MICRO, SMALL, AND MEDIUM ENTERPRISES IN AGRI-FOOD

A STUDY OF THE PHILIPPINES, VIETNAM AND PERU

GISÈLE YASMEEN, ROSLYN KUNIN, VIETNAM SILICON VALLEY



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ABOUT THE AUTHORS

GISÈLE YASMEEN, PH.D, is Senior Fellow at the University of British Columbia's (UBC) Institute of Asian Research and Adjunct Professor at the School of Environment and Sustainability at Royal Roads University. She is a consultant and advisor to numerous Canadian and international organizations. Dr. Yasmeen has served on the boards of the Foundation for International Training and the Vancouver Women's Health Collective and is currently on the board of Crossroads International. She has published widely and provides regular media commentary. She was Vice-President of Research and Partnerships at the Social Sciences and Humanities Research Council from 2007-14 and previously worked in a number of research-related leadership positions in the academic, public, and not-for-profit sectors. Dr. Yasmeen has a PhD from the UBC, an MA from McGill University and a BA Honours from the University of Ottawa. She has lived around the world, is fluent in English and French and has studied Thai, Urdu, Spanish, and Mandarin.

LINH HAN is Chief Executive Officer of Vietnam Silicon Valley (VSV). He co-founded and leads the VSV Accelerator, which has invested, accelerated and mentored over 40 start-ups in Vietnam since 2014. The VSV Accelerator is the first of its kind in Vietnam with up-and-coming start-ups in its portfolio such as Lozi.vn, TechElite, SchoolBus. vn. VSV Accelerator's portfolio grew four and a half times in value since its inception.

Mr. Linh Han has a background in Business Administration and Economics from the University of Kent in the United Kingdom. He also served as Vietnam Silicon Valley (VSV) Project Executive Coordinator since June 2013. VSV is the first initiative from the Vietnam Government to target and support start-ups and venture investors in Vietnam. With its initial success, the VSV Project has been extended until 2020 by the Prime Minister.

THANG TRAN is the coordinator and program manager of VSV Accelerator. His career began at the Bank Training Center – the first professional banking training organization established by the ten largest banks in Vietnam. In 2012, he moved to ATV Vietnam where he has participated in many important projects of the company as a researcher and project specialist where he contributed to the five-year plan for VSV approved by Minister of Science and Technology, researching the landscape of the start-up ecosystem, implementation planning and developing guidelines for organizations that want to become business accelerators. Since 2016, he concurrently assumed the role of program manager for the VSV start-up accelerator. As a student, he was selected to represent his university to take part in the Vietnam National Competition of Student in Free Enterprise (SIFE) - a well-known and successful program helping university students to create community empowerment projects in 2010. Mr. Thang Tran holds BA in Business Administration from Phuong Dong University.

DR. ROSLYN KUNIN was educated in Québec and Ontario, finishing her studies with a Ph.D. in economics from the University of British Columbia. The University of Victoria granted her the degree of Honorary Doctor of Laws. She has been awarded the Crystal Ball Award by the Association of Professional Economists, the Woman of Distinction Award by the YWCA and a Canada 125 medal for service to Canada and is a member of the Order of Canada and the Order of British Columbia. Dr. Kunin has served the community in many positions including Chair of WorkSafe BC, Chair of the Vancouver Stock Exchange, Director of the Business Development Bank of Canada, Governor of the University of British Columbia, Director of the Canada West Foundation and member of the National Statistics Council.

In her career, Dr. Kunin has worked in the private sector, written a weekly newspaper column, taught at several Canadian universities including Simon Fraser and UBC and served twenty years as Regional Economist for the federal government in B.C. and Yukon. She is in private practice as a consulting economist.

INTRODUCTION

Asia-Pacific Economic Cooperation (APEC) economies are transforming rapidly due to economic, demographic, and technological change. Micro, small, and medium-sized enterprises (MSMEs) in the agri-food sector are important for addressing food security, meeting growing consumer demand, and reducing poverty through inclusive and sustainable development. This paper focuses on agri-food MSMEs in three APEC economies – namely, the Philippines, Vietnam, and Peru. In all three countries, MSMEs in the agri-food sector constitute a significant part of the economy. Furthermore, agri-food MSMEs have a critical role to play in addressing a number of the United Nations Sustainable Development Goals adopted in 2015, particularly those related to hunger and poverty reduction.

The importance of this topic is best encapsulated by the following quote from the Niigata Declaration on Food Security in APEC Economies in 2016:

An agribusiness sector that links farmers and consumers plays an increasingly pivotal role in food security as economies develop and food is provided through longer value chains. Governments must thus act to improve the investment climate to induce the entry of investors and to address bottlenecks to the development of micro, small and medium sized agro-enterprise. (Niigata Declaration, 2016)

This paper introduces the conceptual framework and core research questions, situates the importance of the topic with respect to key contextual crosscutting and strategic issues, provides findings on the three economies, and concludes by pointing to practical recommendations and other suggestions for policy and program design.

CONCEPTUAL FRAMEWORK AND RESEARCH QUESTIONS

This paper takes a systems view of the agri-food supply chain with respect to MSMEs. We make use of UN Food and Agriculture Organization (FAO) economist David Neven's (2014) concept of sustainable food value chains (SFVCs). He defines an SFVC as:

the full range of farms and firms and their successive coordinated value-adding activities that produce particular raw agricultural materials and transform them

into particular food products that are sold to final consumers and disposed of after use, in a manner that is profitable throughout, has broad-based benefits for society, and does not permanently deplete natural resources (Neven, 2014, vii).

Neven's SFVC concept is different than a simple supply chain due to its emphasis on vertical co-ordination through governance mechanisms, mapping of entire sectors, and explicit references to value added and sustainability as performance measures.² With respect to agri-food MSMEs in particular, the work of Alison Eskesen et al of Shujog, commissioned by Oxfam, provides useful frameworks to guide analysis. As they remark, "most governments have unique national definitions for SME; however, they are relatively similar and frequently based on the World Bank's definition, where an enterprise qualifies with two of the three following indicators" as indicated in Figure 1 (Eskesen et al, 2014, 6).

Figure 1. World Bank indicators of micro, small, and medium enterprises

INDICATOR	MICRO ENTERPRISES	SMALL ENTERPRISES	MEDIUM ENTERPRISES
EMPLOYEES	< 10	10 < 50	50 < 300
TOTAL ASSETS	< \$100,000	\$100,000 < \$3 million	\$ 3 million < \$15 million
TOTAL ANNUAL SALES	< \$100,000	\$100,000 < \$3 million	\$ 3 million < \$15 million

Eskesen et al define agriculture-related small and medium-sized enterprises (SMEs) as those businesses operating within the agriculture value chain – which is similar to Neven's SFVC – but focusing on firms producing at a scale where they need capital and support services to grow.

The agriculture value chain refers to the series of processes and transformations that are required to produce an agricultural product and bring it to market. At each

In keeping with Amartya Sen's work (Sen, 1986), Neven and others see food security related primarily to income, with high incomes boosting demand, and a more efficient agri-food system reducing food costs and potentially increasing other benefits to both producers and consumers of foodstuffs: "Initially, SFVC [Development] focuses mostly on efficiency improvements that reduce food prices and increase food availability and thus allow households to buy more food. However, as their incomes increase, households tend to spend more money on higher-value food (i.e. food with improved nutritional value, greater convenience, health benefits or better image) rather than increase the amount of food they consume. In turn, this evolution of consumer demand becomes a core driver for innovation and value creation at each level of the food chain, leading to continuous improvement in the food supply and increasing benefits to consumers" (Neven, 2014, viii).

stage of the value chain, the product undergoes certain processes which could range from biological transformation to value-add processing to transportation or storage. (Shujog, 2014, 6)

Figure 2 is a visual aid for conceptualizing value chains as they relate to agri-food MSMEs.

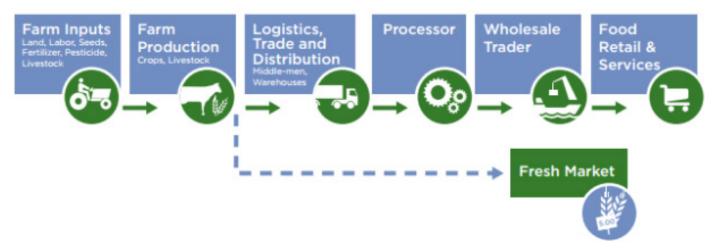


Figure 2. Agricultural value chain Source: IFC 2011, cited by Eskesen et al, 2014, 5

This study also addresses the informal economy – a very significant feature of low- and middle-income countries and growing phenomenon in countries of the global north. Finally, this report also utilizes the concept of eco-innovation, which the European Commission defines as "Any form of innovation aiming at significant and demonstrable progress towards the goal of sustainable development. This can be achieved either by reducing the environmental impact or achieving a more efficient and responsible use of resources" (European Commission, 2017, and see Bontoux and Bengtsson, 2015). These conceptual tools enable us to engage in debates on the emerging sharing economy and non-standard employment (ILO, 2016), which challenge conventional policy-making assumptions, as these assumptions tend to be based on the standard employment relationship, which has never been standard in the global south.

The study addresses the following three research questions:

- What are the obstacles experienced by agri-food MSMEs in the focus economies?
- What opportunities and positive socio-economic changes are provided to agri-food MSMEs and aspiring entrepreneurs in the focus developing economies with the advent of specific technologies and innovations?

 What are the business/management and policy/regulatory best practices that facilitate capacity building among agri-food MSMEs and aspiring entrepreneurs in these three countries?

In answering these questions, attention is paid to examples of social entrepreneurship, market access, and practical policy implications. Crosscutting issues of gender, involvement of youth, and environmental impacts are taken into consideration throughout, and the next section in particular mentions these as well as other issues that touch on all three countries. Synthesis and analysis of available literature and statistics combined with key informant interviews formed the backbone of the methodology to create three case studies in the Philippines, Vietnam, and Peru in the rapidly growing and diversifying agri-food sector.³

We focused in particular on reputable literature generated over the past five to seven years. High-quality statistical sources from the UN Food and Agriculture Organization (FAO), the International Labour Organization, the World Bank, and the statistical agencies of the focus countries as well as various sources assembled by APEC all proved to be particularly useful. Finally, two informant interviews per country were conducted using a standard interview guide, with the objective of filling gaps not addressed by existing literature and statistics. Where required, we point to weaknesses and potential inaccuracies with respect to available information with the goal of guiding future research and policy analysis, and as an aid to policy-makers.

AGRI-FOOD MSMES

IN THE PHILIPPINES, VIETNAM & PERU

Prepared for the Asia Pacific Foundation of Canada by Gisèle Yasmeen, Roslyn Kunin & Vietnam Silicon Valley

WHY AGRI-FOOD MSMES?



Adressing food security



Meeting growing demand



Poverty reduction & inclusive growth

01

Obstacles?

02

Opportunities & positive socio-economic changes?

RESEARCH QUESTIONS

03

Business/management and policy/-regulatory best practices?

STRATEGIC ISSUES















Sustainable Agri-food value chain

Increasing producer incomes beyond subsistence

Reducing food waste along chain, esp.post harvest

Providing Technical support/extension-Access other technologies

Recognizing the important role of informal enterprises in LMIC economies

Facilitating access to domestic and international markets

VALUE ADDED AGRI-FOOD MSMES

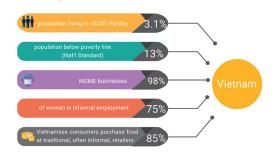


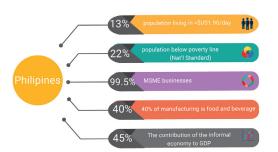
Agro-industrialization strategies for inclusive arowth in low &middle-in













CONCLUSIONS AND POLICY RECOMMENDATIONS

Develop clear and consistent definitions

Develop explicit "agro-industrialization" strategies

Develop infrastructure, financing, technology, and information support

Map out primary opportunities

Increase co-operation among APEC economies

MSME I FUELING HIGH-TECH STARTUPS

CROSSCUTTING ISSUES AND STRATEGIC CONSIDERATIONS WITH RESPECT TO AGRI-FOOD MSMES

Whereas the Philippines and Vietnam are classified by the World Bank as low- to middle-income countries (LMIC), Peru is grouped within the upper-middle-income strata (World Bank, 2017). Hence, the degree to which crosscutting issues play out in each economy depends on the level of poverty in each jurisdiction as well as other, contextual issues, as will be described in the more detailed case studies.

CROSSCUTTING ISSUES

Gender is an important lens through which to view agri-food MSMEs in all three economies. Specifically, women in all three countries are disproportionately found within the informal economy and are also a significant presence in formal agri-food MSMEs.

Similarly, youth in the Philippines, Vietnam, and Peru all show an interest both in the food and beverage sector and in entrepreneurship in all three countries. However, due to ease of entry and lack of opportunity in informal enterprises, we find that young people are also disproportionately found within the informal economies of all three countries.

Furthermore, environmental degradation and climate change pose significant risks in all three focus countries as well as all APEC economies and, of course, globally. Agricultural "production growth depends on expanding cultivable areas, productivity growth and continuing favorable weather conditions" (Piura Declaration). Climate change is affecting raw material supply, cultivation, and cultivation patterns (FAO, 2014, 3), and archipelagos such as the Philippines face particular challenges in terms of the survival of coastal communities. Minimizing negative environmental impacts is therefore imperative as part of the approach to agri-food MSME development. MSMEs offer the potential for the creation of "green" livelihoods through industries such as aquaponics, solid waste recycling, and organic food. However, in order to be successful, MSMEs need access to capital, credit, skilled labour, and markets, both domestic and international.

There are also a host of other issues that warrant being mentioned at the outset rather than repeated in all three case studies. These are listed below:

Food security is a serious concern in all three countries, as well as at an international level. "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (APEC, 2014 – Food Security Road Map based on FAO's 1996 definition as cited in the Niigata Declaration). There has been a general shift from subsistence agriculture and associated activities, such as fishing and hunting, where communities feed themselves, to the development of a commodified global food system and associated value chains where consumers primarily purchase food. This shift is concomitant with the growth in urbanization.

Hence, poverty and low incomes, not scarcity, are direct causes of food insecurity. "The world already produces more than 1½ times enough food to feed everyone on the planet" (Gimenez, 2012). Rural and urban poverty still looms large in countries such as the Philippines, Vietnam, and Peru. Remarkably, however, these are some of the fastest-growing economies in Southeast Asia, which offers enormous potential for MSMEs, including in the agri-food sector. Hence, one of the most important reasons to focus on MSMEs in the agri-food sector in selected APEC economies is their potential to boost incomes and reduce poverty. While

⁴ As indicated in Appendix A, APEC has made numerous public commitments to food security and agrifood issues dating back as far as 1999.

As the Nobel Prize-winning economist Amartya Sen and others have demonstrated, food security is primarily about distribution, access to food, and purchasing power, as the planet currently produces enough food to adequately feed the current world population (Sen, 1986). "One billion people suffer from hunger, yet there is enough food produced in the world to feed each person 2,700 calories and 75 grams of protein per day. Clearly, the world's food is not reaching those in need" (USC, 2016, iv).

large agri-food conglomerates are well positioned to respond to growing demand, MSMEs offer potential to share more equitably in economic growth by promoting grassroots entrepreneurship, encouraging the participation of women and youth, and generating wealth within local economies.

Attention to production of food, and related questions of food wastage through improved post-harvest technologies, should not be overlooked. LMICs all face significant infrastructural and technological challenges in terms of improving transportation, refrigeration, and adequate food storage (Eskesen et al, 2014, 9). "According to FAO reports, one third of the food for human consumption is discarded or lost every year, which is a waste of the natural resources used for its production. If one quarter of the food lost or wasted around the world could be saved, it would be an amount sufficient to feed the 842 million undernourished people in the world" (Beijing Declaration, 2014). Less food wastage can significantly increase supply and help quell questions of price volatility for staple foods, which is an enduring, international concern.⁶

Another issue of crosscutting importance relates to the growth in domestic and international markets for agricultural commodities – such as rice and soy – and, more importantly, value-added agri-food products. The Philippines, Vietnam, and Peru have all seen rising domestic and international demand for both agricultural commodities and value-added agri-food products as their and other societies become wealthier and increasingly urbanized. Demand for products that go beyond traditional staples of rice or corn, fish/poultry, and vegetables to include wheat, packaged and processed food, as well as food service industries is a distinguishing feature of the economic transition within and beyond the APEC region. All three countries have a growing services sector, also as a result of rapid urbanization (FAO, 2014, 3). The growth of the middle class in domestic and international markets offers unprecedented opportunities for agri-food-related specialty and niche industries. For example, global sales of certified organic food reached US\$80B in 2014 (Willer and Lernoud, 2017). This represents significant opportunities for MSMEs within APEC economies as well as exports.

⁶ "The food price spike in 2007 and 2008 served as a wake-up call about the vulnerability of long-term food security" (Niigata Declaration).

⁷ "MSME data on the informal sector are scarce and are not comparable across countries. This is due to differences in the definition of the informal sector and in estimation methods. Estimates of the informal sector are needed in order to make a comprehensive evaluation of the MSMEs' contribution to economic development. This data gap could be filled by surveying MSMEs operating in the informal sector or by encouraging institutions that collect MSME data on the formal sector to also develop estimates of the size of the informal sector" (Kushnir et al. 2010, 2).

Related to poverty is the fact that all three countries are home to a large informal economy, not usually reflected in official statistics. The informal economy is comprised both of informal enterprises, which are not registered, and informal employment within both formal and informal enterprises – for example, undocumented migrant workers in formal agriculture and/or food service (Vanek et al, 2014). However, it would be inaccurate to think of informality and formality as a dichotomy, as it is rather a continuum, and many authors have demonstrated the integration between the formal and informal economy within global value chains – such as in the garment industry. This applies to the agri-food sector as well.

As noted in the Piura Declaration, the global population is expected increase to 9.7 billion by 2050, which means 60% more food will be needed (Piura Declaration, 2016). However, food security for future generations is contingent on uncertain population projections and associated dietary choices. In other words, a diet high in animal and dairy products will likely require higher production of food, water, and energy that may, eventually, outstrip supply. Many would argue that, ultimately, feeding the world is mostly a question of political will rather than food supply.

The importance of micro, small and medium enterprises (SMEs) in contributing to food security and nutrition and to the well-being of Asian economies cannot be overstated. Formal and informal SMEs together account for 60 per cent of gross domestic product (GDP) and for more than 90 percent of employment in both developing and advanced economies. In Asia-Pacific, SMEs account for over 97 percent of all enterprises and employ over half of the workforce. (FAO, 2015, iii)

Apart from the UN Sustainable Development Goals related directly to food security and poverty reduction, access to clean water and basic sanitation as per Goal 6, reducing food- and water-borne illnesses.

STRATEGIC CONSIDERATIONS

Given the context previously described and the overarching objectives of developing

As will be explained in later sections of this report, informal enterprises are often beholden to money-lenders, exacerbating the credit and financing issues, which their more formal counterparts also face. "It is estimated that, between 45-55% of formal SMEs do not have access to loans from formal financial institutions in developing countries, and this figure increases to 72% when informal SMEs and micro-enterprises are included" (Eskesen et al, 2014, 7). Furthermore, regulatory frameworks – particularly at municipal levels – are often hostile to informal enterprises, resulting in evictions, bribery schemes, and general efforts to eliminate the sector, despite the fact that the majority of the populations in LMICs have livelihoods in the "grey" or informal economy, primarily because they have few other options (Mahajan, 2016).

⁹ A recent study challenges this common assumption (Mottet et al, 2017).

agri-food MSMEs in LMICs, there are five strategic considerations that shape the three case studies, conclusions, and recommendations addressed in the remainder of this paper.

- 1. Increasing rural incomes through investments in higher-value-added crops and improved productivity;
- Investing in simple post-harvest technologies to reduce significant waste in the food chain and increase access to domestic and international markets; Providing technical support, such as extension services, and helping MSMEs access other technologies and financing;
- 3. Facilitating access to growing domestic and international markets through better information, standardization, and appropriate integration into trade agreements; and
- 4. Recognizing the important role of informal enterprises in LMIC economies, and providing support to transition to more formalized structures without compromising the livelihoods of the poor.

SECTION 2

PHILIPPINES CASE STUDY

The Republic of the Philippines, with a population of over 100 million – half of which is defined as rural – is an archipelago of more than 7,000 islands. The Philippines is distinctive due to its unique heritage blending Malayo-Polynesian, Spanish, and American influences as well as a significant minority of Chinese ancestry. Patterns of landownership resemble Latin America more than Asian countries due to the Spanish colonial influence and the dominance of wealthy landowning families. Economically, the Philippines is also unique due to the role of overseas employment of Filipino workers, who generate significant foreign exchange and remittances. The Philippines is classified as a lower-middle-income country by the World Bank, with 13% of the population living on less than US\$1.90 per day (11% of the employed population) and 22% below the nationally established poverty line (World Bank, 2017b). Nevertheless, "The World Bank projects that real GDP will grow at a rate of 6.9 percent in 2017 and 2018," making the country one of the fastest-growing economies in the Association of Southeast Asian Nations (ASEAN) (World Bank, 2017b).

CONTEXT OF SPECIFIC AGRI-FOOD ISSUES

Like Vietnam, a distinguishing feature of the agri-food system in the Philippines is the preponderance of wet rice agriculture complemented by horticultural activities, fishing, and various forms of animal husbandry. Approximately one-third of the country's land area is classified as arable (Nations Encyclopedia, 2017). While some authors have indicated that the three-quarters of cultivated areas are devoted to subsistence crops, with the remainder oriented toward commercial production, a recent article by Dr. Ronaldo Dy, a professor at the Centre for Food and Agri Business at the University of Asia and the Pacific (2017), points to the complexity around quantifying subsistence with respect to the reality of many smallholder Filipino

farmers who combine subsistence activities with some cash crops, such as coconuts – the country's most important export crop – and combining this with income from overseas remittances. Due to patterns of unequal land distribution, many Filipino farms are small. Furthermore, 30% of the agricultural land is suffering from erosion (Nations Encyclopedia, 2017). The Philippine Statistics Authority (PSA, formerly the National Statistics Authority) estimated that, in 2012, 38.3% of farmers and 39.2% of fishers earned incomes below the national poverty threshold. This is a slight improvement from 38.5% and 41.2%, respectively, in 2006 (Dy, 2015). The Filipino agriculture sector employs 32% of the workforce and is estimated at 11.2% of GDP (Agriculture and Agri-Food Canada, 2014). Apart from staples such as rice and fish, the country produces considerable amounts of sugar cane and is the world's top producer of coconuts, accounting for approximately 23% of the world's production. Nevertheless, the Philippines is a net importer of agri-food and seafood products (Agriculture and Agri-Food Canada, 2014).

The rapidly urbanizing population with rising incomes is a driving force of the Filipino agri-food system. Annual per-capita consumer expenditure was US\$2,061 in 2013, much of that in urban areas. Spending on food and non-alcoholic beverages represents US\$874.70, or approximately 42.4% of that total, higher than the Asia Pacific average of 22.7%, and also higher than Canada's proportion of 9.6%. The foodservice industry is expanding as income levels improve, and is forecasted to reach total-value sales of US\$10.7B by 2014 (Agriculture and Agri-Food Canada, 2014). Finally, the Filipino population is becoming more health conscious, with sales of health and wellness products rising fast. Sales in the health and wellness category were expected to grow by 6.5% from 2013 to 2015 to reach a total of US\$6.2B (Agriculture and Agri-Food Canada, 2014).

OFFICIAL DEFINITION OF MSMES IN THE PHILIPPINES AND RELATED STATISTICS Micro, small, and medium enterprises in the Philippines are defined by the Republic Act 9501 as:

any business activity or enterprise engaged in industry, agribusiness and/or services, whether single proprietorship, cooperative, partnership or corporation whose total assets, inclusive of those arising from loans but exclusive of the land on which the particular business entity's office, plant and equipment are situated, must have value falling under the following categories: micro, small, and medium enterprises. (Republic Act 9501)

According to the law, a micro-enterprise is an enterprise where its capital is PHP3,000,000 or less, a small enterprise has capital of at least PHP3,000,001 up to

PHP15,000,000, and a medium enterprise has capital of more than PHP15,000,000 (Republic Act 9501). Aside from their capital, these enterprises are measured based on the number of their employed workers: one to nine employees for micro-enterprises, 10 to 99 employees for small enterprises, 100 to 199 employees for medium enterprises, and 200 and above for large enterprises (Almeda and Baysic, 2013).

The PSA reported in 2015 that there are 900,914 establishments in the Philippines. Of these, 99.5% (896,839) are MSMEs, and the remaining 0.5% (4,075) are large enterprises. Likewise, employment is generated mostly in MSMEs. According to the Philippines Department of Trade and Industry, based on PSA figures, MSMEs generated a total of 4,784,870 jobs in 2015 versus the 2,981,819 generated by the large enterprises. "This indicates that MSMEs contributed almost 61.6% of the total jobs generated by all types of business establishments that year. Of these, 29.4% or 2,285,634 jobs were generated by micro enterprises; 25.3% or 1,968,452 by small enterprises; and 6.8% or 530,784 by medium enterprises" (Department of Trade and Industry, 2016).

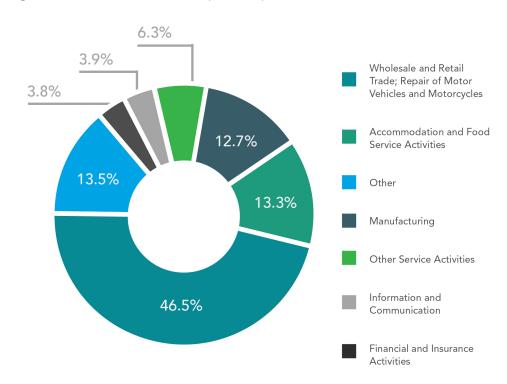


Figure 3. Distribution of MSMEs by industry

Source: Department of Trade and Industry 2016 – statistics taken from the Philippine Statistics Authority

The majority of MSMEs in 2015 (46.5%) were in the wholesale and retail trade – a proportion of which is related to agri-food. Accommodation and food service activities account for 13.3% of registered MSMEs while 12.7% relate to manufacturing. Within the manufacturing category, 27.2% of MSMEs are related to agri-food – 19.3% related to food and food preparation, 7.3% related to coconut products (non-food), and 0.6% related to seaweed and carrageenan production (Raneses, 2016). According to a key informant interview with Dr. Rolando Dy, examples of common agri-food MSMEs include rice milling, sugar milling, rubber processing, banana chip production, dried foods processing, sardine bottling, tuna canning, sardine canning, feed milling, virgin coconut oil production, coconut sugar production, and cocoa product production.

The law governing MSMEs in the Philippines is not explicit with respect to whether or not it includes the informal sector. As far as official statistics are concerned, however, one provision of the law discussed further that only those who are registered can avail of the services provided by the government (Republic Act 9501, Section 4). Moreover, a research paper published by the Asian Institute of Management mentioned that the PSA, which gathers data on the number of MSMEs in the Philippines, would have difficulty processing data that includes the informal sector, and relies mostly on the census of establishments for data processing (Almeda and Baysic, 2013). Typical of LMICs, the informal economy in the Philippines is very significant, accounting for approximately 45% of the GDP (DOLE, 2012), 38% of the labour force and 72.5% of non-agricultural employment according to the latest labour force survey (Pasion, 2017, Philippine Commission on Women, 2017).

While it is difficult to determine the exact proportion of formal MSMEs in the agrifood sector in the Philippines, Dr. Larry Digal, who teaches agricultural economics at the University of the Philippines, Mindanao, estimates that the food manufacturing and beverages industries accounts for approximately 40% of the total output of the manufacturing sector (Digal, 2015). This sector expanded its volume of production by 36% between 2000 and 2010 (Digal, 2015). As further reported by Digal, "the majority of the enterprises in the informal sector belong to vending and selling (e.g. dry goods, raw and cooked food), sari-sari (variety) store, handicrafts, tailoring and dressmaking and bakery" (Digal, 2015). Dr. Rolando Dy, when interviewed, indicated that there are approximately one million sari-sari stores in the Philippines, each serving approximately 1,000 customers (see Figure 4).

¹⁰ Our email communications with staff at the PSA have confirmed that informal enterprises are not included (Rebarter, 2017).



Figure 4. A sari-sari store in Bulacan

Source: Photo taken by Nathaniel Candelaria, 2017

OBSTACLES, OPPORTUNITIES, AND EXAMPLES OF GOOD PRACTICES

This section summarizes the obstacles and opportunities facing agri-food MSMEs in the Philippines according to findings in the literature review and key informant interviews. The section also touches on the role of youth, gender issues, and the use of technology, and provides a few vignettes to illustrate examples of good practice.

OBSTACLES

The most pernicious obstacle facing MSMEs in the Philippines – both formal and informal – appears to be access to financing. Informal enterprises in particular often resort to moneylenders, including pawnshops, which charge exorbitant interest rates. Even the country's formal enterprises – as they are mostly at the micro level, face issues accessing credit, startup financing, and other financial services. Accessing financing is key to being able to access certain basic technologies, such as refrigeration, as well as higher-end technologies to enable e-commerce. Other obstacles include knowledge of technology and markets, lack of basic transportation and communication

infrastructure, and – in the case of the informal economy – punitive public policies that put precarious livelihoods at risk (Casanova-Dorotan, 2010).

There are a few specific examples of good practices that illustrate the potential of agrifood MSMEs in the Philippines. These examples, combined with information gleaned from statistics, interviews, and the broader literature review, give texture to some of the issues raised and help us conclude with a few key policy suggestions in the following section.

NORMIN VEGGIES:

Northern Mindanao Vegetable Producers Association, or NorMin Veggies, is an example of how development funding – in this case, from the United States Agency for International Development (USAID) and FAO – has built the capacity of small vegetable producers to link them to growing domestic and international markets. An association of small producers was formed in 1999 to aggregate capital, know-how, and technology. Various quality assurance and traceability schemes were collectively developed, which significantly reduced post-harvest losses. Investment was made in collective infrastructure, and the growth in membership allowed NorMin Veggies to directly approach a large and stable customer base including bulk buyers as well as traditional markets. Members are charged a small fee and the model is commercially viable, with incomes increasing and costs decreasing due to production and distribution efficiencies. NorMin Veggies has grown from 15 to 178 members, representing at least 5,000 farmers. (Neven, 2014, 38-39; Balita, 2011)

An interview with Dr. Larry Digal of the University of the Philippines, Mindanao, indicated there have been advancements in the production of calamansi, a small citrus fruit native to the Philippines. Technological advancements and improved post-harvest handling have increased the shelf life by nine days – a critical advantage in a country where distribution to the largest markets in Metro Manila can take two to three days (Digal, 2017). Dr. Digal sees technological advances as critical to the development of agri-food MSMEs in the Philippines.

OPPORTUNITIES

There are a number of risks that can be turned into opportunities for agri-food MSMEs in the Philippines, as well as other LMICs. Three in particular warrant being focused on, as indicated below.

First is the opportunity to get youth more involved in agri-food employment - including farming itself, where the average age of farmers in the archipelago is 57 (Dela Paz, 2017). To remedy this situation, an organization called the Young Entrepreneur-Farmers of the Philippines (YEF Philippines) was established with the vision is to create "A food secure, resilient, and prosperous Philippines propelled by empowered young farmers-entrepreneurs." YEF Philippines was spearheaded by Joey Concepcion, founder of the Go Negosyo initiative to support entrepreneurship. "YEF Philippines' mission is to mentor and empower young farmers to become successful entrepreneurs in high-value agriculture" (Dar, 2017). Dr. William Dar, former head of the International Crops Research Institute for the Semi-Arid Tropics and founder of not-for-profit organization InangLupa, cited a recent partnership between Go Negosyo and the Philippine Department of Agriculture that was formed to deliver 12-week coaching sessions for aspiring "agripreneurs," particularly youth (Dar, 2017). Youth may also be attracted to "downstream" food-processing businesses in food service, distribution, and manufacturing. Dr. Rolando Dy pointed to the opportunities for social media to help market Filipino products.

A second opportunity relates to recognizing and supporting the role of women in agri-food value chains and as MSME entrepreneurs and workers. "The women in the Philippines are known to be trailblazers both in the MSME sector as well as the corporate executive community" (Juan, 2017). This is quite typical of Southeast Asia, where women have always had high labour force participation rates and are adept at handling business and money. Furthermore, 67.8% of Filipina workers in non-agricultural employment are in the informal sector, according to the International Labour Organization (ILO, 2013, 158).

This brings us to the final challenge, which might also be thought of as an opportunity under certain conditions. An urgent policy issue is to develop a proactive and supportive – rather than adversarial – stance on the informal economy, with the goal of supporting informal micro-entrepreneurs who represent the vast majority of agri-food micro-enterprises in the Philippines. Examples include street food vendors, market food sellers, home-based caterers, and the many other small-scale industries that serve as survival mechanisms for many of the most vulnerable families in LMICs. One of the

fundamental challenges facing informal MSMEs is the question of recognition, which is directly related to their ability to organize and advocate. The following illustration from Cebu City provides an example of how informal street food vendors have organized to improve their livelihoods, though not without persistent, ongoing struggle.

CEBU CITY UNITED VENDORS ASSOCIATION:

The Cebu City United Vendors Association (CCUVA) was formed in 1984 as an umbrella association (Yasmeen, 2001). CCUVA now has an estimated 10,000 members (Felicitas, 2013). Many, if not most, of CCUVA's members sell food products. Supporting certain municipal politicians, getting elected to the governance bodies of local authorities, and registering with the Securities and Exchange Commission have resulted in significant gains for the membership - at least 75% of whom are women. In the 2013 political campaign, for example, CCUVA supported the campaign of mayoral candidate Michael Rama. Reasons cited for supporting the campaign included the Rama slate's commitment to better stalls, social protection and engagement, and "participation of the urban poor in good governance. Under social protection, the covenant states there should be no demolition and eviction if there is no certificate of compliance with the Urban Development and Housing Act" (Felicitas, 2013). Rama won the 2013 bid for the election of mayor of Cebu City, and Zenaida C. Amores a vendor leader - has been an elected barangay Labangong councilwoman since at least 2001 (Yasmeen, 2016). However, Tommy Osmeña was elected mayor on June 30, 2016, and conflict with vendors has come to the fore once again (Fernandez, 2016; Semilla, 2016), perhaps for partisan reasons (Blacklisting CCUVA, 2016).

As an LMIC, the Philippines faces some basis infrastructural challenges related to issues such as transportation, sanitation, and access to appropriate storage facilities, and these challenges directly impact both formal and informal enterprises. This is the context in which the following section on strategic policy issues and associated practical recommendations needs to be situated.

STRATEGIC POLICY ISSUES AND RECOMMENDATIONS

The Philippines needs to "adopt agri-industrialization as a strategy with MSMEs as one of the major driving forces" (Dar, 2017). This fundamentally revolves around building capacity to meet growing domestic and international demand for food and agricultural products, particularly value-added comestibles, given the urbanizing population, growing middle class, and high female labour force participation rates at home and abroad. Specifically, our research has pointed to the following three strategic policy issues and recommendations that require urgent attention with respect to agri-food MSMEs:

- Facilitate and simplify official accreditation of agri-food micro-industries,
 particularly outside of the National Capital Region of Metro Manila. Specific tactics
 include providing sufficient staff to process applications and applying the laws and
 regulations consistently, which is not currently the case. The outcome of facilitating
 accreditation will be easier access to credit, thereby enabling capacity to be built,
 including access to various technologies.
- 2. Invest in basic infrastructure, including transportation, communications, and sanitation, to facilitate domestic and international trade as well as access to packaging systems, storage, etc. Basic infrastructure also includes potable water, refrigeration, roads, and rapid transit as well as access to higher-end technologies such as genomics and digital assets.
- Recognize the significance of the informal economy and develop proactive policies toward informal agri-food enterprises that do not compromise livelihoods.
 Facilitating registration and accreditation will help.

Building the capacity of agri-food MSMEs in both rural and urban parts of the Philippines can play a key role in poverty reduction and food security by increasing incomes. Issues of credit, market access, extension services, infrastructure, and education are key to enabling an agro-industrialization strategy. As Dr. Rolando Dy argues, "Political will, at the national and local levels, is imperative" and the Philippines can learn from successes in neighbouring ASEAN countries (Dy, 2015).

VIETNAM CASE STUDY

The Socialist Republic of Vietnam, located in Southeast Asia, has a population of 92.7 million people, 70% of which is rural. Its history has been shaped by three factors that have made its population particularly resilient, namely: proximity to China, foreign imperialism, and the ravages of war. Over the past 20 years, the country has attained remarkable economic growth, foreign trade expansion, attraction of foreign investment, poverty reduction, and human development. Specifically, with economic and political reforms under Đôi mói - or "renovation" - launched in 1986, Vietnam has been transformed from one of the poorest countries in the world into a lower-middleincome country. Since 1990, Vietnam's GDP-per-capita growth has been among the fastest in the world, averaging 6.4% a year in the 2000s (Vietnam Economic Forum, 2017). Despite uncertainties in the global environment, Vietnam's economy remains resilient. The country's medium-term outlook remains favourable, with GDP expanding by 6.2% in 2016, while the country's fundamental drivers of growth - domestic demand and export-oriented manufacturing - remain in force. Numerous thoughts have been floated to keep this sustained development path, such as a focus on electronics, shipbuilding, environment- and energy-saving initiatives, car and auto parts production, or investments in information technology. Among these industries, the Vietnamese government insists that continued modernization of the agriculture sector is key, as agriculture will remain an important driver for growth and poverty reduction in Vietnam for years to come (Communist Party of Vietnam Central Committee, 2008).

CONTEXT OF SPECIFIC AGRI-FOOD ISSUES

In Vietnam, 57% of the workforce works in the agricultural sector. The export value of agri-forestry and aquatic product exports reached more than US\$32B in 2016, which represents an increase of 5.5% compared to 2015 (Ministry of Agriculture and Rural Development, 2014). Vietnam has become one of top 25 largest food exporters in the world (WorldAtlas.com). However, the agricultural sector generates less than 20% of the country's GDP (World Bank, 2017c). As predicted, the overall agri-food complex will still account for 35% to 40% of employment in the early 2030s (World Bank, 2016). GDP per capita in rural areas is only US\$200 per year, compared with the national average of US\$1,600. According to a survey by the Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD), the average income of a farmer household with four

people is VND60,000 – less than US\$3 per day – and below the national poverty line. According to a report by the Central Institute of Economic Management (2015), 56.1% of farmer households are not satisfied with their current life and 45% of them are in debt. Another survey conducted by IPSARD (2016) shows that over 80% of small and medium-sized enterprises in agriculture have difficulty accessing or are unable to access government loan programs.

As with other agricultural countries, Vietnam's agricultural ecosystem has four main components (see Figure 5):

- Environmental factors;
- 2. Cultivation with three major steps: breeding, plantation, and harvest;
- 3. Distribution with three major steps: processing, packaging, and logistics; and
- Consumption directly by consumers: storage, certification, and distribution.
 The remainder of this section will unpack the main issues related to these four components in the Vietnamese agri-food system.

Figure 5. Agriculture ecosystem in Vietnam



Source: Agriculture Solution Alliance (ASA) Project

ENVIRONMENTAL FACTORS

The agri-food system is deeply shaped by environmental factors. The environment of Vietnam has suffered due to impacts from climatic phenomena El Niño and La Niña. According to the Global Climate Risk Index 2017, Vietnam ranks among the top 10 countries affected by the impacts of weather-related events. According to the World Bank (2015), disasters have caused about 750 deaths annually and cost around 1% of GDP in economic loss per year in Vietnam.

CULTIVATION

About 80% of land in Vietnam is categorized as tropical lowlands, hills, and densely forested highlands, with approximately 39% of the country classified as forest by the Ministry of Natural Resources and Environment (ADB, 2013). The total area of agricultural land is 27.3 million hectares, accounting for 82.43% of total land use in Vietnam in 2015. However, one major concern is the fragmentation of agricultural land, which is dominated by very small agricultural households. Farmers cultivating less than 0.5 hectares account for 69% of agricultural land, farms of more than 0.5 hectares up to 2 hectares account for 25%, and farms larger than 2 hectares account for only 6%.

The Mekong Delta is critically important to Vietnam's national agricultural production. This area accounts for about 55% of the total cultivated land area and about 71% of the total aquaculture land area of the country, which is one of the world's great deltas and has many advantages for development. According to the Southwest Steering Committee (2017), the Mekong Delta provides over 50% of Vietnam's rice production, 90% of export rice, 70% of fruit, 40% of fisheries, and 74% of aquaculture.

Vietnam is well known for agricultural exports such as coffee, pepper, rubber, and catfish. The country produces 50% of the world's low-end robusta beans. Vietnam is also one of the cradles of wet rice civilization, which is deeply associated with Vietnamese culture, and the production of rice is a leading economic activity. Traditionally, much agricultural labour is done manually by women. More recently, the country has begun introducing more intensive farming techniques, which have helped raise productivity but have caused ecological problems and made the land less fertile. According to a report by the Plant Protection Department (2016), there are more than 3,000 pesticides currently in use with a volume of over 100,000 tons per year.

Although Vietnam is a leading exporter of agricultural products, the production process is the main weakness. Because most agricultural businesses are informal, they lack branding and do not use business consulting services. This leads to many quality

Vietnamese agri-food products supplying brand names from multinational corporations based in other countries. Furthermore, although Vietnam has been investing in improving agri-food production methods, there continues to be wastage and lack of attention to the quality and integrity of the value of the logistics chains. A report from the Ministry of Agriculture and Rural Development (MARD, 2014) revealed that the average loss rate in agricultural food products is 25% to 30%, and, according to the United States Department of Agriculture, 63% of these losses are incurred during food harvesting and transportation, and compounded with poor storage and preservation. Low levels of mechanization in agricultural production and limited transportation capacity is also to blame for food losses.

DISTRIBUTION

Vietnam's agricultural products are exported to many markets, of which Vietnam's largest agricultural import markets are China (19%), the EU (16%), the United States (13%), Japan (8%), and South Korea (5%) (Vietnam Customs, 2017). The country's agglomerations are vibrant hubs of economic activity toward the end of the agri-food value chain. Large cities such as Ho Chi Minh City, Hanoi, and Hue present a very different picture of agri-food issues compared with rural areas. Markets, grocery stores, restaurants, and food vending operations as well as facilities for export are features of busy city life. Many urban agri-food enterprises are informal, particularly the smaller ones, and it is estimated that 70% to 80% of Vietnamese women work in the informal economy, 60% of whom are in agri-food (Nguyen et al, 2014).

CONSUMPTION

According to the General Statistics Office of Vietnam, per-capita expenditure on food and non-alcoholic beverages was expected to grow at 7% per annum from 2012 to 2016, reaching US\$276 by 2016 (GSO, 2016). Compared with 2004, the average food consumption per person has tripled. According to the Economist Intelligence Unit (EIU, 2015), the total consumption of individuals and households in Vietnam reached US\$127.7B, of which food, beverages, and tobacco were US\$55.3B, accounting for 43.3% of the country's total consumption.

Like in the Philippines and Peru, the food and beverage industry in Vietnam is a hot trend. According to Euromonitor International, as cited by Acheson (2016, 3) from 2012 to 2019, the food and beverage market in Vietnam is expected to achieve an average annual growth rate of 13.2%. There were 285,987 registered food service outlets in Vietnam's food service area in 2014, of which 105,353 were full-service restaurants, 24,942 cafés and bars, 147,508 street kiosks, 8,152 fast food restaurants and 32

home-delivery food services. These figures do not include, unregistered and therefore informal establishments, which represent the vast majority of food-related businesses. The Vietnamese-owned Coffee Bean & Tea Leaf chain, for example, had difficulty in its early days. However, it now has 13 shops in Ho Chi Minh City and two in Hanoi. A representative of the chain said the chain plans to open three new shops each year. Starbucks, which arrived in Vietnam in 2013, now has 24 locations in major cities.

Retail channels in Vietnam include more than 1.3 million small stores, most of them informal businesses such as wet markets and roadside shops (see Figure 6). These retail channels account for more than 85% of fast-moving consumer goods sales, equivalent to nearly US\$10B, according to Nielsen Vietnam (Ryan, 2016). Only about 15% of consumers buy food through western-style retail channels such as supermarkets, hypermarkets, and convenience stores.

Figure 6. A roadside street food vendor in Ho Chi Minh City



Source: Photo by Gisèle Yasmeen

OFFICIAL DEFINITION OF MSMES IN VIETNAM AND RELATED STATISTICS

In 2009, the definition of MSMEs in Vietnam was promulgated in Decree 56/2009/ ND-CP as follows, and is still in place today:

Small and medium-sized enterprises are business establishments that have registered their business according to law and are divided into three levels: very small, small and medium according to the sizes of their total capital (equivalent to the total assets identified in an enterprise's accounting balance sheet) or the average annual number of laborers (total capital is the priority criterion), concretely as follows (definition and table from Ricky, 2011):

	Very Small Enterprises	Small Sized Enterpises		Medium Sized Enterpises	
	Number of Labourers	Total Capital	Number of Labourers	Total Capital	Number of Labourers
I. Agriculture, Forestry, and Fishery	10 persons or fewer	VND 20 Billion or less	Between 10 persons and 200 persons	Between VND 20 Billion and VND 100 billion	Between 200 persons and 300 persons
II. Industry and Construction	10 persons or fewer	VND 20 Billion or less	Between 10 persons and 200 persons	Between VND 20 Billion and VND 100 billion	Between 200 persons and 300 persons
III. Trade and Service	10 persons or fewer	VND 10 Billion or less	Between 10 persons and 50 persons	Between VND 10 Billion and VND 50 billion	Between 50 persons and 100 persons

According to the General Statistics Office of Vietnam, the country had about 612,000 formally registered establishments in early 2017 (see Figure 7).

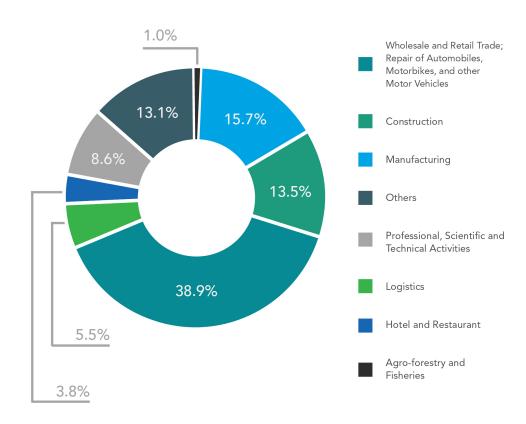


Figure 7. MSMEs in Vietnam by sector

Source: General Statistics Office and Vietnam Business Annual Report 2015

More than 96% of formal Vietnamese businesses are micro- and small enterprises, while 2% are medium enterprises and the less than 2% remaining are large enterprises. The MSME sector has long been a major source of employment generation, accounting for about 51% of the total formal corporate workforce. According to the National Assembly of the Vietnam Association of Small and Medium Enterprises, MSMEs were responsible for over 40% of Vietnam's GDP in 2016. MSMEs also help to create one million new jobs each year. In comparison with other economic sectors, only about 4,400 enterprises invest in agriculture directly even though Vietnam is often assessed

¹¹ Vietnam has two types of "household businesses." The first is considered "semi-formal" and involves registering the business at one location, within one business industry, and employing no more than 10 workers. These businesses do not have a company seal, do not have full legal status, and do not have to pay the "presumptive tax" (Deloitte, 2015). However, household businesses in agriculture, forestry, fisheries, salt production, and hawking or those providing low-income services are not registered at all and are considered informal.

as a country with a lot of advantages in agriculture, accounting for nearly 1% of the total number of enterprises in the country.

However, these figures do not include informal and semi-formal enterprises, ¹¹ which represent a huge part of the agri-food sector. According to figures from the General Statistics Office (GSO, 2017), there are nearly 4.7 million formal and semi-formal business households in the country, with total assets estimated at US\$288.2M, generating US\$96.27M in revenue and creating jobs for nearly 8 million people.

OBSTACLES, OPPORTUNITIES, AND EXAMPLES OF GOOD PRACTICES

There are three significant challenges within the Vietnamese agri-food sector: the lack of capital for large-scale agricultural projects, the absence of agility and market connectivity for agri-food products, and the low value-added status of almost all agri-food products of Vietnam. Low value addition is primarily due to the insufficiency and inefficacy in applying science and technology in planting and processing, as well as land-use rights.

OBSTACLES

An interview with Dr. Ngô Kieu Oanh, CEO of ATC Vietnam and a top expert from the Vietnam Academy of Science and Technology, indicated that lack of funding is the most difficult issue that results in Vietnamese not being interested in agri-businesses. However, the State Bank of Vietnam recently announced a decision on a loan program to encourage the development of high-tech agriculture and clean agriculture at the request of the government on a VND100,000 billion credit package to promote high-tech agriculture (Decision 813/QD-NHNN, 2017). However, the criteria and mechanisms related to high-tech and clean agriculture are still unclear. At the same time, high-tech agriculture requires large, long-term capital requirements and is associated with high risks, making commercial banks cautious in financing agricultural and technological investment. Hence, domestic enterprises traditionally seek loans with an interest rate of approximately 11% per year when they lack capital. Meanwhile, foreign enterprises borrow capital at an interest rate of 5% per year in China and 3% per year in Thailand (Dr. Le Dang Doanh, CIEM, 2015). Therefore, foreign enterprises have advantages when investing in Vietnam. At the same time, foreign enterprises benefit from priority policies that their governments grant for investment abroad. Capital for high-tech agriculture in Vietnam is available, but, in fact, the conditions for enterprises to access capital are difficult due to cumbersome administrative procedures. Moreover, ownership of assets on agricultural land such as greenhouses, net houses, workshops, and equipment have not yet been granted certificates by competent agencies to use as collateral.

Good harvests with low prices and crop failures with high prices represent the current state of Vietnamese agriculture. There are many causes for this situation. First, agricultural production in Vietnam is still fragmented, with farmers cultivating using traditional approaches, not within a framework of government strategic planning. According to Nielsen, in rural areas of Vietnam, approximately 24 million Vietnamese use the internet, which is on par with their urban counterparts, whereas there are roughly 22.5 million Facebook users, one million less than urban Vietnamese (Nielsen, 2017). This may explain why most farmers still have no access to information on national cultivation planning. So, with no information and a small area of land, farmers tend to concentrate production on particular crops. Second, the purchase of agricultural products does not take place directly between the company and the farmers, but through "traders." The traders hold all the information about market prices and often overcharge farmers. Meanwhile, Vietnamese farmers cultivate in small household units, with low technology inputs, unable to appropriately store and preserve their harvest, resulting in significant losses. Third, the main export market for Vietnam is China. According to the Vietnam Industry and Trade Information Center (2016), 70% of Vietnamese vegetables are exported to China. Therefore, when this market undergoes small fluctuations, Vietnamese agriculture tends to suffer heavy losses.

A TERRIBLE PRICE DROP:

The Department of Rural Development has been reported as saying that there are 1,700 hectares of tissue culture banana, concentrated in the Trang Bom, Thong Nhat, Dinh Quan, and Tan Phu districts (Cao Tan, 2017). "Tissue culture is the science of multiplying clean disease-free planting materials of different crops and you have many identical copies of the same variety without changing the taste and any other physical attribute of the plant" (Makara, 2015). These types of bananas are mainly sold to traders, then exported to the Chinese market. Beginning in January 2017, China has reduced its purchase of agricultural products, which has caused the price of Vietnamese bananas to drop to just VND1,000 to VND2,000 per kilogram, 10 times lower than the same period in 2016. Many planted areas have resulted in a successful harvest but, because of their inability to sell their produce, farmers are forced to let the fruit spoil or turn it into animal feed (VTC16, 2017).

Last but not least, land-use rights are one of the main problems in Vietnamese agriculture. While the Land Law of 2013 strengthens land title, it maintains several restrictions on the duration of land-use rights, land area per household, the choice of

crop, and land transfer and exchanges. These regulations aim at ensuring equal access to land for the rural population, but they limit land consolidation and impede long-term investment. On the other hand, with about 13 million family farms averaging 0.3 hectares each, it is difficult to adopt policies on industrialization of agriculture, commodity production arrangement, and application of technology to form large production areas and high-value agri-food chains.

OPPORTUNITIES

The development of high-tech agriculture is becoming indispensable in Vietnam in order to improve the productivity and quality of agricultural products and solve problems of food security. At the same time, there is a need to protect the environment, serve the needs of economic development, and shift agricultural labour to higher-value-added work. Vietnam has tremendous potential for high-tech agricultural development, which explains why many leading local groups such as Vinamilk, TH True Milk, and Duc Long Gia Lai have all ventured into the sector. According to national targets, by 2020 Vietnam will be home to 200 high-tech agricultural businesses and 10 high-tech agricultural zones. However, according to the general secretary of the Association of Hi-tech Application Agricultural Enterprises, Ngo Tien Dung, Vietnam currently only reports 22 high-tech agricultural businesses out of thousands of agricultural firms. Companies face numerous difficulties in capital and investment incentives and require a long time to recoup seed funds. However, there are a few examples of good practice that warrant being mentioned.

HACHI – A SMART AGRICULTURE SYSTEM:

Hachi is a group of talented young people as well as leading experts in Vietnam. It is one of the leading startups, with an Internet of Things hydroponic model for growing vegetables using smartphone applications. Hachi also participates in construction of larger-scale farms of 1,000 – 5,000 square metres in Bac Ninh, Vung Tau, Da Lat, and near Ho Chi Minh City. While the technology of Hachi is not new, it is suitable for the characteristics of Vietnam and easy to use. Hachi has created great benefits for Vietnam, including building efficient agriculture based on appropriate technology. Hachi is developing measures to cope with climate change as well as soil contamination – including salinization – due to pesticide use and chemical fertilizers over the past 10 years. Finally, with a self-contained process from production to distribution, Hachi is creating a source of clean and safe food (interview with Dang Xuan Truong, Hachi's CEO).

An article from the Vietnam Investment Review provides another example of good practice:

Experts therefore suggest attracting investment into agriculture by promoting a public-private partnership model, as applied in the province of Quang Ninh. The province's results have thus far been encouraging. Under this model, the state sets out standards and implements concrete policies to encourage businesses to use technological advances in agriculture. The government also plans agricultural production zones and clarifies its policies for farmers and businesses. Cities and provinces can work closely with businesses during project implementation to clear space, convince local residents to support businesses, and establish hotline channels to help firms tackle impediments (Vietnam Investment Review, 2016).

According to the Ministry of Health, there are 200,000 new cases of cancer in Vietnam each year, of which 35% are related to contaminated food (Prof. Nguyen Lan Dung, 2016). This is stimulating demand for organic food and hydroponically grown vegetables, often available in chain stores such as Uncle Tom and Tran Gia. Launched in 2010, Uncle Tom now has 22 stores in Hanoi. Every day, the shops stock two to three tons of vegetables and fruits. Furthermore, soil quality is deteriorating, with saline contamination occurring in all 13 cities and provinces in the Mekong Delta (Department of Irrigation, MARD, 2016). This is further stimulating demand for organic fruits and vegetables in Vietnam. One example is Vinamit Organics, founded in 1988 in Binh Duong, focusing on dried organic food, particularly fruit. Exports represent 60% of the company's sales, though the founder, Nguyen Lam Vien, recognizes the growth of the domestic market. Vinamit has grown by 30% over the past five years and now has 500 employees. The following case study is another example of the growth in the organic food business.

VINECO "GREEN" VEGETABLE MARKET:

On June 23, 2016, VinEco Agricultural Development Investment Company (VinEco), or Vingroup, officially launched its first "green" vegetable market, consisting of more than 20 varieties of sprouted vegetables and 12 hydroponically grown vegetables, selling 500 to 700 kilograms per day. The greenhouse system of Tam Dao VinEco covers an area of 1.5 hectares, using the well-known greenhouse technology of Teshuva Agricultural Projects (TAP, Israel) – one of the few companies in the world that specializes in sprouting. In particular, microgreen germination technology is designed in a closed automatic line, allowing "super clean" production, resulting in the production of health food. The technology enables the plant to be fed directly to the roots, optimizing the growth process. The greenhouse environment has the effect of blocking pests, reducing the use of insecticides, and ensuring safety for consumers. Safe vegetable products from VinEco have been widely distributed through the Vinmart system throughout northern Vietnam. (Vingroup.net)

Vietnam has a high percentage of youth under 30 years of age with increasing disposable incomes, busy lifestyles, and the increasing influence of western cultural trends, all of which are factors driving changes in consumption patterns. Vietnam's overall demand for agricultural commodities and food products is significant, experiencing steady growth, and trending toward greater interest in western tastes and products that are very attractive to domestic and foreign retailers in the food and beverage industry. Fast food revenue in Vietnam in 2015 was worth US\$747.2M, representing an increase of 9% since 2014, according to Euromonitor International. The rapid growth of the formal fast food and coffee shop chain sector has also increased the activity of informal businesses that serve the industry, including bakery, dairy, meat, and poultry suppliers. Moreover, growth in the tourism industry has also resulted in a growing demand for beef, cheese, seafood, wine, and seasonings, which are used in western-style, Japanese, and other international food outlets. Foreign funds have poured millions of dollars into startup restaurant chains in Vietnam, where a large population with a growing middle class is expected to provide solid support to the growth of the food and beverages industry. A typical example is The Kafe coffee chain founded by Dao Chi Anh, who successfully raised US\$5.5M from Cassia Investments, Hong Kong.

STRATEGIC POLICY ISSUES AND RECOMMENDATIONS

Vietnam requires efforts to restructure agri-food production toward centralization, creating high-value and sustainable value chains, and adapting to climate change conditions to help Vietnamese agricultural goods maintain their share of the international playing field and not lose out on the rapidly growing home market. Specifically, our research has pointed to the following three strategic policy issues and recommendations that require urgent attention with respect to agri-food MSMEs:

- 1. The Vietnamese government should create more open mechanisms for enterprises to access capital sources in terms of interest rates and methods. The interest rates should satisfy the expectations of traders and remain around 3% to 5%. In agriculture, credit institutions should issue loans in line with plant and livestock life cycles, not under fixed regulations of 6-month or 12-month periods.
- 2. There is a need to develop public policies and programs to enhance agri-food MSMEs' competitiveness and encourage innovation in the digital era.
- 3. The Vietnamese government should ensure food security by promoting sustainable and climate-smart agriculture.

MSME I FUELING HIGH-TECH STARTUPS

PERU CASE STUDY

The Republic of Peru, a unitary state in western South America, has a population of 31 million inhabitants, 21.4% of which is defined as rural (FAOSTAT, 2016). This highly biodiverse country is divided into three distinct climatic and topographical regions, namely: the arid coast, the Andes cordillera, and the Amazon jungle. This makes logistics and access to water a critical issue, and Peru's rich resource base is now riddled with environmental degradation and land-related conflicts (USAID, 2016). Furthermore, like in the Philippines and Vietnam, Peruvian agriculture is confronted with the challenges of climate change (ITC, 2015).

Peru is a highly multicultural country with Indigenous peoples, the Spanish colonial influence, and descendants of immigrants from Asia, particularly China and Japan. In terms of land ownership, despite positive steps forward in recent years, the country is still struggling with land titling issues, particularly in Indigenous and peasant communities (USAID, 2016). Peru has been considered a star economic performer by the World Bank – it is now classified as an upper-middle-income country by the World Bank, with 3% of the population living on less than US\$1.90 per day and 22% below the nationally established poverty line (World Bank, 2016). The country's rapid growth in the past 25 years has reduced poverty considerably (World Bank, 2017, 9). While referred to as a "poster child" for the World Bank, persistent inequality and the high social and environmental costs of Peru's path toward development have been criticized (Oakland Institute, 2015).

CONTEXT OF SPECIFIC AGRI-FOOD ISSUES

Despite rapid economic progress, Peru still struggles with poverty. Like the Philippines, Peruvian farmers – though subsistence-oriented – have livelihoods involving multiple sources of income (Escobal et al, 2015). However, poverty in Peru is primarily rural,

with half the poor and 80% of the extreme poor residing in rural areas (World Bank, 2016, 31-32). In rural areas, access to basic services, such as sanitation, remains a challenge. A highly urbanized society with 80% of the population living in urban areas (World Bank, 2016, 9), only 26% of the country's labour force is employed in agriculture (Trading Economics, 2017). Much of the Peruvian economy remains informal, including the agri-food system. Agriculture itself is 97% informal (CEPLAN, 2016, 18), as are most value-added agri-food enterprises. The informal economy accounted for approximately 19% of GDP in 2013 and is expected to remain a significant feature of the Peruvian economy until 2050 (CEPLAN, 2016, 7).

One of the distinguishing features of the Peruvian agri-food system is access to water, partly due to some of the country's climatic zones being arid, but also because of the competition for water with extractive mining industries (Peperkamp, 2016). Another unique feature is the different agricultural patterns found in the country's three geographical areas: the coast represents 11.5% of agricultural land, with a focus on modern agri-business and concentrated land ownership; the highlands represent 57% of the land and are dominated by small farmers (World Bank, 2016, 164); and the Amazon basin represents 31% of the land and is rapidly developing with respect to agri-food industries. Peru is a net exporter of food, with cotton, sugar, cocoa, and coffee topping the list. It is the second most important exporter of organic cocoa. Horticulture - particularly of mangoes, grapes, bananas, asparagus, artichokes, and avocadoes, although they are not traditional export crops - holds a lot of promise and is a growing sector (Peperkamp, 2016). Small Peruvian producers are becoming successful exporting organic products to the international market, according to one of our key informants (Villarán de la Puente, 2017).

Like in the Philippines and Vietnam, the urban population of Peru is driving demand within the domestic agri-food system. The greatest market growth and opportunities for value-added food products in Peru is and will continue to be generated by the rapidly growing middle class (Agriculture and Agri-Food Canada, 2010). Annual per-capita consumer expenditure on food was US\$1,432 in 2015 and has been growing by more than 5% per year since 2009 (Knoema, 2017). Urban households are significantly wealthier than rural households, spending nearly 2.5 times more on food than rural households (Agriculture and Agri-Food Canada, 2010).

Even more dramatic trends can be observed in food service. Beginning roughly in the year 2000, a gastronomic boom was started by creative chefs such as Gastón Acurio and Rafael Osterling. Peru's gastronomy association, Apega, calculated that its cuisine would generate PEN25B (US\$6.5B or C\$8.1B) in 2016. According to one of our key

informants who is on the Apega board, Fernando Villarán de la Puente, dean of the Faculty of Engineering and Management at the Universidad Antonio Ruiz de Montoya in Lima and former minister of labour, Apega has members from the entire domestic food value chain and has the mission of promoting small producers and agri-food MSMEs. The association's annual "Mistura" festival has boosted small Peruvian producers through greater publicity. The country is now the gastronomic capital of Latin America (Tegel, 2016).

Finally, like in the Philippines and Vietnam, Peruvian consumers are becoming increasingly aware of environmental issues, and a large majority of young consumers in Peru (60%) would embrace stores and products that claim to be environmentally friendly (Agriculture and Agri-Food Canada, 2010).

OFFICIAL DEFINITION OF MSMES IN THE PHILIPPINES AND RELATED STATISTICS

Micro, small, and medium-sized enterprises in Peru were defined in 2003 by Article 2 of Law No. 28015 as "the economic unit constituted by a natural person or legal entity, under any form of organization or business management contemplated in the current legislation, whose purpose is to develop activities of extraction, transformation, production, marketing of goods or provision of services (translated)."

On July 2, 2013, the Congress of the Republic enacted Law No. 30056, "that modifies various laws to facilitate investment, and boost productive development and business growth (translation)." This included amendments to several laws and defined micro, small, and medium-sized enterprises according to their annual sales levels set in taxation units (ITU). Thus, micro-enterprises are those that reach sales up to a maximum of 150 ITU, with small companies defined as those that have annual sales above this value up to a maximum of 1,700 ITU, and medium-sized enterprises are those that reach annual sales of more than 1,700 ITU up to 2,300 ITU.

As reported by the Ministry of Production (2015), based on information from the Peruvian National Institute of Statistics and Informatics, in 2015, of the 1,691,462 registered businesses in the country, 99.5% of formal enterprises in Peru were MSMEs (see Figure 8). These figures do not include informal enterprises. Of the 1,682,681 formally registered MSME establishments, 1,607,305 were micro-enterprises. Small businesses accounted for 70,664 enterprises, with the balance consisting of medium-sized companies, constituting 2,712 businesses. However, even though large companies only represented 0.5% of all enterprises in the country, they generated nearly 80% of the sales. Formal MSMEs employed more than 1.6 million Peruvians, of whom 1.4 million are employed within micro-enterprises. Figure 8 shows the distribution of

formal MSMEs by sector of activity. One can assume that, within the manufacturing category, a significant number of enterprises involve food processing.

Figure 8. Distribution of formal MSMEs in Peru by International Standard Industrial Classification (ISIC)

BUSINESS CATEGORY	TOTAL FORMAL MSMES IN PERU BY ISIC CATEGORY	PERCENTAGE
WHOLESALE AND RETAIL TRADE	745295	44%
REAL ESTATE, BUSINESS, AND RENTAL ACTIVITIES	226459	13%
OTHER COMMUNITY, SOCIAL AND PERSONAL SERVICES	174470	10%
MANUFACTURING INDUSTRIES	148732	9%
TRANSPORTATION, STORAGE, AND COMMUNICATIONS	130723	8%
HOTELS AND RESTAURANTS	117969	7%
CONSTRUCTION	55083	3%
AGRICULTURE, LIVESTOCK, HUNTING, AND FORESTRY	24184	1%
SOCIAL AND HEALTH SERVICES (PRIVATE)	22674	1%
TEACHING (PRIVATE)	15090	1%
MINING AND QUARRYING	13669	1%
FISHING	3497	0%
FINANCIAL SERVICES	3383	0%
ELECTRICITY, GAS AND WATER SUPPLY	1453	0%
TOTAL	1682681	

Source: Peru Ministry of Production 2015, p. 119 (translated)

Again, these figures do not represent the informal economy, which dominates in Peru. A recent study of the informal economy by the National Center for Strategic Planning (CEPLAN) (2016) forecasts that informality will remain a significant feature of the Peruvian economy until at least 2050.

While Peru's percentage of informal workers outside the agricultural sector fell from 75% in 2004 to 64% in 2013, the 74% of total workers employed informally is among the highest rates in Latin America ... According to Peru's statistical agency, the most likely segments to be employed informally are women (76%), workers under 30 years old (80%), those with less than a high school education (95%), those with no college education (79%), low-income workers (99%) and agricultural workers (97%). (Peru Reports, 2016, citing CEPLAN, 2016)

While the CEPLAN report cites restrictive labour laws – which are difficult to change – as leading to higher rates of informality, authors such as Chahuara Vargas and Baldeón Paucar argue that the informal economy persists in Peru due to systematic socioeconomic exclusion (Chahuara Vargas and Baldeón Paucar, 2011).

OBSTACLES, OPPORTUNITIES, AND EXAMPLES OF GOOD PRACTICES

This section will summarize the obstacles and opportunities facing agri-food MSMEs in Peru according to findings in the literature review and key informant interviews. The section will also touch on the role of youth, gender issues, and the use of technology, and will provide a few vignettes to illustrate examples of good practice.

OBSTACLES

While financing is certainly an issue for agri-food MSMEs in Peru, one of the most serious issues is access to water for agriculture and food processing. Given the country's mineral wealth, there is a conflict between the interests of agriculture and mining when it comes to accessing water. Furthermore, mining tends to contaminate water.

Another challenge is the overwhelming informality of Peru's entire agri-food system – including MSMEs. As has been observed in the Philippines and Vietnam, informality is accompanied by difficulty accessing suitable credit, technology, and markets. It is also related to a lack of information about the market and its prices, resulting in informal enterprises overpaying their suppliers and becoming indebted to moneylenders.

Vendors of food, prepared meals, and agricultural produce also highlighted the higher cost of raw materials resulting from inflated food prices as a major problem

affecting their livelihoods. In their case, increased competition and their inability to negotiate lower prices from their suppliers, prevents them from raising their prices and forces them to find relief by borrowing from informal lenders at high interest rates. (IEMS, 2014, 3)

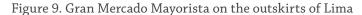
However, unlike the Philippines and Vietnam, the government of Peru appears be better apprised of the situation, as illustrated by the report on the country's informal economy by CEPLAN published in 2016. With respect to credit, Young (2017) reports that lending is on the rise to formal MSMEs by Peruvian banks. Furthermore, the Inter-American Development Bank announced in July 2016 that it was providing Peru with a US\$40M loan to "promote micro, small and medium-sized enterprises" (MSMEs) innovation, technical development and capacity building" to be administered by the Ministry of Production through the National Innovation Program for Competitiveness and Productivity. The project includes US\$60M in local counterpart funding (IDB, 2016).

There are a few specific examples of practices that illustrate both the pitfalls and potential of agri-food MSMEs in Peru. These examples, combined with the information gleaned from statistics, interviews, and the broader literature review, give texture to some of the issues raised and help us conclude with a few key policy suggestions.

BARRIO CHINO, LIMA (CALLE CAPON):

Peru is home to one of the largest populations of Chinese ancestry in South America. Lima's traditional, bustling Chinatown is concentrated around Capon Street (Calle Capón). In 1996, in an effort to upgrade and decongest the area, a public-private partnership was started in collaboration with the Peruvian-Chinese community. Under the leadership of then-mayor Alberto Andrade, a comprehensive community plan was developed based on genuine engagement and joint responsibility for development and maintenance with the municipality. The City of Lima agreed to provide basic services, such as sanitation and refurbished footpaths, and adequate selling spaces for the chifas (Chinese restaurants and food vendors) in attractive gallerias, thereby decongesting traffic but maintaining and expanding livelihood opportunities. A fundraising campaign in collaboration with Wong's grocery chain was also co-created with the Chinese community. The result was inclusive urban revitalization with the sale of Chinese food products as the draw to attract investment, including tourists, to the area, creating businesses and jobs - both large and small. It is considered a successful example in terms of developing an urban agri-food conglomerate cluster. (Yamada and Chacaltana, 2007, 63-73)

Another example, though perhaps less successful in its implementation, concerns the Gran Mercado Mayorista de Lima (Lima Wholesale Market). The traditional market area of Lima - created more than 70 years ago - is in the central business district and called La Parada. After years of congestion and concerns about hygiene, a new wholesale market was constructed in Santa Anita, on the outskirts of the city. While many see this modern market as a positive step forward, others have expressed concern about the manner in which the transition was implemented, particularly in terms of traditional vendors in La Parada who were removed from their selling spaces, resulting in demolitions (El fin del Mercado de La Parada, 2016). The entire transition was and still is very controversial. Many vendors continue to earn their livelihoods in La Parada due to its central location and proximity to transportation routes. Vendors in La Parada have also organized to mobilize and advance their cause. An example of such an organization is FEDEVAL (Castellanos, 2014). Furthermore, while it is an impressive, modern structure that is poised to play a transformative role in the country and city's food distribution system, the new wholesale market still struggles to grow due to its location on the outskirts of Lima and its distance from transportation arteries (see Figure 9).





Source: photo by Gisèle Yasmeen, 2016.

Certain occupations, such as the stevedores who transport heavy loads on their backs, are informally employed and subject to dangerous working conditions, though they are beginning to unionize (El Comercio, 2017). Also, informal sales persist in the new wholesale market (Castellanos, 2014). One anonymous interviewee indicated that La Parada is also home to numerous illegal activities that go beyond the question of formal/informal.

Finally, a good practice identified by one of our key informants is that of the Sierra Productiva program, directed by the Institute for Alternative Agriculture, whereby small farmers have accessed 18 critical technologies that have improved their incomes and quality of life. This extension program, founded by Carlos Paredes Gonzales in Cuzco, is now being replicated throughout the country (Villarán de la Puente, 2017).

OPPORTUNITIES

There are a number of risks that can be turned into opportunities for agri-food MSMEs in Peru. Three in particular warrant being mentioned. First, as is the case with the Philippines and Vietnam, the Peruvian agri-food system presents tremendous opportunities for women and youth in terms of creating and being employed in MSMEs. However, to do so, they require appropriate skills, domestic and international market opportunities, and access to information, credit, and capital.

GROWTH IN THE FOOD SERVICE INDUSTRY:

Growth in Food Service Industry: For at least 10 years, Peruvian cuisine has been considered one of the best in the world and cordon bleu celebrity chefs such as Gastón Acurio have helped grow and consolidate a privately driven "food boom" in Peru. The result has been a spectacular growth in formal employment in the food service sector - a phenomenon observed as early as 2007 as indicated in The Economist, The New York Times, and Gourmet magazine (Yamada and Chacaltana, 2007, 51). A partial explanation for its high-quality gastronomy is the climatic diversity of the country – with 80 of the world's 120 microclimates – which leads to a variety of fresh, local agricultural products. Examples include the largest selection of chiles and maize in the world, 3,000 types of potatoes, 2,000 marine species, and 650 varieties of fruit (ibid). Other factors attributed to this boom include the country's cultural diversity, with a rich Indigenous base mixed with European colonial influences and immigration from Italy, China, and Japan. One of the country's distinguishing features is its version of Chinese food, sold in ubiquitous working-class Chinese restaurants known as chifas, the most famous ones being on Calle Capón (ibid.) In terms of high-end, expensive dining, Chef Gastón's famous restaurant, Astrid y Gastón, is now one of the top restaurants in all of Latin America, and his cooking school, Instituto de Cucina Pachacútec, provides opportunities for talented but impoverished youth to learn cooking skills (Bakker and Brandwijk, 2017). A recent study by the International Labour Organization indicated that 86% of the youth surveyed want to start a business and, of those, 20% are interested in a food-related business (OIT/ILO, 2017). In addition to creating jobs, both formal and informal, the food boom is touted as having united the country.

Second, both physical and virtual connectivity have been identified by renowned Peruvian economist and former president of the country's central bank Richard Webb as critical to increasing rural incomes and reducing poverty. His 2013 study, Conexión y Despegue Rural (Webb, 2013), demonstrates that "since 1994 rural income per person has risen at an annual average rate of 7.2% in real terms (compared with 2.8% for urban incomes)" (The Economist, 2013). Hence, reducing physical and virtual isolation is key to reducing poverty.

Peru's informal economy – as acknowledged by its own policy-makers – is intrinsically related to all aspects of the country's agri-food system. While some see this as an obstacle (Peperkamp, 2015), it might rather be seen as an opportunity in terms of recognizing the economic importance of informality and creating policies based on constructive dialogue that support the livelihoods of the urban poor in a manner than encourages and incentivizes formalization, as per Recommendation 204 of the International Labour Organization (ILO, 2015). However, formalization is a long-term prospect and requires state support, services, and social protection schemes.

This section has provided an analysis of the obstacles and opportunities facing agrifood MSMEs in Peru. As an upper-middle-income country – in contrast to the lowerincome situations in the Philippines and Vietnam - Peru has more resources at its disposal to fuel a true strategy of agro-industrialization in the short term. In fact, this process may well have already started but has been privately spearheaded rather than fuelled by the state. The following section will outline some strategic policy issues and recommendations going forward.

STRATEGIC POLICY ISSUES AND RECOMMENDATIONS

Peru's dramatic economic transformation over the past 20 years is both an inspiration and a cautionary tale. While both urban and rural poverty have been significantly reduced, concerns around environmental degradation are valid, particularly from the perspective of the agri-food value chain. Specifically, our research has pointed to the following three strategic policy issues and recommendations that require urgent attention with respect to agri-food MSMEs in Peru:

- 1. Level the playing field in terms of access to water and irrigation to ensure that agri-food MSMEs have access to this basic necessity throughout the supply and distribution chain in all three climatic zones of the country while also preventing and remediating water contamination due to resource extraction.
- 2. Learn from concrete examples such as the redevelopment of Calle Capón and the Gran Mercado Mayorista to build trust and goodwill to invest in public-private partnerships that can then result in urban and rural revitalization and basic infrastructure (including transportation and communications) to facilitate domestic and international trade. This should be done within an explicit agri-food policy that recognizes the importance of formal and informal MSMEs and approaches them in a supportive manner.

3. Building on CEPLAN's 2016 report on the informal economy in Peru, find inclusive and creative ways to support and include this significant part of the agri-food system to foster greater formalization, without compromising the livelihoods of the poor.

As the food capital of Latin America and one of the world's hubs of agricultural diversity and creativity, Peru is poised to lead within APEC and among LMICs in terms of establishing conditions where agri-food MSMEs can not only survive but thrive.

SECTION 5

CONCLUSION: POLICY IMPLICATIONS AND AREAS FOR FURTHER EXPLORATION

This concluding section will set the three case studies in an overall context and frame the issues with respect to APEC's broader role regarding agri-food MSMEs and, specifically, opportunities for Canada to engage with LMICs in this domain. It will also point to the role of technology and infrastructure as well as gender issues, environmental concerns, and the opportunities for youth.

ROLE OF TECHNOLOGY AND INFRASTRUCTURE

In the Philippines, Vietnam, and Peru, we have seen the need for access to basic technology and infrastructure to support the establishment, growth, and development of agri-food MSMEs. Examples include transportation and telecommunications technology, electricity, basic sanitation, refrigeration and related "cold chain" procedures, as well as desperately needed post-harvest technologies and infrastructure. Hence, with the exception of mobile digital technology, the challenge is not just about new and emerging technologies, but also about simple tools and infrastructure that agri-food MSMEs in high-income countries generally take for granted, with some

exceptions. For example, a recent survey of FarmWorks in Canada – a food production and distribution co-operative focused on micro and small agro-industries in Nova Scotia's Annapolis Valley – found that 30% of its members lacked access to appropriate commercial refrigeration facilities, as most of these facilities are designed for larger enterprises and are controlled by them (Best, 2017). This might be an area for north-south co-operation.

THE LENS OF GENDER, YOUTH AND THE ENVIRONMENT

We have demonstrated that in the Philippines, Vietnam, and Peru there are important gender differences with respect to agri-food MSMEs. In all three countries, women tend to be ensconced within the informal economy. This includes both informal employment and self-employment. Hence, any attempt to bolster women's entrepreneurship needs to be cognizant of this fact and involve measures to include the informal economy. We have seen that, in all three economies, youth also tend to be disproportionately represented within the informal economy. This is primarily due to low barriers to entry and the lack of opportunities within the more formal economy. However, in all three countries – as compellingly demonstrated in the recent International Labour Organization report on youth in Latin America (OIT/ILO, 2017) – with respect to Peru there is significant interest of youth in the more "downstream" value-added food and beverage industry and related energy and creativity to be galvanized. Anecdotal evidence would suggest that the situation is similar in the Philippines and Vietnam. Further research would be needed to validate this claim.

With respect to environmental issues related to agri-food MSMEs, there are both risks and opportunities that have been highlighted by this report. In all three economies – which have rapidly growing middle-classes – more lavish lifestyles come with higher environmental impacts, and this includes eating higher up on the food chain (including more animal products), greater use of packaging, and imported food products. However, as research – including research by APEC – has shown, there is growth in interest in "green" and organic products, which also provides opportunities for entrepreneurship. We have observed this trend in all three countries, and it is expected to grow. This might also be an interest area for collaboration within APEC and between Canada and the three focus economies of this paper. Indeed, a 2009 report by the APEC Secretariat lays the groundwork for this (APEC, 2009).

OVERALL POLICY RECOMMENDATIONS AND AREAS FOR FURTHER EXPLORATION

This study has helped us understand the many challenges and opportunities facing agrifood MSMEs in three distinct economies that also have similarities. The Philippines,

Vietnam, and Peru are all experiencing "food booms," with the growth of a middle class as well as opportunities with foreign markets. All three countries face challenges in terms of their own domestic agri-food value chains and need to think of "agroindustrialization" as a strategy for their own inclusive growth strategies. Agri-food MSMEs suffer from low productivity in the face of growing opportunity and demand. Access to critical resources is urgently required to improve the situation.

As a mix of LMICs and high-income economies, APEC is in a good position to foster concerted action in terms of promoting international trade and co-operation as well as dialogue on the types of domestic policies that might be supportive of agri-food MSMEs, both formal and informal. There are also opportunities for "south-south" cooperation between these three countries, as well as possibilities for Canada to engage with these economies bilaterally or together on the following policy recommendations and areas for further exploration:

- 1. Develop clear and consistent definitions: Clear and consistent definitions of MSMEs in general and agri-food MSMEs in particular are needed as a prerequisite for consistent analysis, policy-making, and program development. Definitions should be cognizant of the role and importance of informal enterprises, and take into consideration the entire agri-food value chain. Where resources permit, statistics should be available on informality.
- 2. Develop explicit "agro-industrialization" strategies: To our knowledge, none of the Philippines, Vietnam, and Peru have explicit "agro-industrialization" strategies. Various experts have been calling for these kinds of comprehensive, context-specific strategies, and these should be developed based on local conditions and include all aspects of the agri-food systems within a vision of sustainable food value chains using the model put forward by FAO (Neven, 2014).
- 3. Develop infrastructure, financing, technology, and information support: Primary obstacles facing agri-food MSMEs include access to basic infrastructure, financing, technology, and information. There may also be opportunities to further develop capacity for mobile payments (Davdra, 2017). In certain jurisdictions, such as Peru, access to basic necessities such as drip irrigation is an issue. Countries like the Philippines are particularly vulnerable to climate change, and Vietnam suffers from soil contamination. A mapping of primary obstacles with a view toward both domestic policy-making and program development as well as opportunities for regional and international co-operation to overcome these challenges and mitigate associated risks.

- 4. Map out primary opportunities: Similarly, the primary opportunities particularly "low-hanging fruit" facing agri-food MSMEs should be mapped out by jurisdiction for domestic and international action planning. For example, bringing informal women and youth entrepreneurs into a more formal domestic "food boom" setting may be an opportunity for training and growth. Supportive and constructive dialogue with the informal food economy is a necessity in all three countries.
- 5. Increase co-operation among APEC economies: There are opportunities for south-south and north-south co-operation to share good practices, such as the example of NorMin Veggies in the Philippines and the redevelopment of Calle Capón in Peru. Vietnam is showing leadership in the organic field as well as hydroponics. There are opportunities for these three countries, and others (including Canada), to learn from each other's successes and mistakes.

From a research perspective, this paper has brushed the surface through literature review, analysis of available statistics, and key informant interviews. More can be done to improve baseline research at both the country level and internationally in aid of policy and program development. A virtual information-sharing platform on agrifood MSMEs with complementary in-person activities – such as policy development workshops might be envisaged as a logical next step.

APPENDIX I: ACKNOWLEDGEMENTS

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APPENDIX II: APEC COMMITMENTS TO FOOD SECURITY AND AGRI-FOOD ISSUES

APEC 1999 – Report on APEC Food System – APEC leaders endorsed a plan for a unified APEC food system

APEC 2009 – Strategic Framework for Food Security in APEC: http://www.agritrade.org/Publications/documents/APECFoodSec_web.pdf

APEC 2010 – Niigata Declaration on Food Security: https://www.apec.org/Meeting-Papers/Sectoral-Ministerial-Meetings/Food-Security/2010_food.aspx

APEC 2011 – APEC Policy Partnership on Food Security – Established to strengthen public-private co-operation to address food security issues in the region

APEC 2012 – Kazan Declaration on Food Security: https://www.apec.org/Meeting-Papers/Sectoral-Ministerial-Meetings/Food-Security/2012_food.aspx

APEC 2014 – Beijing Declaration on Food Security: https://www.apec.org/Meeting-Papers/Sectoral-Ministerial-Meetings/Food-Security/2014_food_security.aspx;

APEC 2016 – Fourth APEC Ministerial Meeting on Food Security, Piura, Peru, September 27, 2016, Piura Declaration on APEC Food Security: http://www.mofat.go.kr/webmodule/htsboard/template/read/engreadboard.jsp?typeID=12&boardid=8116&seqno=317319

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