday life of the people. He raises the same crops, livestock, and trees as the locals, and runs the same type of small farm in the same unprofitable way. These episodes invite us to stand in his shoes and see the scenery through his eyes, giving us a chance to think about what it means to be a small farmer in connection to the land and its people.

DISCOVERING THE “RURAL” IN “RURAL FUTURE STUDIES”

When I return to Japan temporarily from Nepal, I look forward to seeing Akira Hashimoto, representative of Agros Gomagô, a group of producers in Goma Hiyoshi-chô, Nantan City in the mountain districts of Kyoto. I stay up late into the night, talking with the youngsters in the group about whether they use chemicals or not, whether they are progressing or falling behind, and I enjoy listening to the stories of a different place. I would like to start with a story I heard in the car while being driven to the station.

It was the story of a long time ago when an assembly was held to hear a lecture on Green Tourism in Goma by a “*sensei*” coming from Kyoto. It should be noted here that in the countryside, *sensei* doesn’t just mean a school teacher or a medical doctor. According to agrarian Shirô Morita¹, people who try to bring their big city decisions to the countryside in order to make the countryside “better” are also referred to as *sensei*. Most likely, the lecture in question took place in the early 1990s. At the time, promoting scenic recreation in mountain villages and a chance to experience farming to city dwellers seeking out nature was seen as a way to revitalize rural areas. One can suppose that the appeal went something along the lines of, “This is the growing industry of the new generation.”

Although Mr. Hashimoto thought that “something doesn’t sound quite right,” he decided to attend. Contrary to his expectations, he found that the farmers, old men and women, listened with shining eyes, nodding many times, and seeming to swallow everything being said in the lecture. After the lecture, they all went out to eat and talk. “Green tourism, huh...” “It’s all well and good to say such things but...” Struck by the ambiguity of their comments, Mr. Hashimoto asked, “You’re saying that now, but weren’t you all just nodding in agreement in there?”

"No, no, no. You misunderstand. We was just trying to avoid being hit by what they was throwing at us." According to them, they were nodding along in order to ward off the lecture.

Currently in Japan, "those kind" of farmers can no longer be seen much. Perhaps they have grown few even in Nepal. However, such farmers and rural areas must still be around. That is what Mr. Hashimoto and I talked about as I exited the car.

How did this theory develop in such a way, that Green Tourism should be pushed upon small agrarian mountain villages in Japan and Nepal from above, or the center, or the city, or, in any case, from the outside? We have reached an era in which new demands spread quickly. And yet, perhaps the demands are simply being heard and not actually being met. The schemes from outside are not being listened to, and are not taking effect. Although they are not acting deliberately or with self-awareness, there are people who have rejected "something." How to express this "something"? I would describe it as "a certain singular flow with a predetermined direction."

What do we mean by "rural" when we speak of "Studies of a Rural Future" based on the soil? I think we must connect it somehow to the rural areas, to the soil, where these people who have "rejected that certain something" live.

THE ROAD TO KAPHAL DANDA VILLAGE

I travel regularly to Kaphal Danda Village in Myagdi District, the birthplace of Pun Magal, where Til of Pun Magal (one of the clans of the Magal people) spent her childhood before moving to the flatlands. Descending a mountain road from the county government office, Beni, one passes a deep valley along a steep cliff path to where Kaphal Danda Village is located 2000 meters above sea level.

On the road to the village, I meet various people. A middle-aged woman who had gone to Beni to receive her primary education completion certification. A mother and child who were staying at the hospital in Beni because only simple treatment for her son's broken bone was available in the village. A mother carrying fermented dried stems and leaves of a plant (family Araceae, genus *Arisaema*) that grows in a forest called Dakayo requested by her daughter living in the city, Pokhara. I cross the bridge and stop to rest at the community water station where I am met by a grazing water buffalo. The water station is equipped with a pool of water so that buffaloes passing by can stop for a drink. On the way, there is a place where a spring of water has been collected and enclosed by split stones under the shade of a tree along the roadside. An old shrine can be seen on the upper side, which is a water god. On the steep cliff path is a rustic stone *bisauni*² (resting place) which was built by my father-in-law using split stones that he had carried in memory of my wife's grandmother. When you pass by, you pick flowers and put your hands together to say *namaste*. On the mountain path, there are a number of stone *bisauni* on the cobblestone streets and in the shade of Himalayan cherry trees. These places, which watch over people on their way, were erected by the people who live here in memory of the deceased. The locals know who it was that made each one.

The cliff along this road and the place under the cliff is called Maha Bhir. *Maha* means

honey and *bhir* means cliff, so the direct translation means “Honey Cliff.” This is the cliff that appears in the myth of the ancestor god Palpakye, a story handed down in Pun Magal where long ago people made their living by collecting honey. According to the myth, when Palpakye used a rope ladder to climb Maha Bhir and collect honey, his ladder broke and he was stuck along the cliffs, unable to return to the ground. He ate honey from the rocks to keep from starving until one day he saved a nest of baby hawks by chasing away a snake that was about to attack them. When the hawk comes back and sees what happened, she says she will return the favor by putting Palpakye on her wings and lowering him to the ground. When Palpakye refuses, saying that’s impossible, the hawk carries a huge rock to prove that it not impossible. So, the hawk carries Palpakye and flies down to the ground. This is just one small episode from the myth that Til told me. This myth is told in song by a chanter at the Pun Magal’s ancestor ceremonies. It is a myth that has been passed down through oral tradition from the times before there was a written language. People and animals fighting and conversing and helping each other gives us a glimpse into the way of life here, which exists in connection to nature.

As you approach the edge of the ridge, there is a school. When the season is cold, everyone leaves the classroom to sit outside in the sun, and lessons are held all over the place. One time, one of the teachers spoke to me asking, “How are you?” Next to the teacher was a basket lined with cloths made of grain and bamboo, and inside the basket, a baby was sleeping. The teacher was teaching arithmetic to first graders while watching and nursing her baby. The pupils also took care of smaller children while attending their lessons.

The first place I stay overnight is always the house of my mother-in-law, Chema. When I visited two years ago, Chema had fourteen goats. It was not easy to find a place to sleep. Twenty pumpkins were scattered across the floor, chayote and potatoes for sowing, which had started to grow buds, could be seen inside baskets. Bundles of harvested corn hung from the ceiling. In the corner stood a new mat weaved from rice straw and when I asked her about it, she said she acquired it from a rice-growing community in exchange for potatoes. After supper, Chema began to grind corn on a quern stone, then split open a pumpkin which she began to boil over firewood. This would be “breakfast” for the goats tomorrow.

On the road to Kaphal Danda Village, I met people, a water buffalo, and my ancestors. In the quiet mountains, there exists a living world surrounded by living things.

VISITING KAKA THE BUFFALO HERD

I visited my wife’s uncle Kaka, a cowherd who lives in Bachan Village next to Kaphal Danda Village. In the summer season, Kaka spends his days in the cool fields around Poonhill, 3200 meters above sea level, sleeping in a *goto*, a makeshift temporary dwelling, spending his days herding water buffalo. He sells their milk to a lodge in Golpani, an area along a trekking route. In the winter season, he takes the water buffalo, which are weak against the cold, back to the village and processes their milk into ghee (butter oil). According to the temperature that is suitable for the water buffalo and the elevation of the Himalayas, Kaka cleverly makes use

of the various plants, moving back and forth between the fields and his home. He has tacitly worked as a migrant herder for over forty years. Two years ago, it was just the season when Kaka would be back in the village, and I went excitedly to visit him, only to discover that he was not at home.

In fact, Kaka had gone to the terraced fields below his house where he had erected a *goto* and was sleeping outside with the water buffalo. It seems that it was to decrease the burden of having to carry the buffalo manure compost to the fields, which were distant from the house. I asked him how many buffaloes he was keeping and he replied, "Seven." However, I could only see six. So, I asked, "Where is the last one?" and he said, "The one male didn't come back." I asked if he lost it and he said, "I didn't lose it." "So, where is it?" I asked, to which he answered, "I don't know but it's in the forest." In a place surrounded by nothing but forest, of course the lost buffalo would be in the forest! Kaka seemed not the least bit concerned, however, and I wondered why.

Kaka explained. While out herding, he stays in his *goto* in the sunlit grasslands, and calls towards the forest like a water buffalo saying, "Woah, woah," and can hear the buffalo answer back, "Ahh, ahh." After a while, the buffalo slowly gather. And then, once a week in summer, and once a month in winter when it is colder, he brings a piece of salt to their mouths or leaves some salt on a rock for them to lick. Even when they don't want the salt, the buffalo still answer "Ahh, ahh," so he knows where they are. By acclimating the buffalo to the salt, they will always come back to the same spot seeking the salt, even if several months have passed. When Kaka was young, he descended the mountains with his livestock and settled in the lowlands around the Kali Gandaki River to graze the buffalo. When it became warm, he moved to his home in Bachan Village in the heart of the mountain, and in the summer he moved to the highlands near Poonhill. However, in recent years he says that there is no need to go to the lowlands to graze.

In 1993, the Nepalese government issued a revised Forest Act in response to deforestation. Development assistance was given for a reforestation project in which local residents maintained community forests. However, the force with which the population of rural mountain villages flowed out to the cities was much bigger than these measures put in place to stop it. As a result, the amount of untended land increased from the population decline. Due to a lack of workers, the number of livestock kept per household also greatly decreased. Thus, it is now no longer necessary to move to the lowlands in order to secure trees and grass from the forest as feed.

I first met Kaka nine years ago. At the time, he kept sixteen buffaloes and collected milk from four of them. He has six sons and daughters and the youngest three children were transporting compost up and down the road in baskets on their backs. I will never forget the sight of his third daughter—while carrying home some purchased rice, the tie on her sandal broke, but she simply walked on barefoot, not put out in the least. Currently, his eldest son works in the army in India, where the greatest number of immigrants are. His second son has been working in South Korea for the past five years, a country with which Nepal has a bilateral agreement. His eldest daughter married a man working in the Indian army and moved to Darjeeling. His second daughter finished her five years allotted working time in South Korea

and is waiting in Pokhara for her work permit to be re-issued. His third daughter lives with her, studying Korean and wondering whether or not Japan might also be a good place to look for work. His fourth daughter is attending school in Pokhara as well, so when I visited Kaka's home two years ago, only he and his wife were left. He used to keep sixteen buffaloes, but now keeps only seven, and collects milk from two. He is slowly downsizing by lessening the number he keeps, and Kaka says, "When my time comes, I will go down the mountain."

FARMING NURTURED IN DAILY LIFE

Kawasoti, Nawalpur District is a flat subtropical region called Inner Terai. I would like to touch on the relationship between Til, who lives here, and her relationship with the helpful trees.

At the far side of the arable land on Til's property, there is a small forest of 10 ares. The residents of the house call this "*sissoobali*." *Sissoo* means rosewood tree, and *bali* means field, so the direct translation is "rosewood field." In reality, a mixture of miscellaneous trees are growing there, and only one *sissoo* has been confirmed.

In the late 1980s, the local Forestry Office distributed *sissoo*, known for being high-quality wood, to local residents free of charge for the purpose of income generation. At that time, Til's family planted some *sissoo* in the arable area where the compost delivery and crop growth were insufficient, and that is how the area got its name. Three to four years later, most of the *sissoo* died, just like the other plants, perhaps because their management methods didn't match the quality of the ground. However, at the same time, the seeds of sal trees which remained in the arable land next door blew over and began to grow. The sal tree is not only useful as wood. Its branches and leaves can be used as feed for buffaloes and goats, it is a high-quality firewood for fuel, its leaves are used for making ritual dishes, and it has many other uses. After that, the family sowed seeds of Chinaberry tree, which grows quickly as firewood and trees for feed, and transplanted seedlings sprouted by the feed tree *khanyu* (fig, family Moraceae, genus *Ficus*), which presumably had been carried by birds. They used cuttings to increase the number of *capal* (family Myricaceae) shrubs and lime trees, which had been acquired in the neighborhood. They received jackfruit as a gift and simply planted its seeds after eating it, and now have trees for both fruit and animal feed. Papaya and mango were also selected from seedlings that sprouted from seeds sown after meals. Bamboo is used for agricultural materials such as struts, fences, and carrying cargo. *Sesbania dhaincha* (legume, family Fabaceae) is used as green manure. By collecting and receiving seeds and seedlings from our travels, friends, relatives, and neighbors, we now have about thirty kinds of useful trees growing in and around the forest.

The one kind of tree that was planted on the edge of the arable land as an economic investment proved fragile and came to a quick end, but the forest continued to grow over the next thirty years. The useful trees growing there are deeply connected to the life of farming.

Til tells me that in the month of *Paush* (Bikram Sambat calendar) which falls at the end of December, the water buffaloes prefer *khanyu* and *tote* leaves, but they don't eat them much in the rainy season during the months of *Asar* (June to July) and *Sawan* (July to August). On the

other hand, until last month, they ate many sal tree leaves, but in the winter month of *Paush*, they don't eat them much. Chinaberry trees and *dabudbe* (torchwood, family Burseraceae) trees are preferred by the goats, which eat them down to the bark, so they dry quickly and make for good firewood. Til has made it part of her daily routine to harvest leaves and grass from the borders around her land, the forest, the untended land, and the ridgeways between the rice fields to give to the goats and buffaloes as feed. As for guava, she said, "I bought some from my mother's neighbor Lana and it was good. So I got her to give me some of the seedlings that germinated from the fallen fruit, and I raised it myself." Although bananas are an herb by classification and not a tree, her father, who passed away four years ago, said, "I received them from our relatives in the next town over ten years ago, and I planted and increased them. We were the only house to have this variety, but now they can be seen in the Bhattarai's house and the Seti's house, too." As people passed the seedlings on from one to the next, they gradually spread throughout the neighborhood. Til also says, "There is one tree in the forest, *kemuna* (family Myrtaceae, *Syzygium nervosum*), which the animals don't really like to eat, but if you boil the dried leaves and branches you can make a medicine that is good for treating coughs and the common cold. I think the Bhandari's have just one on their property as well." Similarly, another tree, the *haritaki* (black myrobalan, family Combretaceae), which is used for feed and raw materials, has fruit which is grated and boiled and has various medicinal purposes. "We don't have one, but there is one on Thapa's property and Kalki's property."

Til, whose job it was to collect grasses and herbs to feed the livestock since she was a child, knows which grasses and trees are growing on whose property beyond the bounds of her own house. She knows where they grow, the names they go by, their location, their uses, and their characteristics. This repetition found in everyday life nurtures farming that includes the fields, livestock, and useful trees (useful plants). And through this kind of farming, everyday conversation exchanged in the community accumulates and nurtures life.

FARMING THAT DOESN'T FEED YOU

The connection between life and useful trees (useful plants) becomes even more apparent when you turn your eyes to life in the mountains.

The buffalo herd Kaka of Bachan village gazes at the trees around his terraced fields and says, "The *dudhilo* (fig, family Moraceae, genus *Ficus*) is good for my milking water buffalo." "They eat *bojho* (sweet flag, *Acorus calamus*) too, but not as much as *dudhilo*." In Kaphal Danda Village, a thirteen-year-old boy whom I have stopped to ask for directions pauses midway. He breaks a leaf off of a short tree along the road and blows into it, explaining, "It makes a sound like *pe-pe* so we call it *pe-pe*. The animals don't eat it, but it makes for good firewood." "This is Japanese blue oak. The water buffaloes and the goats eat it." "That's Japanese horse chestnut. The water buffaloes like it but the goats don't." Auntie Maiju (a distant relative), also in Kaphal Danda Village, showed me the things in her kitchen one by one. A cooking stove made by the logs of *dudhilo* and rhododendron which had all of the bark chewed off by goats. The *dabdabe* (family Burseraceae, *Garuga pinnata*) pillars are hung with bags of powdered fermented dried

vegetables and nettles. There are long thin strips of bamboo on the ceiling being dried by smoke from the stove which acts as a sterilizer to keep insects away. They will be used to create a bamboo-knit enclosure called *bakari* that stores potatoes and finger millet. Houses are built from cedar trees growing in high areas. Window frames and household goods are made from pine trees planted around the village. On the floor is a plastic bottle labeled Sprite (a valuable container in a mountain village). It contains a broth made from the bark of *rhus* (Japanese name unknown) used to relieve pain in the knee joints. In another plastic bottle, there is the stewed bark of *noondhiki* (family Santalaceae, *Osyris wightiana*) used as a painkiller, and another contains stewed walnut bark used as gastrointestinal medicine. When I looked impressed, she showed me, as if to say that's not all, the fruit of the spicebush which is used to treat diarrhea in livestock, and *bajuro* (family Melanthiaceae, *Paris polyphylla*) roots which are used as a detox for livestock. In other words, the fields, the forests, the mountains, the whole of the land, are connected with the kitchen.

Recently, the neighborhood electrical repairman who grew up in a mountainous area told me stories about living in the mountains, like being hired to work as a shepherd for six months and oh what a difficult time. Or, how with nothing to do in the mountains, he would spend an entire day making *bakari* and brooms by tearing up the fibers of bamboo and branches and leaves with a sickle. Or, how when he talked to elderly people, he was surprised to hear that they had seven houses. This doesn't mean they were country millionaires. Pioneer-type farmers acquired dispersed land and had a lifestyle in which they moved from place to place, making huts for themselves and their livestock as they went. It means that this was their strategy for survival, this was the world they lived in. However, nowadays when you talk about agriculture or life in mountainous farming villages, you hear things like, "What about reality?" or, "I can't eat without money." Such words and expressions have moved from beyond Japan and come into general circulation even in Nepal. "I understand that saying 'I can't eat' doesn't mean I will starve," he says, "But I still find myself speaking and thinking in that way just like everyone else." ... But... At such times, he reminisces about mountain life and says flatly, "I have money. But I can't eat just by having money."

Thinking realistically, unless you have a thorough knowledge of each tree and each plant, you can't eat. In mountain villages, there is an agricultural way of life in which you cannot eat without nature adequate for living. The words casually spoken by the electrical repairman question the fundamental meaning of agriculture.

THE HEART OF COWS, THE HEART OF TIL

I contacted the buffalo herd Kaka who, despite the coronavirus pandemic, seems to be going on with life as usual in Bachan village in the mountains. When I visited him two years ago, he had seven water buffalo but only six were around and he told me that the one male was "somewhere in the forest but I'm not sure where." When I visited him last year, he told me, "This time it came with us down to the village," and sure enough, there were seven buffaloes

in the *goto* near the terraced fields. I was wondering, what about this year? So I asked him by cellular phone. He told me that when it began to grow cold in the grazing lands of the highlands, “I was ready to bring them home to the village and not one of the water buffalo could be found. There was nothing I could do, so I returned home by myself, and there they all were, already home.”

We also keep domesticated water buffaloes at our home. Five years ago, in the middle of the day under the blazing sun, our milking buffalo, which we had just replaced, suddenly disappeared from Til’s parent’s home next door, leaving behind the thick rope which had been tied around its neck. We looked everywhere in the neighborhood but couldn’t find it. However, all of us are experienced in raising water buffalo so we could guess where it must have gone. Based on the habits of water buffaloes, it must be either “near a place with abundant water” or “where it was born.” However, the lost water buffalo didn’t appear in the spots we predicted and was nowhere to be found. Finally, in the evening, we were contacted by the buffalo’s former owner and were able to recover it. It seems that the buffalo set out on a road it had never walked before, soaked in some muddy water, walked around the town, passed across the national highway, and took a long detour before finally arriving at the barn where it had been kept, to where the floor smelled like the place where it had been born. I will never forget that incident.

The other night, our thirty-six-month-old bull gave a sudden cry at two o’clock in the morning. Hearing a cry in the middle of the night usually means it is in heat or that something has happened nearby, like a goat escaped from its pen. I quickly jumped out of bed to see what was the matter. The bull had “announced” that the mother cow next to it had given birth.

Til can tell endless stories about water buffaloes and cows. “When I was a child, I took the four or five animals out to graze after school—water buffaloes plus two male zebu used for plowing. One day, the zebu went into heat and suddenly started running. The more I chased it, the farther it ran. I didn’t know where it had gone and spent the whole day looking for it before returning home but my mother wasn’t worried in the least. The zebu returned by itself at night.” “One day, I was out grazing the cattle and became engrossed in playing with my friend. When I looked up, the cow was gone. I couldn’t find it and when I returned home my mother scolded me harshly. The reason was that the cow had returned home by itself and eaten up the vegetables that had been left in the sun to dry.” Even after that, “While I was out grazing the cattle, they would often disappear, particularly when the males would go in search of a female, but they would always come back to the barn. Sometimes, they would come back in the middle of the night and my mother would yell angrily, ‘How dare you come back so late!’” “When you take the animals grazing, you sometimes show them where to go, but I always followed the cattle. On those days, I rarely had to give them rice straw or water.” She told me that the two male zebu used for plowing used to appear in her dreams sometimes. “I trained them by feeding them cut grass and they remembered the sound of my voice. Sometimes, when I was having a loud conversation with someone they would come up to me thinking that I was going to feed them grass. Eventually, one of them died. We kept two for plowing, but we lost the left hand one, so then we only had the right hand one. We tried to find a male to replace the left one, but even after searching for two or three years, we couldn’t find one to

match the size of the other. So, we only had one, and after that, my father decided not to keep cows for plowing anymore. We ended up selling the right-sided one, but when it was sent to the slaughterhouse I couldn't stop crying. Even now, when the water buffaloes give birth or the cows are sick and I feel worried, the two zebu appear in my dreams." These are her memories from the late 1980s, just around the time when tractors began to be used for plowing in place of cattle.

There is no end to these detailed stories of how Til and the cows and buffaloes converse with each other. That is because here, the life of a farmer depends on keeping company with cows who don't act as you wish.

THE HEART OF THE GOATS, THE HEART OF TIL

During the day, Til talks to the goats while picking their fleas. She takes a two or three-day-old kid in her arms and sings it a verse of a folk song. While she sings, she uses both hands to make the kid dance in rhythm like a toy. If she sings for too long, the goat looks strained but she doesn't seem to care and at the end of the song lifts it up two or three times in the air. Then she lets it go so it can return to its mother to drink milk. She then takes the next kid in her arms and sings it the same song. From the perspective of raising livestock, talking to the goats, or picking their fleas, or singing them songs, while not completely unnecessary, are actions which you can do without. Being "busy" with such things takes up your time, says Til. But in the past, her mother Chema in Kaphal Danda Village, and her neighbor Seti, all sang songs to the kids.

I took a video of Til, singing to puppies and kittens in the same way, using her hands to make them dance rhythmically like toys. I've shown it or sent it to people in Japan. My father, mother, sister, and acquaintances all watched it with interest and laughed a lot. I'm not sure why, but I knew it must be funny, so I sent it to the previously mentioned Mr. Hashimoto of Goma, Kyoto as well. It was then that I understood a little why people found it so fascinating. When Mr. Hashimoto watched the video of Til singing to the animals and treating them like toys, he used words like "comfort" and "attachment" which gave me a hint. Nowadays, the world is being comforted by and becoming attached to their smartphones—but we should want to interact with living things, was his comment.

In Kawasoti, Nawalpur District where Til (and I) live, the number of people going out to graze their livestock in the outskirts has decreased. It is a region which has made considerable progress in urbanization, with a population influx centered along the main road. When Til and her family emigrated, "land prices were the highest around the reservoir area where water was drawn. Now land prices are higher along the urbanized main road," she says, indicating that the center of life has changed. With arable land becoming residential property (a commodity) and with labor in the process of being divided into production and consumption or separated into parts, a person from Pun Magal said, "I used to think about eating; now I think about making money." The lives of people in the area continue to change. Those who

used to tend to unpredictable water buffaloes are now tending to flat-screen TVs and smart-phones. It is becoming a generation in which people can live without interacting with living things. Yet here, neither deliberately nor consciously, Til values a life that recognizes and cares for living things. The things that we live with all of the time, one day, they suddenly disappear. But Til says, “Goats and cows merely speak a different language; they still have a heart.”

Living at a pace slow enough to sing songs to goats is a kind of farming which the modern capitalist economy doesn’t allow. It is farming which makes absolutely no sense in a capitalist economy. Yet, here I have written some examples of smallholder farming that is connected to the local land, farming that is in harmony with nature, farming that is in harmony with the heart.

NOTES

1. Please refer to the Japanese version of this text for a complete list of references.
2. Numerous words from the Nepali language (and probably its local dialects) in this text have been difficult to transliterate into the Roman alphabet as they come to us via

Makito Fujii’s original Japanese text. Despite our efforts to detect most of the Nepali words and their common English transliterations, there may remain some which reflect how the author hears and writes them for a Japanese audience.

Essay by Dr. Takami ・ 高見先生の小論文

共にうめく

高見 敏弘

出典 『土とともに生きる』 日本基督教団出版局、1996年
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社会の乱れと、自然破壊

主の言葉を聞け、イスラエルの人々よ。
主はこの国の住民を告発される。
この国には、誠実さも慈しみも
神を知ることもないからだ。
呪い、欺き、人殺し、盗み、姦淫がはびこり
流血に流血が続いている。
それゆえ、この地は渇き
そこに住む者は皆、衰え果て
野の獣も空の鳥も海の魚までも一掃される。
(ホセア書 4章 1～3節¹⁾)

今からおよそ 2600 年前、紀元前 600 年頃の人と言われる預言者ホセアの言葉。それによって糾弾される、この世の状態は、そっくりそのままわたしたちがかもし出している現代世界の状態に当てはまると思います。異なるところといえば、(1) わたしたちは、みずからがつくり出した社会的・環境的状态に関するホセアほどの洞察も、またそれに抗して、神のみ心によって発言する意志と力も持ち合わせていないようだし、また、(2) みずからが数世紀にわたって営々と築き上げてきた科学知識を、そのような状態を改善するために用い

る時、極めて非科学的である点でしょう。

ホセアの指摘は、鋭く明快です。人間の罪深い行いの数々、人間社会の果てしない乱脈ぶりが、他のあらゆる生物、獣も鳥も魚さえも一自然環境全体の存在を脅かしています。そして、そのような状態からの救いの道はただひとつ、主の言葉を聞くことだ、とホセアは叫ぶのです。

いかに、わたしたち人間の貪欲な行いが環境を破壊し、すべての被造物の生存に脅威を与えているか、そして人間みずからの生存そのものをも危うくしているかは、ここに詳述するまでもないでしょう。

今や人間は、科学技術を駆使して、マイクロからマクロまで、微生物から地球のすべての生態系までと、一瞬にして破壊して余りあるエネルギーを手中にもてあそんでいます。その事実を詳細に知ろうと思えば、いつでも自室に居ながら知ることができるほどの情報収集の手段をも手中にしているのです。

「領空侵犯」している民間航空機を撃墜すべく電波で交信しているその国の空軍機のパイロットと地上司令部間のやりとりの一部始終を、数千キロ離れた所ですべて傍受し、そのまま再現して世界に発表するほどの能力を持ちながら、民間機

に乗っている二百数十人のいのちを救う力は発揮できないのは、そのような意志がないからではないでしょうか²。あるいは、そのような能力はないと、世界の人々に思いこませる能力は持ち合わせていると言えるのでしょうか。

軍事上の問題に、わたしたちは重大な関心を持ちます。軍事行動は直接・間接に暴力でもって人間のいのちを破壊するからです。しかし、いのちの脅威をもたらすのは、軍事行動だけではありません。人間の罪深い行いが、あらゆる面でいのちの破壊を進めているのです。

国連の調査によれば、砂漠化が世界的な規模で急速に進んでおり、最近では、1年に世界全体で20億トン以上の表土が海へ流出しています。これは平均ひとり当たり0.5トン（500キログラム）の土量です。自然状態で深さ10センチメートルの表土をつくるには、およそ100万年かかるといいます。それを不当な「開発行為」や不適切な農業技術で瞬時に押し流しているのです。言うまでもなく、食べものを生産するのには、表土が必要不可欠です。1年に20億トンの表土の流失で、地球の食糧生産能力は急激に減退しています。一方、世界の人口は1年におよそ1億人という、驚異的勢いで増え続け、現在すでに55億人をはるかに超えているのです。

表土流失の主な原因は、(1) 伝統的焼畑農業、(2) 不適切な農法および農作物の押しつけ栽培、(3) 都市産業化社会維持のための森林大規模伐採、地下資源採掘のための土壤破壊などです。

(1) の伝統的焼畑農業は、いまやさほど大きな脅威ではありません。それは主として、いわゆる開発途上国の山岳少数民族によって行われているもので、焼畑農業のできる面積が急速に減少しているからです。先進工業国における焼畑農業は、すでにほとんど見られません。

(2) 不適切な農法および農作物の押しつけ栽培。これは先進工業国の産業化社会およびその人口を「より豊かに」維持するために、途上国（そのほとんどが農業国）に、化学肥料や農薬の大量使用と高価な農業機械の使用、つまり石油製品の大量使用と大資本を必要とする農業技術を導入して、主に非主要食品の一砂糖キビ、パイナップル、

バナナ、香料、コーヒー、紅茶、ゴムなどの一大規模栽培が、広範囲にわたって行われているものです。これら農作物は先進国に輸出されますが、買手市場であるために生産者の意志が反映されることはほとんどなく、低価格で取り引きされる結果、途上国の土地と民衆の搾取につながっており、途上国内および国家間の貧富の差を増大することとなり、土の流失、つまり砂漠化を避け難いものとしているのです。

(3) 森林の大規模伐採と地下資源採掘のための土壤破壊は、都市産業化社会維持のために、主として途上国において進行中です。

日本など先進工業国での紙および紙製品の大量消費など木材の莫大な無駄使いは、直接森林乱伐につながっています。また地下資源採掘のため、産業廃棄物の大量投棄のために、土壤破壊、特に表土の破壊が急速に進んでいます。

(2) と (3) については、日本のわたしたちの産業活動、生活様式が深くかかわっていることは言うまでもありません。

表土の流出、森林の消滅は、緑の喪失であり、生態系の健全なバランスを崩し、破壊するものです。太陽の光と熱エネルギーは、緑色植物の光合成の働きによって、空気中の窒素や炭素を植物の体内に固定します。普通、植物の乾燥重量の半分以上を炭素が占めています。そして植物や動物の生活に必要なエネルギーは、各種の炭素化合物すなわち有機化合物によるのであり、そのようなエネルギーを放出させるには酸素が必要なのです。

草食動物は植物を食べ、肉食動物は他の動物を食べ、人間など雑食動物は植物や動物を食べ、その排泄物や亡骸は土に帰って、有機物質、無機物質となって、根などの働きによって再び植物となり、光合成がくり返されるのです。

しかし、加速度的にその数を増している人間は、その貪欲な産業活動によって緑色植物を絶滅させつつあります。緑色植物の喪失は、生物のエネルギー源である有機化合物および、そのエネルギーを放出させるために必要な酸素の供給を阻害するのです。つまり人間の手による緑色植物の破壊と表土の流失は生態系をくずし、人間のいのちのみならず、あらゆる生物の生存に脅威となって

いるのです。

しかし、それだけにとどまりません。人口急増の速さは、人間が社会に適応し得る速度をしのぎ、ますます大勢の人々が、社会における役割を見出せず、失業や反社会的行為に陥ることとなるのです。つまり、環境破壊は、人間の社会的崩壊にもつながっているのです。

そのことの集約的現象を、わたしたちは、「食生活」に見ることができると思います。ここでは、「食生活」とは人間が人間としてのいのちを支えるために行う食事の意味です。

たべものと創造のわざ

あなたの食べ物について兄弟が心を痛めるならば、あなたはもはや愛に従って歩んでいません。食べ物の中で兄弟を滅ぼしてはなりません。キリストはその兄弟のために死んでくださったのです。……食べ物のために神の働きを無にしてはなりません。すべては清いのですが、食べて人を罪に誘う者には悪い物となります。

(ローマ人への手紙 14 章 15、20 節)

人間は、すべての被造物がわたしたちの想像もおよばぬ絶妙な相関関係と、厳しくも美しい秩序と律動によって成る生態系（エコロジースystem）の中で、植物や他の動物などをとることで生活しています。だが人間という単一生物種だけが（とわたしは思うのですが）、その食欲を満足させるために、意図的、組織的に必要以上の食べものをとろうとします。だが、人間の肉体はそれを損なうことなしに必要以上の食べものをとり続けることはできません。その結果は、大量の無駄、残飯の巨大な山をつくることになります。生産された食べもの（植物や肉など）が腐敗、醗酵（酸化）して、生態系の循環にもどるためには、大量の酸素が要求されます。大都市などの残飯（東京都の生ゴミは、1日に約2万トンにのぼるという！）が、下水道などを通して、川や海に投棄されると、水中の酸素はそのためになされて、水中の生物は酸欠のために多くが死滅してしまうのです。

日本人の食生活は、もはや人間がそのいのちを支え守るための厳粛な行いとは言えなくなっているようです。温泉旅館や結婚披露宴などでは、明らかに個人が食べ得る量の数倍の食物を並べています。明らかに大量の無駄を出すことを知りながら、それが「豊かさ」のしるしだとして、むさぼり続けるのです。ある小さな旅館の主人が言ったそうです。「わたしの旅館でも、毎日高さ1メートルのポリバケツ2杯の残飯が出ます。もったいないと思いながら、山盛りのご馳走を並べたてないと、お客さまは、より豪華な（つまりもっと残飯を出す）旅館やホテルに行ってしまうのです」。

これはわたしが言う、残飯経済の典型的現象です。意識的、意図的、組織的に残飯を出し、落ちこぼれを出し続けるのです。そうせねばならないような仕組みを築いてきたのです。これは人間の都市産業化社会に顕著な現象で、自然の営みの中には、他に類をみないものです。大都市圏は、人間という単一生物種によって過剰になり、他の生物を閉め出すか死滅させ、自分だけの生存手段を求めて、ますますその食欲な輪を広げつつあるのです。この巨大な集団が発散するエネルギーや物質（廃棄物）は、生態系にとって有害なのです。東京などの大都市では、人口が増えるにつれて、鳥や魚や昆虫の数が急速に減少しています。そればかりではありません。日本のように、その食物の約70パーセントを海外諸国の人々の生産物にたより（輸入）、巨大産業経済を維持するために、海外諸地域の森林や鉱物資源、海洋資源などをむさぼることは、そのまま「兄弟を滅ぼし」、「神の働きを無にしている」であり、「もはや愛に従って歩んでいるわけではありません」と言われてしかるべきなのです。

問われているのは、わたしたちの食生活のあり方です。いかに食べものをつくり、それを分ち合って食べるかが、文字通り生死を決します。食べもののつくり方、食べ方が、海の向こうの兄弟姉妹たちの、そして全被造物のいのちを支えるようにならねばならないのです。「キリストはその兄弟たちのために（彼らが生きるためにも）死んでくださったのです」。

文化とは人間の生き方の総称ですが、これはカルチャーという語にあてはめた日本語であり、適訳とは言えません。カルチャーとは元来、耕す、育てるという意味であり、いのちを守り育てる生き方を指すのだと思うのです。

神の救いのわざ

創世記 6 章に始まる、ノアの箱舟の物語は、神の救いのみわざの真理を示しております。「この地は神の前に墮落し、不法に満ちていた。神は地を御覧になった。見よ、それは墮落し、すべて肉なる者はこの地で墮落の道を歩んでいた」。そこで神は、救いの箱舟をつくるよう、ノアに命ぜられます。そして神はノアと救いの契約を結ばれるのですが、その契約は人間の救いのためだけのものではないのです。すべての生き物を、雄と雌とひとつがいつ、そしてこれらのものの食べものとなるものを蓄えて、これらのいのちをも保つよう命ぜられるのです。人間ノアは、他の生き物すべてのいのちをも保つ負い目を、主なる神にあって負うよう命ぜられるのです。厳粛で美しい真理の物語です。このノアの箱舟の物語においても、地の乱れは、人がその道を乱したことに起因するという理解を、明らかにしています。

聖書には、神によってつくられたすべての被造物は、それぞれその所になくなって美しいことが記されています。詩編 104 編は、その代表的なもののひとつでありましょう。すべての被造物は、光も雲も風も水も地も、すべての生き物も一定の秩序に従っておおらかに生きているのです。

「家畜のためには牧草を茂らせ地から糧を引き出そうと働く人間のためにさまざまな草木を生えさせられる」(14 節)。食べものは、単に身体を支えるのみならず、「ぶどう酒は人の心をよこばせ、……パンは人の心を支える」(15 節)。そのような世界をつくり、維持したもう誠実な神の愛に心打たれた人は、「主よ、御業はいかにおびただしいことか」(24 節)と、主をほめたたえ、「どうか、主の栄光がとこしえに続くように。主が御自分の業を喜び祝福されるように」(31 節)と願い、

「どうか、わたしの歌が御心にかなうように」(34 節)と祈ってやまないのです。

わたしたちの、日々の生活の営み、すべての被造物との関わり、生態系の中で食事を守る行い— そのすべてが主なる神の愛によって生かされ、それを求め、分かち合い、それゆえに、すべてのいのちをいとおしむことによって、主に栄光を帰する生活へと導かれるのです。

わたし達の負い目

「わたしがあなたがたに伝えたことは、わたし自身、主から受けたものです」という言葉で始まるコリントの信徒への手紙 1 の 11 章 23—26 節は、聖餐式の制定語として用いられています。そして、その前後の箇所を味読すると、主イエスにあって生きること、信仰によって主のからだである教会、すなわち神の民、神の家族として食事を守ることが不可分の関係にあることが理解できます。わたしたちは、神のみ子イエスが、全被造物の救いのために、いのちのよみがえりのために、その血を流し肉を裂かれたことの負い目を代々の聖徒とともに負っているのです。

ローマの信徒への手紙 8 章 18 節以下には、このような負い目を負っているのは、わたしたちだけでなく、全被造物であり、創造主である神もまたそうであることが示されております。

被造物は、神の子たちの現れるのを切に待ち望んでいます。……被造物がすべて今日まで、共にうめき、共に産みの苦しみを味わっていることを、わたしたちは知っています。……同様に“霊”も弱いわたしたちを助けてくださいます。……“霊”自らが、言葉に表せないうめきをもって執り成してくださるからです。人の心を見抜く方は、“霊”の思いが何であるかを知っておられます。

(ローマ人への手紙 8 章 19～27 節)

生態系は、英語では、エコロジカル・システム、あるいはエコシステムであり、エコロジーはギリ

シア語のオイコス（家、共同体）とロゴス（知恵もしくはその体系）から成った言葉であるといえます。申すまでもなく、言語は、ある実体の抽象です。エコロジカル・システム、すなわち生態系とは、すべての被造物が、創造主であり、愛である神の知恵によって、ひとつの家族、共同体となっている実体を指すのでありましょう。このような実体というか、ビジョンというかを全宇宙的にとらえて、言語に抽象化した、先人の洞察力に、わたしたちは驚嘆すると同時に、それもまた大いなる神のみわざかとも思うのです。

わたしたちは罪深い人間による、何千年にもわたる生態系の破壊行為の負い目を負ってると同時に、主なる神が、み子イエス・キリストにあって全被造物を救われるその救いのみわざに、おそれと感謝をもってあずかる負い目をも負っているのです。

自然は美しく、生態系は一瞬の停滞もなく、秩序正しく律動を続けています。それは神の限らない愛と、神の救いのみわざへの誠実さを表わしているのです。そのすべてが、産みの苦しみを続けているのです。産みの苦しみは、創造の苦しみであり、望みの苦しみです。そのうめきは喜びを秘めております。それは、いのちをいとおしむ心の喜びであり、そこに秩序と価値の基盤があるのです。

わたしたちは、神の救いのみわざが成就され、生態系がみ心になった完全な形になるまで、感謝をもってともにうめき続けたいのです。

注釈

1. 本文中の聖書の引用は、『聖書』日本聖書協会、新共同訳による。
2. 高見は恐らく、1983年9月1日に起こった大韓航空機事件に言及している。大韓航空旅客機007便は、航法ミスでソ連の禁止領空に侵犯した後、ソ連の戦闘機によって撃墜された。乗員・乗客合わせて269人全員が死亡した。

Groaning Together with Creation

TOSHIHIRO TAKAMI

This article was first published in *Seisho to Kyôkai* ("Bible and Church") in November 1983. A later version appeared in Takami's 1996 book *Tsuchi to tomo ni ikiru* ("Living Together With the Soil").

We present this first English translation with the kind permission of the Board of Publications, The United Church of Christ in Japan.

Translation: Toshiaki Kusunoki

SOCIAL DISORDER AND THE DESTRUCTION OF NATURE

Hear the word of the LORD,
you Israelites,
because the LORD has a charge
to bring against you who live in the land:
"There is no faithfulness,
no love,
no acknowledgment of God in the land.

There is only cursing,
lying and murder,
stealing and adultery;
they break all bounds,
and bloodshed follows bloodshed.

Because of this,
the land dries up,
and all who live in it waste away;
the beasts of the field,
the birds in the sky
and the fish of the sea are swept away."
(Hosea 4:1~3, NIV)

Thus condemns the prophet Hosea of 600 B.C., or about 2,600 years ago, the world of his time. I think what his words depict fits right into the modern world that we have built so far.

Differences may be pointed out: (1) We do not have insights about the social and environmental state of our world as much as Hosea did about his own, nor do we either have the will or the power to speak out in the name of God as a protest against the given state, and (2) we are much too unscientific to properly utilize the scientific knowledge accumulated for centuries to improve such a devastating state.

Hosea's appeal is astute and clear: "There is only cursing, lying and murder, stealing and adultery; they break all bounds, and bloodshed follows bloodshed. *Because of this*, the land dries up, and all who live in it waste away; the beasts of the field, the birds in the sky and the fish in the sea are swept away." (Emphasis mine.)

Humans' numerous acts of sinfulness

and the state of disorder of the human world have been, and are still, threatening the very existence of the whole creation—the beasts, the birds, and even the fish. The only path to salvation from such a state, the prophet cries out, lies in listening to the Lord alone.

No lengthy explanations are called for here, I believe, as to how the greedy conduct of us humans has destroyed the natural environment, threatened the survival of all creation, and further, endangered the very existence of ourselves, the humans.

Through the mastery of scientific technologies, humans today play around with energies in hand that are more than capable of instantly destroying everything—from microorganisms to the whole ecological system of their planet. And in case you want to find out the details of these facts, the means of gathering the needed information are now readily available from the privacy of your room.

Recent news has it that every piece of radio communication between the ground command of a certain country and the pilot of its air force fighter concerning the attack on a commercial aircraft that was ‘violating the airspace’ was thoroughly monitored at a station thousands of kilometers away. Later, the exchange was reproduced and presented to the public in its entirety.¹ While having all the technical capabilities to do these things, the capability to save the more than two hundred lives on board that commercial jet was absent. Was it not for a lack of will to do so? Or, may we say that their true power lies in making the whole world believe that they don’t have the capability of saving those lives?

We pay acute attention to military issues. Because military actions destroy human lives both by direct and indirect violence. Threats to our lives, however, go

beyond military matters. Our sinful human conduct is advancing the destruction of life in every possible respect.

A certain UN research reports that desertification is accelerating on a global level. It says that about two billion tons of topsoil per year worldwide are washed off into the seas. This amount equals 0.5t (500kg) per capita on average. We hear that it takes approximately one million years for a topsoil layer of 10 cm to form under natural conditions. Such a valuable substance is being instantly washed away by unreasonable “development projects” and inappropriate agricultural technologies.

Needless to say, topsoil is a fundamental requirement to produce food. The topsoil erosion of two billion tons every year has caused a rapid decline of the earth’s food production capacity. Vis-a-vis this critical trend, the world population’s increase of 100 million people per year is phenomenal, recording a total of over 5.5 billion at present.

Main causes of topsoil erosion are (a) the traditional practice of slash-and-burn farming; (b) inappropriate agricultural methods and the forced introduction of foreign crops into one’s native environment; (c) large-scale deforestation in the name of sustaining industrialized urban societies, and also the destruction of lands for the purpose of exploiting underground resources, and so forth.

Of the above, (a) no longer poses a critical threat. That is mainly because the available land area left is rapidly decreasing and the populations of minority hill people, the main practitioners of this farming method, are declining under the overwhelming socio-political pressure of state powers and/or of plains dwellers. In “advanced industrial nations” this method has virtually died out today.

Then, (b) has to do with keeping the

industrialized societies of advanced industrial nations along with their populace “more affluent.” For that purpose, the developing countries (mostly agriculture-based ones) are led to adopt a mass use of chemical fertilizers and pesticides as well as a kind of agricultural technology that requires big capital. All over the world, large-scale cultivation is employed for the production of such non-essential food items as sugarcane, pineapples, bananas, a wide variety of spices, coffee, black tea, raw rubber, etc. They are exported to developed countries, and as import dealers decide the market price, the original producers have little say in it. Low-price dealings in the market result in the exploitation of the land and peoples of the developing countries. They widen the economic gap within the producing countries as well as among the nations involved. The bottom line of the situation is that the aforesaid erosion of the topsoil, or desertification, becomes ever harder to stop.

Finally, (c) large-scale deforestation and the mining of underground resources mainly go on in developing countries to sustain urban industrialized societies.

The latter, including Japan, wastefully mass-consume wood in the form of papers and all sorts of paper products. This directly leads to indiscriminate deforestation. Further, mining underground resources results in pile after pile of industrial waste. Here again, the destruction of soils, especially the topsoil, is being accelerated.

It goes without saying that both (b) and (c) are deeply related to our industrial activities and lifestyles in Japan.

The outflow of topsoil and the extinction of forests mean the loss of greenery and the destruction of a sound, balanced ecological system. The photosynthetic working of green-

ery, or green plants, helped by sunlight and thermal energy, make carbohydrates from carbon dioxide in the air, and fixes it in the body of plants. Normally, carbon makes up for more than half of the weight of a dried plant. The energy that plants and animals need to live depends upon various carbon compounds, that is organic compounds. In order to release such energy, oxygen is necessary.

Herbivores eat plants, carnivores eat other animals, and omnivores like humans eat both plants and animal flesh. Their dung and dead bodies return to the soil, are then reduced to organic and inorganic matters, which then form themselves into plants again by the workings of roots and others. Then, photosynthesis takes place in the newborn plants, and the cycle repeats.

However, as humans grow in number at an accelerated pace, they are driving greenery to the brink of extinction with their greedy industrial activities. The loss of greenery impedes the continued supply of organic compounds, the energy source of living beings, and the oxygen needed to release that very energy. In short, the destruction of greenery by human hands, along with the erosion of topsoil, ruins the ecological system and threatens not only our human lives but the very survival of all living things.

The story does not end there. The pace of population growth often surpasses our ability to adapt to society. Many people cannot find their role in society, which leads to unemployment and anti-social behavior. In other words, environmental destruction is closely related to societal collapse. This is intensively expressed in our eating habits, especially the way we eat meals, or the act of taking food to support our own life.

FOOD AND THE CREATION

If your brother or sister is distressed because of what you eat, you are no longer acting in love. Do not by your eating destroy someone for whom Christ died. ... Do not destroy the work of God for the sake of food. All food is clean, but it is wrong for a person to eat anything that causes someone else to stumble.

(Romans 14:15 and 20, NIV)

The ecological system in which all created things keep the most subtle co-relations among themselves exceeds our imagination, and it is composed of an exacting yet beautiful order and dynamism. That is where humans live by taking plants and other animals. However, humans are the only species, I believe, that tries to willfully and systematically take more food than needed to satisfy its greed. But it is impossible for a human body to continue eating more than it needs without endangering itself. This is how mountains of waste and leftovers are created. A lot of oxygen is required for produced foods (vegetables and meats) to rot and ferment (oxidize) so as to return to the cycle of the ecological system. When leftover foods in big cities are dumped into rivers and seas via gray water systems, the oxygen in the water is expended to treat them, causing many lives in the water to die from the lack of oxygen. (The Tokyo metropolis is reported to 'produce' 20,000 tons of garbage per day!)

It seems that the eating habits of Japanese people can no longer be described as a solemn act to sustain their lives. At hot spring inns and wedding halls, the amount of food being served is obviously several times of what one individual is able to eat. Knowing very well that this obviously creates lots of waste, people continue to

gobble, believing it to be a sign of "affluence."

One owner of a small inn reportedly had this to say: "Even my inn produces two plastic buckets of leftovers every day, each one a meter tall. I do think it's wasteful, but if I stop serving heaps of food my customers will simply go elsewhere, to inns and hotels that are more gorgeous (that is, produce more leftovers)."

This is a typical phenomenon of 'left-over economics' as I name it. As you have heard, "Even knowing that doing 'this' results in 'that,' there is no way around it..."² leftovers are produced in a conscious, intentional, and systematic manner. We have created a system that leaves us no other choice. This is a striking phenomenon found in humanity's industrialized urban societies but not in the workings of nature. Metropolitan areas become overpopulated by the single species called humans, who then try to exclude or wipe out other living things from there. Humans are ever-inflating their greed in the pursuit of the means of survival, but only for themselves. The energy and waste materials that this gigantic collective of humans discharges are harmful to the ecological system. In Tokyo and other big cities, the number of birds, fish, and insects is drastically decreasing as the human population increases. Moreover, Japan depends on foreign countries for its foodstuffs by about 70%. To crave for overseas countries' forests, minerals, and maritime resources for the sake of sustaining Japan's gigantic industrial economy is nothing but an act of "distressing and destroying your brothers and sisters, and destroying the work of God," and we ought to describe this state of affairs as "no longer acting in love."

What's at stake is the way our 'food-life'³ should be. How we produce foods, how we

eat them by sharing is, literally, a life and death question. How we produce foods and how we eat them must be in such a way that protects the life of brothers and sisters overseas and that of all created things. They are lives “for whom Christ has died,” that is, for them to live.

The Japanese word *bunka* is a generic term covering all aspects of human activities. When it is adopted to mean ‘culture’ in English, the translation is not proper. ‘Culture,’ at its very root, has a meaning of ‘cultivating, growing.’ Therefore, it points to a kind of lifestyle that protects life and helps it grow.

GOD’S WORK OF SALVATION

The story of Noah’s Ark in the Book of Genesis shows the truth of God’s work of salvation. It reads: “Now the earth was corrupt in God’s sight and was full of violence. God saw how corrupt the earth had become, for all the people on earth had corrupted their ways” (Genesis 6:11–12). God tells Noah to make himself an ark of salvation and establishes His covenant of salvation with Noah. This covenant is not just for the salvation of humankind. God commands Noah to bring into the ark two of all living creatures, male and female, to take every kind of food that is to be eaten for them, to keep these lives alive with him.⁴ The human Noah is thus held accountable by God to help sustain the life of all those creatures. It’s a story of solemn and beautiful truth, but this story of Noah and the ark also makes clear an understanding that earth’s corruption originates from the humans’ corrupt way of living.

The Bible says that every creature that is

made by God is beautiful in and by itself wherever it may be. Psalm 104 is a representation along this line. All created things—the light, clouds, wind, water, soil, all the living things—live life to its fullness in accordance with a given order.

“He makes grass grow for the cattle, and plants for people to cultivate—bringing forth food from the earth.” Here, food for humans not just sustains the body but includes “wine that gladdens human hearts, ... and bread that sustains their hearts.” Those who feel moved by the true love of God praise the very creator and sustainer of such a world, “How many are your works, LORD,” and wish, “May the glory of the LORD endure forever; may the LORD rejoice in his works.” Finally, they pray: “May my meditation be pleasing to him.”⁵

Our daily workings, our involvement with all created things, our food-taking following the order of the ecological system—all of these ought to be in line with the love of God, our Lord. We should strive for a way of such living, and share it. Because of that, we are called to give glory to God by cherishing all lives that are precious.

OUR ACCOUNTABILITY

Verses 23 to 26 in 1st Corinthians, chapter 11, that begin with, “For I received from the Lord what I also passed on to you,” are pronounced at the Eucharist, or Holy Communion service. Reading the passages before and after those, we come to understand that ‘to live in Christ Jesus’ and ‘to observe meals through faith’ as the church, which is the body of Christ, the people of God, the family of God, are indispensably related to each other. Jesus, the son of God, shared his blood and flesh for the

salvation of all creation and the resurrection of life. We are held accountable for this fact together with the disciples of past generations.

Verses 19 and following in Romans, chapter 8, tell us that not only we humans, but all created things—even God the Creator—are equally held accountable: “For the creation waits in eager expectation for the children of God to be revealed. ... We know that the whole creation has been groaning as in the pains of childbirth, ... In the same way, ... the Spirit himself intercedes for us through wordless groans. And he who searches our hearts knows the mind of the Spirit” (Romans 8:19, 22, 26–27).

The word ‘ecology’ is a compound word, so I hear, coming from two Greek words, *oikos* (‘house,’ ‘community’) and *logos* (‘wisdom,’ or its system). Needless to say, language is the abstraction of a certain entity. ‘Ecological system,’ therefore, refers to an entity in which the whole creation is united into one family, one community by the wisdom designed by the Creator, the God of love. We are simply amazed by our predecessors’ scope of insight in that they grasped such an entity, or a vision, in the context of the whole universe and abstracted it into language. At the same time, I cannot but consider that that fact, too, must be a part of God’s workings.

We are held accountable for the destruction of the ecological system by sinful humankind over thousands of years. At the same time, we are also held accountable to take part, with awe and thanksgiving, in the Lord God’s work of salvation for the whole creation by his child Jesus Christ.

Nature is beautiful, and the ecological system keeps an orderly rhythmic movement, with neither break nor error. It repre-

sents God’s eternal love and the integrity of God’s work of salvation. All of it is groaning as in the pains of childbirth. The pains are those of creation and of hope. The groaning here bears joy. It is a kind of joy from the heart which takes life dearly, and in it, there is the foundation for order and value.

We want to keep groaning until the time when God’s work of salvation is accomplished and when the ecological system as designed by God makes a full recovery.

NOTES

1. Takami is likely referring to the Korean Air Lines Flight 007 disaster that happened on September 1, 1983. The passenger jet was shot down by a Soviet interceptor after entering prohibited Russian airspace by mistake. All 269 people on board died.

2. Takami quotes a witticism of late Edo Period scholar Shōin Yoshida: “Even knowing that doing ‘this’ results in ‘that,’ there is no way around it—that’s the Japanese spirit.” (*Kaku sureba kaku naru mono to shirinagara, yamu ni yamarenu—yamato-damashii*). It means that while knowing the outcome of an action all too well, one has no choice other than doing it that way.

3. The word that Takami uses in Japanese is *shokuseikatsu* which commonly means ‘eating habits.’ (*Shoku* means eating and food, *seikatsu* denotes human daily and personal life.) We chose to translate this word from Takami’s mouth here as ‘food-life’ as we believe that ARI’s concept of Foodlife (*fūdoraifu*) evolved from the reflection and conversation on *shokuseikatsu*.

4. Compare with Genesis 6:19–21.

5. See Psalm 104: 14–34.

About “euodoō”

This journal presents articles and theses written predominantly by ARI staff and community members that explore ARI’s foundational spirit, motto, key concepts, and training program. It aims to improve supporters’ understanding of ARI while also promoting the values and philosophies ARI holds dearly to new audiences. In the past, articles and theses about ARI were scattered and not well publicized; even staff members were often unaware of their existence. In order to give these important writings new life and inspire a new generation of ARI friends and supporters, we deemed it meaningful to reorganize and republish them in journal form. The journal is published annually and is also available electronically via the ARI homepage.

“Euodoō,” the journal’s name, is derived from Greek. The root meaning is “prosperity,” but another translation of *euodoō* is “a good way.” We humans have achieved prosperity and development in many ways, but we need to ask ourselves whether the way in which we have attained those has been through “a good way.” Did we destroy what is necessary for the next generation? Did we disregard new lives to come? Reflecting on our past activities while presenting a challenge to ourselves as responsible agents for the future, we need to keep asking, “Is this a good way?” The name “euodoō” shows our will to prepare a space for careful consideration of this question.

The journal’s subtitle, “Journal of Rural Future Study,” is also significant. One of the intentions of the journal is to reconsider our image of what the future should be, instead of simply recording important events in the history of ARI, or extrapolating current trends. Further, we want a future that is derived from images of all creatures standing firmly on a living soil. Considering what healthy rural communities can and should look like is another important aspect of the works presented here.

アジア学院紀要「ユオードー」について

アジア学院紀要は、アジア学院の理念、思想、強調する価値観のよりよい理解と啓蒙のために、創設の理念、モットー、キーコンセプト、研修内容などについて、主にアジア学院の職員やアジア学院関係者が書いた論文等を集め、アジア学院をご支援いただいている方々、関心を持っていただいている方々に広く読んでいただくために発行するものです。これまでもアジア学院に関して多くの方々が取材や研究をし、それを記事や論文等の形で世に出してくださっていましたが、それらはばらばらに保管されているだけで冊子のようにまとめられていなかったために、内部の人間にすら読まれる機会は限られていました。その中には優れた研究や作品も少なくなく、アジア学院の理念を再認識するうえでも、より多くの方々に理解していただくためにも、さらに後世に伝えていく上でも紀要として定期的にまとめ、発行していくことに意義があると思っております。紙媒体とともにPDF版も制作し、ホームページ等からダウンロードできます。

この紀要は副題を「土に生きる未来学」、名前を euodoō (ユオードー) としました。「土に生きる未来学」としたのは、この紀要が単なる過去や現在の記録に留まらず、私たちがあつべき未来について再考する機会となることを願ったからです。さらにその未来は、生きとし生けるものがしっかりと大地に足をつけ「土に生きる」という希望の元にあるべきという考えから、「土に生きる未来学」という副題が付けられました。

Euodoō (ユオードー) はギリシャ語で「繁栄」(prosper) の語源となっている言葉ですが、ギリシャ語の直訳は「善い道」という意味です。人間はまさに繁栄や発展を目指して懸命に生をつないできたわけですが、果たしてそれはずべて「善い道」であったのか。後世に伝えるべきものの多くを破壊し、傷付け、未来の命を軽んじてはこなかったか。そのような反省をこめて、しかしなおも未来に対して責任ある主体としてこれから何をなすべきか、この紀要がその答えの追及を活発に行う場となるようにこの名を付けました。



euodoō — Journal of Rural Future Study

ユオードー ・ 土に生きる未来学

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Living at a pace slow enough to sing songs to goats is a kind of farming which the modern capitalist economy doesn't allow... Yet, here I have written some examples of smallholder farming that is connected to the local land, farming that is in harmony with nature, farming that is in harmony with the heart.

Makito Fujii

ヤギに唄を聴かせるような間延びした時間を過ごす、現代の資本主義経済が許さない農業。資本主義経済の中では全く通用しない農業。あるいは、自然に合った農業、心に合った農業、在地と結びつく小農の営みの、ほんの一例を本稿に書き記した。

藤井 牧人