



Australian Government

Australian Centre for
International Agricultural Research

Final report

Small research and development activity

<i>project</i>	Research to Support Agricultural Policy and Strategic Planning: Research to assist the Vietnam Government with the Formulation of the 2021-2030 Agricultural Development Strategy for Vietnam
<i>project number</i>	AGB/2019/185
<i>date published</i>	28 October 2021
<i>prepared by</i>	Associate Prof Tihomir Ancev, The University of Sydney Chi Dang Diem Nguyen, The University of Sydney
<i>co-authors/ contributors/ collaborators</i>	Emeritus Prof Gordon MacAulay, The University of Sydney Yen Vu Hoang, Ministry of Planning and Investment, Vietnam Duc Minh Nguyen, Vietnam National University of Agriculture Phạm Ngọc Trụ, Academy of Policy and Development, Vietnam
<i>approved by</i>	Howard Hall
<i>final report number</i>	FR2021-053
<i>ISBN</i>	978-1-922635-63-1
<i>published by</i>	ACIAR GPO Box 1571 Canberra ACT 2601 Australia

This publication is published by ACIAR ABN 34 864 955 427. Care is taken to ensure the accuracy of the information contained in this publication. However, ACIAR cannot accept responsibility for the accuracy or completeness of the information or opinions contained in the publication. You should make your own enquiries before making decisions concerning your interests.

© Commonwealth of Australia 2021 - This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced by any process without prior written permission from the Commonwealth. Requests and inquiries concerning reproduction and rights should be addressed to the Commonwealth Copyright Administration, Attorney-General's Department, Robert Garran Offices, National Circuit, Barton ACT 2600 or posted at <http://www.ag.gov.au/cca>.

Contents

1	Acknowledgments	5
2	Executive summary	6
3	Background and Rationale	8
3.1	Background on strategic planning for Agriculture in Vietnam	8
3.2	The process of strategic planning 2021-2030.....	8
3.3	Purpose of the project.....	9
3.4	Project objectives	9
3.5	Key project activities	9
3.6	Project outputs and expected outcomes.....	10
4	Strategic planning: concepts, scholarship, and practice	11
4.1	Key concepts of strategic planning: review of the literature	11
4.2	Review of international case studies on strategic planning in agriculture	16
4.3	Review of the effectiveness of the previous Strategic Planning (2011-2020) for the Vietnamese agriculture: achievements, issues, problems, and lessons learned	18
5	Strategic planning framework for Vietnam’s agricultural development strategy 2021-2030.....	21
5.1	Context.....	21
5.2	Strategic Vision for Vietnamese Agriculture for the Period 2021-2030	33
5.3	Vision statement: A 2030 Vision for Vietnamese Agriculture 2030	34
5.4	Goals and Strategies	35
5.5	Instruments and implementation.....	43
5.6	Evaluation and Monitoring	48
6	Recommendations and policy implications	60
6.1	General recommendations.....	60
6.2	Recommendations for policy and other instruments to pursue the strategies.....	61
7	Conclusions	63
8	References	65
8.1	References cited in report.....	65
8.2	List of publications produced by project.....	68
9	Appendixes	69
9.1	Appendix 1:	69
9.2	Appendix 2:	73

9.3 Appendix 3:79

9.4 Appendix 4:83

9.5 Appendix 5:83

1 Acknowledgments

Project research team would like to acknowledge the support provided by ACIAR towards the successful completion of the project. Apart from the financial support, ACIAR has provided ongoing support through advice, guidance and facilitation of activities. We specifically acknowledge the help of ACIAR colleagues in Australia: Hall Howard, Michelle Cooper and Todd Sanderson, as well as colleagues from the ACIAR's country office in Vietnam: An Nguyen and Nam Anh Tran. We also acknowledge the critical contributions of Ian Lewis and Lam Do Thanh to the process of formation of the Agribusiness Reference Group in Vietnam. Project research team also acknowledge the support obtained from the organisations where individual team members are employed: the Ministry of Planning and Investment, Vietnam, the Academy of Policy and Development, Hanoi, the Vietnam National University of Agriculture, and the University of Sydney.

2 Executive summary

The purpose of this project, and of this document as its main output, is to formulate a framework for Vietnam's strategic planning in the Agricultural sector for the period 2021-2030.

The Vietnamese economy has been growing rapidly over the last ten years, driven mainly by manufacturing and services. While agriculture's contribution to GDP is declining, it is still a very significant sector in Vietnam, as it still employs a sizable proportion of Vietnam's labour force. The opportunities, threats and challenges facing Vietnam's agriculture demand an aspirational, well-calibrated, yet achievable strategy for 2020-2030.

The agricultural sector in Vietnam has notable achievements over the past decade. The overall performance of agriculture has improved, and food security concerns have abated. The sector also experienced significant broad-based growth in production volumes and values, such as aquacultural products, vegetables, flowers, fruits, high-value industrial crops, and non-timber forest products. The use of technology has improved, with mechanization now being widespread. Agricultural processing and food safety have also improved. Despite these important achievements, significant challenges remain. Some of the identified challenges include: limited competitiveness of agricultural products in domestic and international markets, inadequate linkages in agricultural value chains, small-scale and fragmented structure of the agricultural sector, precarious environmental and natural resource conditions facing agriculture, and stagnant agricultural productivity.

The landscape for the agricultural industries both globally and domestically is shifting, and this has been further emphasized by the COVID 19 pandemic. Key international trends are: urbanization and ageing of population, which combined with raising incomes results with changing consumer preferences for food implying increasing share of pre-packaged and processed food distributed through supermarkets and convenience stores, with significant implications for food safety standards; improvements in agricultural technology predominantly driven by IT and digital technologies; increasing effects of climate change, crises, natural disasters and increased competition for natural resources; transboundary pests and diseases outbreaks are becoming more common and spreading further afield; poverty is in decline, and there is a growing emphasis on nutrition and health outcomes in relation to food insecurity; there is a changing profile of employment in agriculture, demographics in the rural areas and the role of women in agriculture. These trends are largely paralleled in the Vietnamese context, with certain specificities pertaining to the conditions in Vietnam.

Based on the research findings about current situation of Vietnam's agriculture and the identified trends, opportunities and challenges, we propose a strategic vision for Vietnamese agriculture for the period 2021-2030. This strategic vision is developed around the role that agriculture should play in the Vietnam's economy and society over the planning period. We propose a vision for **Smart, Safe, Sustainable and Resilient Agriculture for Vietnam in 2030**, which is described through ten points that characterise how the agricultural sector should look like in 2030.

The strategic planning framework provides some general principles and guidelines on how strategic goals for the agricultural sector should be formulated and implemented. To this effect, we propose that the strategic goals should go beyond traditional, numerical based aspirations, and should encompass greater set of development aspects than what has traditionally been the case. This means that in addition to focusing on growth figures for agriculture (ie. productivity, sectoral GDP, etc.), the strategic plan should stipulate goals for social development, nutritional and health outcomes, educational outcomes, and environmental and sustainability outcomes. Subsequently, we discuss specific strategic goals grouped in several broad areas: economic goals, agricultural technology goals, environmental and natural resource goals, food safety and health goals, and social goals. While we offer discussion on these goals, we only provide in an Appendix some

quantitative targets expressed in numerical terms that have been developed separately by MPI and the General Statistical Office of Vietnam, without direct input from this project.

The defined strategic goals should be pursued by putting in place adequate strategies that align with the vision. We propose specific strategies for each of the groups of strategic goals. These groups of strategies are described in detail in the report.

The proposed strategies should be implemented by specific instruments, such as policies, laws, programs, decrees, and other regulations. We reviewed the existing relevant instruments that currently are or have been until recently in place in Vietnam. We find that existing instruments cover some aspects of the proposed strategies. Consequently, we identify the gaps and propose additional instruments to be implemented. Specifically, we look at instruments on agricultural technology, instruments on agricultural financing, instruments on environmental and natural resource goals, instruments on enhancing value chains and market development, instruments on development of socio-economic infrastructure in rural areas, and we identify gaps for each of them. We also identify other gaps and areas that need attention, and we provide suggestions for implementing new strategic planning instruments going forward.

Monitoring and evaluation of strategic plans involves an ongoing process of testing the current status of the strategic plan against the desired status. It should be based on a set of measures which allow reporting of the rate of progress towards achieving strategic goals. This comparison should be reviewed and considered by high level decision makers who can slow down or speed up the rate of reaching the goals during the planning period by controlling the corresponding policy levers or instruments. There are many approaches to evaluation in strategic planning. These range from descriptive reporting and evaluation, through various forms of structured review such as Balanced Scorecard, Gap Analysis, Multi-criteria Analysis and the economically focussed Cost-Effectiveness, Break-Even Analysis and Benefit-Cost Analysis. In this document we develop an example of a Gap Analysis, which is based on measuring the difference between a desired future state and the current state by a wide range of indicators.

The report concludes with key messages derived from the analyses undertaken through this research project. Formulating and implementing appropriate strategies to achieve the vision for a Smart, Safe, Sustainable and Resilient Agriculture for Vietnam in 2030 is going to be fundamental for the ongoing success of the agricultural sector in Vietnam. The analysis and recommendations given in this report provide directions towards achieving that success.

3 Background and Rationale

3.1 Background on strategic planning for Agriculture in Vietnam

Vietnamese agriculture has performed remarkably well over the recent period, recording growth rates of 3-4 percent per annum in the gross sectoral product. Incomes derived from farming have also increased from 26.4 million VND per person per year in 2008, to some 35 million in 2020. There has been a notable improvement in the creation of value-added in agricultural production, and greater integration in international markets. The total export and import turnover in agricultural products over the ten-year period (2008-2017) were \$US 261.28 billion, with an average growth rate of 9.24% per year. As a result, Vietnamese agricultural products are gaining recognition around the world, specifically in the United States, Australia, China, Japan and the EU.

Against the backdrop of positive developments are various challenges facing Vietnam's agriculture over the coming period. Some of these include: a) the effects of climate change altering hydrological and weather conditions, posing significant threats to agricultural productivity; b) small and fragmented land holdings that hinder economies of scales and technological adoption; c) low agricultural product quality and inadequate food safety; d) fragmented agricultural value chains, resulting in food wastage during transportation, storage and handling; e) urban-migration out of rural areas, altering the rural labour force; f) environmental and natural resource degradation. In addition, the COVID-19 pandemic has brought to light many challenges, but also opportunities for the agricultural sector in Vietnam.

As a result, while agricultural development in Vietnam has been remarkable, the upcoming decade is going to be critical in addressing the problems and constraints in Vietnam's agricultural and rural development. Therefore, adopting a strategic approach to planning for agriculture in Vietnam is well justified.

Vietnam's political leadership has engaged in strategic planning exercises every five years with the purpose to review progress in the previous period, and to develop future strategies. The next strategic planning document will be proposed and adopted in the middle of 2021. The Ministry of Planning and Investment (MPI) is tasked with preparing the strategies for agricultural, social and economic development, including the Strategy for Agricultural and Rural Development for the period 2021-2030.

3.2 The process of strategic planning 2021-2030

In October 2018, the Prime Minister of Vietnam, Nguyen Xuan Phuc, issued Decision 1868/QĐ-TTg establishing the Social-Economic Committee in preparation for the National convention in 2021. The Social-Economic Committee will prepare a Report on Reviewing Social-Economic Development in the period 2011-2020 and on Building Strategic Social-Economic Development in the period 2021-2030.

The Ministry of Planning and Investment (MPI) is assigned to take a lead in assisting the Committee in preparing the report. Consequently, the Minister of Planning and Investment issued Decree 137/QĐ-BKHĐT dated 01/02/2019 which tasks the Department of Agricultural Economics (DAE) within MPI with the review of the previous ten-year agricultural development from 2011-2020, and with the design of the agricultural strategy for the next ten-year period from 2021-2030, including a shorter term, five-year plan from 2021-2025.

The DAE is reviewing all processes of agricultural restructuring (including in agriculture, forestry, and aquaculture), and rural development in the period of 2011-2020. Based on the lessons learnt, and the identified shortcomings of the last period, the DAE will propose strategic directions and objectives for the next ten-year period. DAE is expected to submit

its recommendations to the Minister of Planning and Investment by April 2021, and the Minister will then submit recommendations to the Social-Economic Committee.

3.3 Purpose of the project

This project was designed to support the MPI and DAE by undertaking joint research that will set up an adequate framework for the Agricultural and Rural Development Strategy in Vietnam for the period 2021-2030, and to formulate concrete strategic directions. Research findings from the project creates new knowledge on how to approach strategic planning exercises in agriculture, identify key opportunities and challenges, and meaningfully articulate them in a strategy.

The project is building upon the previous collaboration between DAE of MPI and academics from the School of Economics at the University of Sydney and is broadening that collaboration to include the Academy of Policy of Development (APD) and the Vietnam National University of Agriculture (VNUA). An additional purpose of the project was to foster creation of expertise for conducting evidence-based strategic planning within Vietnamese government and research institutions. Given that the private sector is playing an increasingly important role in all aspects of Vietnamese agriculture, and especially in forming and developing agricultural value chains, another purpose of the project is to establish a consultative group composed of business leaders upon which ACIAR can draw from this and for subsequent projects in Vietnam. We called this the Agribusiness Reference Group, which was successfully established in November 2020 (see Appendix 1).

3.4 Project objectives

The project has set the following research objectives:

- a) Undertake joint research into strategic planning in agriculture, in order to assist the Vietnam Government (Ministry of Planning and Investment [MPI]) to develop an aspirational yet realistic vision for the agricultural sector in Vietnam for the year 2030.
- b) Propose a research-based general framework for strategic planning in agriculture. The framework will define key elements of a strategic planning exercise.
- c) Based on the research findings, articulate strategic directions for the Vietnamese agriculture over the next decade.
- d) Build capacity within the Vietnamese Government for a research-based approach to strategic planning exercises in agriculture.
- e) Establish and engage with an Agribusiness Reference Group in Vietnam, as a panel of private companies (and their key individuals). We collected input from this reference group to canvas the views of the private sector on the strategic directions of Vietnamese agriculture. As it is now established, the reference group will be accessible to other ACIAR programs and projects.

3.5 Key project activities

We planned for a number of activities within the project. The project commenced in January 2020, with an inception workshop held in Hanoi, with in-person participation of the Australian research team (see Appendix 2 for detailed report on the inception workshop). However, due to the COVID-19 pandemic, many of the subsequent activities had to be modified, rescheduled or postponed. As a result, the project was extended until the end of 2020, and subsequently into 2021. Indeed, due to the COVID 19 pandemic, the process of strategic planning in Vietnam was itself postponed until later in 2021. This allowed the project to still have meaningful and timely input into the process.

Despite the difficulties due to COVID-19, the following key activities were performed under the project:

- a) We undertook a comprehensive review of the research literature on strategic planning with specific focus on agriculture; a review of international experiences with strategic planning in agriculture; and a review of previous Vietnamese experiences with strategic planning for agriculture.
- b) We formed an Agribusiness Reference Group (ARG) in Vietnam, held the inaugural meeting of the group (see Appendix 5 for a detailed report on the formation of ARG) and we canvassed the views of the private sector in relation to the Strategic Planning in Agriculture, by administering a short survey among the members of the ARG.
- c) We identified the opportunities and challenges for Vietnam's agriculture, and the projected developments in the agricultural sector both globally and in Vietnam over the next decade; we subsequently undertook research in order to produce a Strategy Planning Document for the purpose of guiding MPI in their contributions to the overall strategic planning exercise for Vietnam. This document includes a Vision Statement for the Vietnamese agriculture for 2030. The document as such is available as Appendix 4 of this report, but most of its components are already incorporated in this report.
- d) We conducted a training workshop on the Economics of Strategic Planning in Agriculture, held at the Academy of Policy and Development (see Appendix 3 for a detailed report on the training workshop).

3.6 Project outputs and expected outcomes

Key output from the project is the Strategy Planning Document that was delivered to MPI (Appendix 4). The document articulates a framework for strategic planning in agriculture, outlines a strategic vision for the Vietnamese agriculture for the year 2030, and identifies key strategies to address the identified opportunities and challenges facing the Vietnamese agriculture over the next decade. This document was the main basis of the submission that MPI made to the Social-Economic Committee on strategic planning in agriculture.

Another important output from the project is the establishment of the ARG in Vietnam, which has been functional since December 2020 (Appendix 5).

The one-day intensive training workshop at the Academy of Policy and Development aimed at building evidence-based policy skills in Strategic Planning in Agriculture for Vietnam's public policy officials is another output from the project.

Preliminary findings from this project were presented by Project Research Officer Chi Nguyen at the Sydney Vietnam Initiative Research Symposium at the University of Sydney on 24th September 2020, and by Tiho Ancev at a Sydney Vietnam Initiative Webinar on 7th August 2020. We are currently in the process of preparing journal articles/book chapters to be published over the course of 2021/2022.

As a result of the project, we expect that there will be an improved understanding of the conceptual framework and practical implementation of strategic planning exercises for agriculture in Vietnam and elsewhere. This outcome will be relevant in the context of developing economies, as well as developed economies, such as Australia. It is expected that over the medium- to long-term, the project will result in an improved capacity within Vietnam's public sector to undertake a scholarly approach to strategic planning in agriculture and implement that approach in the subsequent strategic planning exercises (taking place in 2030 and beyond). It is also expected that many future ACIAR and non-ACIAR research projects will benefit from improved engagement with the private sector in Vietnam's agriculture via the establishment of the ARG in this project.

4 Strategic planning: concepts, scholarship, and practice

4.1 Key concepts of strategic planning: review of the literature

4.1.1 Overview

The concept of strategic planning has continually been developed and re-invented over time, starting with military planning and statecraft in its earliest form (Lawrence, 2013). Scholarly work on strategic planning in the private for-profit sector took off in the 1960s as part of the larger field of management theory and resulted in a rich body of concepts and practices. Strategic planning in the public sector, on the other hand, began in the United States in the 1980s (Eadie, 1983) and later in the United Kingdom, Australia, Canada and elsewhere (Ferlie & Ongaro, 2015). While approaches to strategic planning in public and private sectors differ, they share a common purpose in their pursuits of a “deliberative, disciplined effort to produce fundamental decisions and actions that shape and guide what an organization (or other entity) is, what it does, and why” (Bryson, 2011). Strategic planning is also part of the broader practice of strategic management, which “links planning with implementation on an ongoing basis”, in order to ensure the sustainability of the strategic plan as well as that of the organisation undertaking such planning (Bryson et al, 2018). Strategic planning in the private sector involves actions and decisions undertaken by directors and managers that ultimately maximise shareholders values, in terms of profitability, market share and other commercial measures. Public sector strategic planning can also be considered value-maximising, though with a different set of stakeholders, goals, and performance measures (Bryson, Crosby, & Bryson, 2009). For example, some of the examples where public sector strategic planning has different stakeholders from the private sector planning include communities, certain socio-economic groups and local governments (versus shareholders), public goods (versus profits), public interests (versus shareholders’ interests), efficiency and effectiveness (versus profitability). This review of the literature explores strategic planning primarily in public policy but will also reference the concepts and tools used in private sector planning.

4.1.2 Why strategic planning?

Strategic planning has increasingly become the standard practice across public and private sectors due to a number of benefits and advantages it offers. The most evident advantages are accountability and compliance. Having a strategic plan enables political leaders and public officials to maintain credibility and legitimacy over their leadership, exercise control over their departments/organisations personnel through goals setting and performance management, as well as bolstering public support (Tama, 2017). Beyond the political ramification, strategic planning also offers a system of thinking strategically about the future, wherein decision makers can proactively anticipate and prepare for uncertain yet foreseeable events, as well as assessing the advantages and constraints in dealing with a particular issue. This proactive approach places policy makers in a much better position in responding to crisis and generates better performance, compared to the reactive actions, or inertia (Cepiku et al, 2018).

The question is then, what makes strategic planning strategic? Bryson et al. (2018) compared strategic planning with “rational-comprehensive planning” and argued that the two should not be equated. Rational-comprehensive planning, or the “root method”, consists largely of means-ends analysis and a reliance on existing theories (Lindblom, 1959). The ends are first identified and the means to achieve them are then devised based on a theoretical framework. Common examples include the areas of monetary policy, taxation and agricultural policy. The “branch method”, in contrast, does not distinguish between means and ends, but views them as rather intertwined. Under the

‘branch method’ means-ends analysis is often limited, with less reliance on theories and more emphasis on “learning by doing”.

A strategic planning exercise in public policy would resemble both the ‘root’ and the ‘branch’ methods, by combining a variety of concepts, procedures and tools to create an approach to policy making that is based on sound theoretical foundation, which takes into account temporal realities. While “formal” strategic planning exercise can adhere to the ‘root’ method, the complexity and multitude of conflicting stakeholders’ goals and values inherent in public-policy debates requires the flexibility and adaptability offered by the ‘branch’ method in order for planning to remain relevant. As Sir Humphrey Appleby in the television series “Yes, Prime Minister” famously put it: “Diplomacy is about surviving until the next century - politics is about surviving until Friday afternoon”. The quote, although fictional and meant to be humorous, illustrates the difficulty in aligning the interests of different stakeholders across different time horizons in public policy. Poister et al. (2013) thus proposed a “hybrid” approach which connects formal rational planning with “logical incrementalism”, defined as a “purposeful, effective, proactive management technique for improving and integrating both the analytical and behavioural aspects of strategy formulation” (Quinn, 1980). Logical incrementalism focuses on the “importance of setting broad organizational goals” (Boyne et al., 2004) which allows policy makers to assess the contextual developments and incorporate political, resources and information constraints into the current planning. This form of proactive strategic planning thus remains forward-looking, adaptive, flexible and holistic in an uncertain environment.

4.1.3 Strategic Planning in Public Policy: elements and processes

For the purpose of this review, we examine the strategic planning framework developed by Kaufman (1991), which outlines the fundamental elements and processes through which proactive strategic planning takes place. This framework has served as the structure for several strategic planning exercises, such as those in the education sector (Kaufman and Herman, 1991) (Chen et al. 2015) (Özdem, 2011) and strategic planning in a wider set of jurisdictions (DPC, 2001). The purpose of the framework’s design is to achieve desirable results derived from an “ideal” vision, at the three level of stakeholders: individual, organisational and societal. The framework consists of four major groups of activities which we discuss in detail below.

Scoping, or “purpose”. The first step in the strategic planning process is to identify the “client” or groups of clients to whom the benefits of the strategic planning exercise are likely to flow. This step encompasses the purpose of the strategic planning exercise in line with the purpose of the beneficiary industry/organisation. In relations to public policy, Kaufman (1991) proposed three levels of client groups whom strategic planning should focus on: individual (micro), organisational (macro) and societal (mega). Of these client groups, the author argued that the benefits at the societal level should be the primary concern of planners. Based on the interests of this group a forward-looking and integrated vision can be developed. Too often strategic planning fails to incorporate planning at these three levels holistically, instead treating them as separate concerns or failing to consider the other groups’ interests entirely. An example is given in the education sector (Kaufman & Herman, 1991). The corresponding three groups of clients are schoolchildren or individuals undertaking learning in the educational setup (individual/micro), the education system itself (organisational/macro) and the larger society (societal/mega). In planning for the curriculum, method of delivery or institutional arrangement of the education sector, should the benefits to students or to society be considered primary? One could argue that the students’ benefits should be given first priority, since they are the direct participants in the system and that payoffs to society will surely materialise from the benefits of their learning. However, a closer examination of the groups’ interests might not support this assessment. From the perspective of individuals participating in the education system, the purpose of undertaking learning, studying or skills training is to ultimately secure employment, become self-sufficient financially or maybe start a business at the end of their educational journey. The information asymmetry between a prospective

employer and an individual's ability encourages information signalling, with degrees from more prestigious institutions signalling greater ability. This in turn encourages more competition down the educational ladder, in the form of test scores where the best universities and schools demand the highest scores for entry. This is evident in the assessment structure of most schools and universities, with funding structure and teaching efforts directed at helping students increase test scores. However, from a societal point of view, should the purpose of an education go beyond merely achieving high test scores and providing entry into the labour market? As such, how should strategic planning in education be formulated to foster learning of skills beyond traditional knowledge – such as innovation, curiosity, creative and critical thinking – so that those who partake in education become innovative and resilient citizens to the benefits of society. These skills cannot be assessed or measured in the traditional setting of test scores. This example shows that it is important to carefully consider the benefits each client group is seeking in designing the strategic plan, in order to develop a holistic vision and prioritize goals appropriately.

The next stage is data collection or forming “**visions**”. The purpose of this second stage in the process is to develop an “ideal” vision, based on the identified interests. It is worth noting here that planning often falls into two directions - proactive planning and reactive planning -, with each of these approaches having different consequences for the ideal visions. The proactive planning aims to create a “missing future”, an “improved reality” even if that means re-examining the current process and objectives (Kaufman & Herman, 1991). It takes into account the current state of affairs and emerging trends, anticipates and counters potential threats and crises before they emerge. Reactive planning, on the other hand, tries to remedy the current problems and pressures after they have surfaced. This approach can hardly be considered strategic since it merely responds to crises and problems, instead of proactively planning and preventing them from occurring. As such, an ideal vision should best reflect the proactive element of the strategic planning process. Furthermore, Kaufman argued that the ideal vision should be established independently of the surrounding contexts initially, before being refined and restricted by the existing practicalities. As a result, we prevent the ideal vision from being impeded by preconceptions, the status-quo, perceived difficulties or other limitations, as doing so will limit the strategic plan to “what we are currently achieving” (Kaufman & Herman, 1991). Likewise, previous achievements and their underlying planning approaches should be carefully re-assessed and not taken as “it worked before, so it's going to work now”. Similarly, strongly held beliefs and values should be re-evaluated and debated upon in developing the visions, as they can be ill-grounded and out of touch with fast-changing realities.

Several papers have explored the importance of having the proper vision and its impact on the success of the strategic plan. For instance, Kolzow (1999) explores the relationship between vision and actions. A strategic plan can either have too much visioning (or an unworkable vision) and no action, or no vision and “actions that go nowhere” (Kolzow, 1999). As Kolzow noted, the ideal vision should represent a “desired” future that is possible and achievable; to put it differently it should represent “possibilities”, not “probabilities”. A credible vision is what an organisation can achieve if it has the commitment and drive, rather than what is probable if it continues with the status-quo. Having a credible vision in turn can drive greater commitments and energy from stakeholders and personnel, since vision and mission statements “contribute to the institutional identity of an organization” (DPT, 2006). Consequently, planners need to identify a process through which an “ideal” and “credible” vision can be developed, in which interests of stakeholders are taken into account, in addition to the current and emerging trends that can directly affect those interests.

Planning – setting “goals” and “strategies”. The purpose of the third stage in the planning process is to specify the goals and strategies required to achieve the visions identified above, and to translate strategies into actionable plans. Doing this requires a comprehensive analysis of the current state of the system, which will help identify the

gaps between the ideal vision and the current state of affairs. A set of short-term and long-term goals must then be developed with the purpose of bridging these gaps. In designing and formulating the goals, planners should not treat the short-term and long-term goals as stand-alone objectives with different time horizons, but rather consider them as interwoven and sequential. Effective short-term goals should build the foundation upon which the success of the long-term goals can be facilitated. In other words, the long-term goals consist of quantifiable and tangible outcomes that represent the realised visions. However, they should also remain flexible and broadly defined in their design, in order to account for newly arrived information, evolving technological advances or impending shocks (Habegger, 2010). Short-term goals on the other hand have a much narrower focus in scope and timeframe; their outcomes more specifically defined and measurable but would ultimately set the scene for the long-term goals. Interestingly, empirical research has shown that clearly defined and challenging goals generate better task performance compared to “no goals, do-your-best goals, or specific easy goals” (Smith & Locke, 1990; Locke et al., 1981). A study by Chen et al. (2015) stipulated a useful set of criteria (SMART) which outlined the characteristics desirable of goals and objectives, in ensuring their objectivity, success and sustainability, where SMART goals = Specific, Measurable, Achievable, Results-oriented and Timebound goals.

The next step in this stage is to develop the **strategic action plan**, where strategies are formulated and decided upon by strategic planners in order to achieve the goals specified above. Goals are “what is to be achieved and when the results are to be accomplished”, whereas a strategy is “the pattern or plan that integrates an organization’s major goals, policies, and action sequences into a cohesive whole” (Quinn, 1981). How then, should the strategies be formulated? An effectively designed strategic action plan requires policy planners to have a clear understanding of the policy tools available at their disposals, the internal and external constraints on their resources, comparative advantages and limitations, internal processes as well as the potential behaviour of affected agents. In public policy planning, the policy toolkit generally consists of “liability, regulations, disincentives, incentives, public investment or ownership, information, exhortation, and planning” (Andrews, 2006), which can be further divided into industry-specific “supply stimulus” (such as research and development, public investment, grants, preferential tax treatments, etc.) and “demand stimulus” (such as government purchases, subsidies, quotas, regulations, etc.) (Andrews, 2006). This diverse toolkit allows policy planners to canvas a range of alternative strategies, instruments, ideas and arguments from which the optimal strategy mix can be established. Not only does the optimal strategy mix needs to be effective (ie. achieving the goals within the specified timeframe), it also needs to take into account the constraints on resources, internal processes as well as a careful consideration of agents’ behaviours in order to be efficient (achieving the objectives at the lowest costs) and equitable (fair distribution of costs and benefits) (Andrews, 2006). For example, investment cost subsidies and creating a favourable business environment are both effective policy instruments used by governments to attract FDI; however, each has different implications for the host country’s fiscal position, in addition to the social distribution of costs and benefits (winners and losers). Incorporating the constraints on resources (such as government budget balance, borrowing capacity, regulatory limitations) and agents’ behaviours (moral hazards) into the planning design can minimize costs and adverse effects incurred by the policy instruments. This process requires detailed deliberation of alternative strategies and scenarios (such as feasibility study and impact assessment) as well as the adoption of inputs from stakeholders (e.g. government ministries, industry associations, independent bodies, etc.). Once the optimal strategy mix is identified, programs or initiatives that “specify the step-by-step sequence of actions necessary to achieve major objectives” within the limits of the strategies and policies are put forwards for implementation and evaluation by the relevant organisations and agencies (Quinn, 1981).

Implementation and evaluation. The last stage of the strategic planning process involves implementing the strategies devised in the strategic plan and evaluating the

outcomes of the strategic planning exercise. As such, this critically important stage requires careful deliberation and execution from all stakeholders involved, as it will determine the success or failure of the entire exercise. Important elements of this segment are discussed below. The scholarly work on strategic planning emphasizes the critical importance of effective strategy implementation, as it determines whether the strategic action plan will work or fail. While it is important (and difficult) to formulate a credible and ambitious strategic plan, implementing the plan and achieving the desired outcomes is even more difficult (Hrebiniak, 2006). The astonishingly high rate of strategy implementation failure documented in the literature (about 50% - 80%) illustrates this point and further stresses the importance of a consistent implementation plan (Atkinson, 2006) (Raps, 2004) (Rajasekar, 2014). As a result, strategy implementation itself has driven further study in the field of strategic management (Čater & Pučko, 2010). This is because while strategy formulation is largely a creative and analytical process undertaken by the top management and leaders, strategy implementation is a practical, lengthy and laborious endeavour that requires efforts from the top-down, bottom-up and across organisation(s) (Gottschalk, 2009). As such, it “cannot be achieved by top management alone”, and “requires the collaboration of everyone inside the organization and, on many occasions, parties outside the organization” (Rajasekar, 2014). And while strategy formulation requires vision and strategic thinking from leaders, strategy implementation involves planning, execution, commitment and management of internal resources, all of which are primarily the functions of middle or lower-level management.

Several studies have thus attempted to establish the critical success factors, some of which include leadership, organisational structure, information and communication, financial capacity, technology and human resources (Rajasekar, 2014). Of particular importance are effective leadership, organisational structure and communication; and they are inextricably linked. Vertical and lateral communication of goals and strategies from the top and across levels of management determine the personnel’s ability to understand and implement the plan. As such, insufficient communication of information and feedbacks negatively affects that operation and can lead to implementation failure (Beer & Eisenstat, 2000). This could stem from poor leadership, ambiguous delegation of responsibility and accountability, which in turn are a manifest of how the organisation and its rewards system are structured (Hrebiniak, 2006). Furthermore, Lorange (1998) emphasized the involvement of top management in monitoring and assessing the progress in implementation. Mankins and Steele (2005) showed that organisations rarely monitor actual progress against the planned goals “as specified in the strategic plan”. As a result, a “strategy-to-performance gap” develops overtime, which can lead to a “culture of underperformance”. Engaging stakeholders and establishing clear incentive and rewards system on the other hand will drive commitment to the successful implementation of the new strategies (Fulmer, 1990). Monitoring and evaluating performance on the specified goals are both consequences and drivers of the successful implementation of the strategic plan.

4.1.4 Evaluation of the effectiveness of strategic planning

Poister, Pitts, and Edwards (2010) and Poister, Edwards, and Pasha (2013), have argued persuasively that the link between strategic planning and subsequent actual performance needs further investigation. The literature reports mixed findings on how strategic planning translates into actual outcomes. This is likely due to several factors. One is that actual performance that involves significant participation of the public sector is notoriously difficult to operationalize and measure. This is further complicated by the different roles of the various levels of government (national, state, provincial, municipal...), where departments and agencies at different levels have different purposes and different measures of performance. Beyond that, one could argue that the measurement difficulty varies by the complexity of the activities and services that government is tasked with. For example, measurement of performance is more straightforward in some activities compared to others (Brown, Potoski and Van Slyke, 2016), such as waste collection

compared to mental health services. In addition, many different types of performance outcomes should be taken into account (Poister, Aristigueta, and Hall 2015; Bryson, Crosby, and Bloomberg 2015). Furthermore, there are likely to be a variety of direct and indirect links between strategic planning and actual performance.

The above review of the research literature enabled us to formulate a framework for strategic planning that includes the elements that are suggested in the literature that are put together in a logical and consequential order within the framework.

4.2 Review of international case studies on strategic planning in agriculture

We reviewed several current and previous strategic plans for agriculture across different jurisdiction. These included several Australian states (Queensland, Victoria, South Australia) and the 'Delivering Ag2030' strategy for the agricultural industry supported by the Commonwealth Government (Department of Agriculture, Water and the Environment, 2021); some US (Indiana) and Canadian (Ontario) jurisdictions; as well as jurisdictions that are closer to Vietnam both geographically and in terms of the stage of development and the nature of agricultural production (Thailand, Laos, Indonesia, and The Philippines).

The structure of strategic plans for agriculture found in these examples is broadly consistent with the strategic planning framework outlined in this report, with the vision statements and strategic objectives acting as the guiding principles from which actions and strategies are derived. Some of these strategic plans have more elements than others, depending on their purpose. Overall, the international strategic plans for agriculture share a common framework in which clear directions are specified, along with a coherent set of actions and strategies in order to achieve the objectives.

The review of strategic plans for agriculture in Australian jurisdictions reveals focus on certain specific issues affecting Australian agriculture, for example animal welfare, which is quite prominent in many of the reviewed Australian examples, but not present in the plans for other jurisdictions. The plans in Australian jurisdictions differ in terms of stipulating numerical strategic targets: while Victoria's strategic plan (Agriculture Victoria, 2021) does not have numerical targets, South Australia's (SA) does (e.g., 'an 8% increase in value of processed foods and other numerical targets'). The strategic plan for Queensland even goes to specify a vision to double agricultural production by 2040. Stipulating this type of volumetric target could be criticised on the grounds of the lack of justification for it, and on questioning its usefulness for guiding action. The SA's approach is more sensible with alternative numerical projections based on specific scenarios for development. Victorian and SA plans mention 'food culture' which is quite unique among the reviewed documents. All reviewed plans for the Australian jurisdictions stress the importance of human capital for agricultural development, the need to further strengthen supply chains, and the role of farmers in environmental stewardship.

The strategic plan for agriculture of the province of Ontario, Canada (Ontario's President's Council, 2013) is characterised by greater emphasis on branding and marketing of agricultural products for international markets (e.g., Branding Canada; Product of Canada). This is a good example for similar directions suggested for the Vietnamese strategic plan for agriculture. The Ontario strategy also proposes developing greater diversity of agricultural products, as well as putting a greater emphasis on the role that agriculture and food are playing for supporting the health of consumers. Interestingly, this health aspect is not found in the plans for Australian jurisdictions! In addition, Ontario's plan puts some emphasis on lowering the agricultural carbon footprint.

The review of the strategic plan for the state of Indiana, USA (Indiana State Department of Agriculture, 2017) shows a more outward looking approach, as it talks about a global role for Indiana's agricultural sector. This plan is also the only reviewed that clearly identifies stakeholders of the strategic planning exercise. Like the other plans in the developed

jurisdictions, Indiana's plan also talks about environmental stewardship in farming. It features an excellent alignment of vision, goals, strategic priorities, and strategic initiatives, combined with a specific stipulation of actions to be taken.

The review of strategic plans for agriculture in developing jurisdictions indicates somewhat different focus. Indonesia's agricultural strategic plan (Ministry of Agriculture of Indonesia, 2019) strongly focuses on food security, farmer welfare and poverty alleviation. Along this line, there is an emphasis on the need to develop human resources and to invest in building entrepreneurship skills in agriculture. The Indonesian plan also discusses the need to increase the value-added in agriculture. It also recognises the need for low carbon development of agriculture, but the emphasis in this aspect is on how farmers should best adapt to climate change. The plan contains a list of numerical targets, including nutrition and production targets. Proposed strategic policies and actions seem to be very directive-like and 'hands on', rather than enabling and creating incentives for change of behaviour.

Thailand's agricultural strategic plan (Pongsrihadulchai, 2019) mentions the role of agriculture in national security (also mentioned in Indonesia's plan). It also identifies the need for the Thai agriculture to improve its competitiveness in domestic and international markets. Strong emphasis is put on environmentally friendly development and growth (green growth for sustainable development), as well as on a development plan for organic agriculture, and the effect of climate change on agriculture. The plan also focuses on food security. It also proposes directions towards smart farming, with references to "Agriculture 4.0". Thai plan recognises the need for improving product quality and to strengthen supply chains in line with the requirements of the market. The plan also contains specific commodity-based strategies (e.g., rice strategy; rubber strategy; oil palm strategy), as well as some emphasis on land / farm consolidation. Thai plan is unique in a way that it aims to develop all government personnel to become 'smart officers' and 'smart researchers', which is to say tech savvy.

Poverty reduction, food security, competitiveness, and sustainability, are key themes of the strategic plan for agriculture in The Philippines. The plan also makes a case for a significant increase in the rate of commercialisation of agriculture. It calls for increased public investments in physical infrastructure, in rural credit and finance, and in human capital in the rural and agricultural areas. In this light, a clear emphasis of the plan is on poverty alleviation. The plan identifies existing policies that are aligning with the strategy, and then defines areas that require additional legislation, policy reform, or major restructuring. This is similar to the approach taken in the present report for Vietnam.

The strategic plan for Laos (Ministry of Agriculture and Forestry, 2015) emphasises the role of agriculture in providing safe food supply for the nations. At the same time, it acknowledges the need for re-orienting the sector towards more commercial production, and to reduce reliance on natural resources. The plan is focused on poverty eradication and identifies human resource development as one of the main levers in that direction. It also pays attention to the need to further develop agricultural infrastructure, mostly irrigation. This plan is also the only of the ones that we reviewed that discussed gender issues in the context of agricultural strategy. On the other hand, the plan is incredibly heavy on numerical targets, whereas the vision statement is long and not focused. It provides a very detailed zoning planning (e.g., which enterprises to grow in which zones), which probably should not be a part of the strategy document, but rather of more operational documents. The plan provides good guidance for division of responsibilities in implementing the plan across government departments and agencies, and it contains a monitoring and evaluation part.

Overall, we find some themes that permeate through all of the reviewed strategic plans for agriculture (in both developed and developing jurisdictions). These include: the focus on building and improving human capital in agriculture; the significance of further developing

agricultural supply chains; the need for improved environmental stewardship, and the need for investing in infrastructure in agricultural and rural areas.

On the other hand, there are some notable differences in emphasis between plans in developed and in developing jurisdictions. For example, in developed jurisdictions the drive towards high-tech digital agriculture is much more clearly articulated, whereas in developing jurisdictions, there is an emphasis on technology adoption in a more conventional sense (e.g., through extension). Such difference in focus can be expected, given the differences in the level of technological advancement, and the nature of agriculture (developed jurisdictions – larger scale, developing jurisdictions – smaller scale). In addition, developed jurisdictions place greater emphasis on reducing the carbon footprint of agriculture, whereas for developing jurisdictions the environmental aspect is more about green growth and adaptation to climate change. Developed jurisdictions also emphasize food culture while developing jurisdictions focus more on food security and poverty alleviation. Lastly, strategic plans in developing jurisdictions put much greater emphasis on numerical strategic targets, including production targets.

4.3 Review of the effectiveness of the previous Strategic Planning (2011-2020) for the Vietnamese agriculture: achievements, issues, problems, and lessons learned

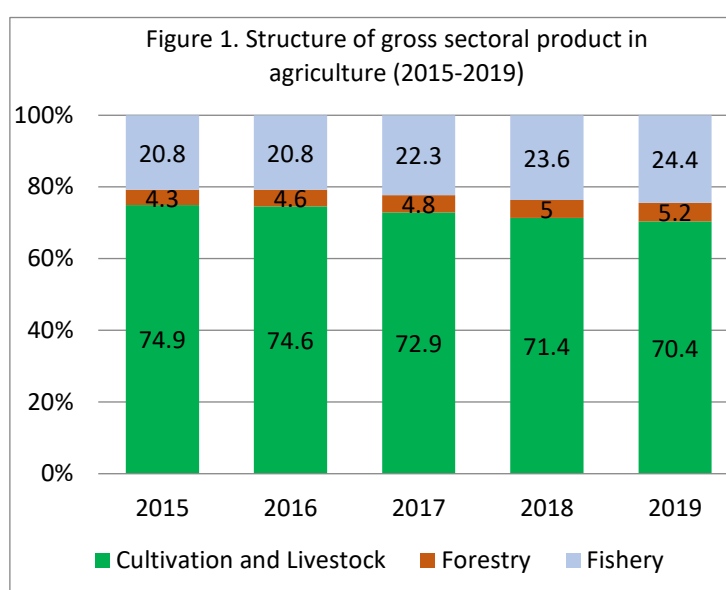
4.3.1 Achievements

Vietnam's agricultural sector has performed remarkably over the period 2011-2020, in part aided by the implementation of the Strategic Plan and the Economic Restructuring Plan over that period. Many of the primary objectives of the strategy for the period 2011-2020 were achieved. As a result, agriculture's overall performance has improved, and Vietnam's food security has been accomplished. The agricultural sector has experienced significant broad-based growth in production volumes and values, along with improvement in living standards. The focus over the period was on the improvement in the quality and value-added aspects of agricultural output, with notable achievements in aquacultural products vegetables, flowers, fruits, high-value industrial crops, and non-timber forest products. The growth rate in agriculture reached 3.76% in 2018, the highest over the planning period (World Bank, 2018).

The ongoing trend within Vietnam's agricultural sector has been a shift from crop production and livestock (their share in agricultural gross sectoral product declined from 74.9% in 2015 to 70.4% in 2019) towards fisheries and aquaculture (from 20.8% in 2015 to 24.4% in 2019) and forestry (from 4.3% in 2015 to 5.2% in 2019) (Figure 1).

The major crops and cultivation in Vietnam are paddy rice, coffee, rubber, tea, pepper, soybeans, cashews, sugar cane, peanuts and bananas. Following Decision

1819/QĐ-TTg, 305,000 hectares of inefficiently grown rice have been converted to growing other crops in the past 5 years. This shift was aided by technological advances in



genetic transformation of cultivars, intensive farming and productivity enhancing practices. Currently, high-quality rice accounts for nearly 80% of total rice export (MARD, 2018).

Similarly, livestock has undergone significant changes in production and breeding, focusing on value-chain integration and the application of advanced technology. The number of livestock farms increased from 8,796 in 2013 to 15,096 in 2019. The value-added in livestock production has been increasing on average 3.85% per annum. As a result, although the relative share of crop production and livestock in agricultural gross sectoral product declined between 2015-2019, these two sub-sectors still showed significant improvement in quantity, quality and value-added.

At the same time, Vietnamese fisheries and aquaculture production have also been advancing, with total production of 6.4 million tons (FAO, 2019). According to Vietnam's General Statistics Organization (GSO), Vietnam had an estimated 57,000 hectares of aquaculture farming area, and 4.5 million cubic meters of cages in 2019. The share of high-economic value species such as cold-water fish, tilapia, mollusks, giant freshwater shrimp, and lobster have continued to gain momentum, and thus contributed to rising productivity and value of the industry.

Forest protection, landscape and biodiversity conservation have been an important goal for the Vietnamese government, as reflected in Resolution 134/2016/QH13, wherein the General Assembly requires that all government's restructuring plans for forestry put emphasis on forest protection and value-added. This policy has contributed to the increase in forest coverage in Vietnam, together with increased forestry production value. According to MARD, Vietnam currently has approximately 14.6 million hectares (ha) of forested land, which accounts for 42% of the country's total land area. Around 10.29 million ha are primary or naturally re-generated forests, and around 4.3 million ha are planted forests. The output of planted timber forest has increased by around 18% per year, meeting 80% of the demand for raw materials for processing.

In addition to the changes in the composition of the value-added within the agricultural sector, there have been other notable changes over the period 2010-2020. One such change is the increase in use of technology in agricultural production. The mechanization rate of average agricultural production by the end of 2019 has increased significantly, especially in crop land preparation, where 95% of operations are mechanized. The rate of mechanization is somewhat slower in the other stages of cultivation (e.g., planting is around 45% mechanized, spraying about 80% and harvest about 70% (GSO 2019)), but still increasing over the period. Other changes have occurred in processing, with more than 7,000 industrial agricultural units being established over the period. The recent MARD report estimates that by the end of 2020, production of instant coffee will be increased by nearly 3 times, fisheries output will consist of 50% processed product, and 76% of forestry will be processed products. As a result, the value-added of processed products in the supply-chain is expected to increase by 15.3% (MARD 2020).

Changes and improvements have also occurred in the area of food safety. An inspection program called VietGAP continued to show its direct impact on standards of quality, hygiene, and food safety. According to the 2016 census, there were some 1,500 units certified under VietGAP or an equivalent program, including some 5,900 ha of net houses, greenhouses, and membrane houses. By October 2020, some 40,000 hectares were VietGAP-certified including fruit plantations (23,000 ha), vegetables (6,000 ha), rice (5,200 ha), tea plantations (5,200 ha), and others (MARD 2020).

There have also been notable changes in organization of agricultural production over the period. Since 2013, the Decision No. 62/2013/QĐ-TTg of the Prime Minister on policies to encourage linking production with agricultural consumption, and Decree No. 98/2018/ND-CP from 5/8/2018 of the Government, have been the mainstay policies that shaped the organization of agricultural production around value chains. Based on GSO calculations, Vietnam has about 1,254 agricultural value chains that include the production of more than 1,452 products in 63 provinces (GSO, 2019).

In addition, there have been improvements in the operation of co-operatives. Co-operatives provide an opportunity for small-scale farmers to improve their productivity, add value to their produce, and increase their access to national and international markets (International Labor Organization, 2017). From 2011 to 2020, the number of agricultural cooperatives increased by about 56%. By June 30, 2020, the country had 16,240 agricultural cooperatives, an increase of 741 cooperatives compared to 2019. The 2012 Law on Cooperatives established new thinking about the model for a new type of cooperative, with the nucleus of "co-operation", contributing to improving production relations, in accordance with market mechanisms, and within the context of international economic integration and increasing competition.

Another important policy affecting agriculture that was implemented over the period is Decree 57/NĐ-CP relating to investment and general business activity in the agricultural sector. According to Ministry of Planning and Investment (MPI) data, in 2019 there was 2,756 newly established agricultural enterprises, an increase of 25.3% compared to 2018, bringing the total number of agricultural enterprises to 12,581 (an increase of 36.23%).

5 Strategic planning framework for Vietnam's agricultural development strategy 2021-2030

5.1 Context

5.1.1 Current status of Vietnam's agricultural sector

Vietnam has been on the path of rapid development over the last decade. Gross Domestic Product (GDP) has been growing strongly since 2000, reaching US\$262 billion in 2019 - nearly doubling since 2011 (Figure 2). Per capita GDP growth has followed a similar pattern, reaching around USD 3,000 per capita in 2019 (Figure 2 and 3).

Figure 2: Vietnam's GDP, 2011 - 2019

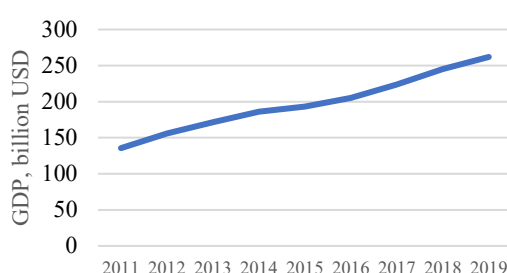
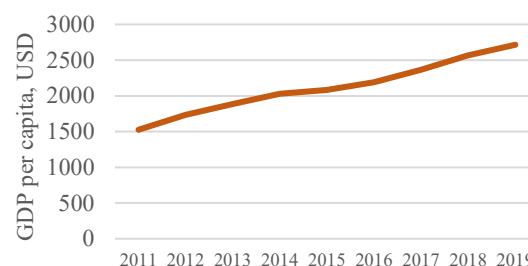


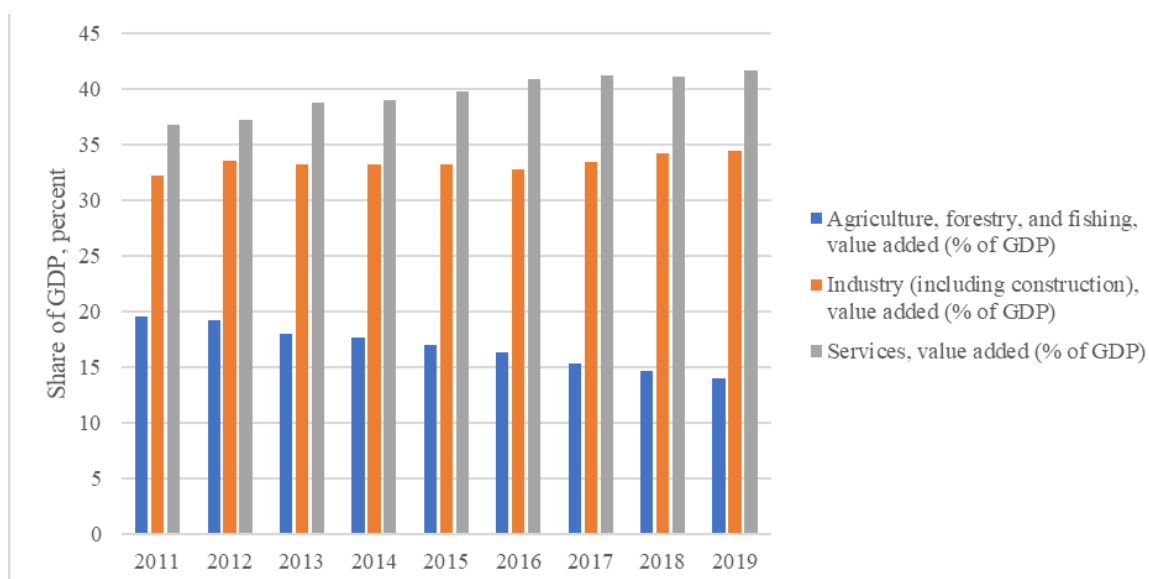
Figure 3: Vietnam's GDP per capita, 2011-2019



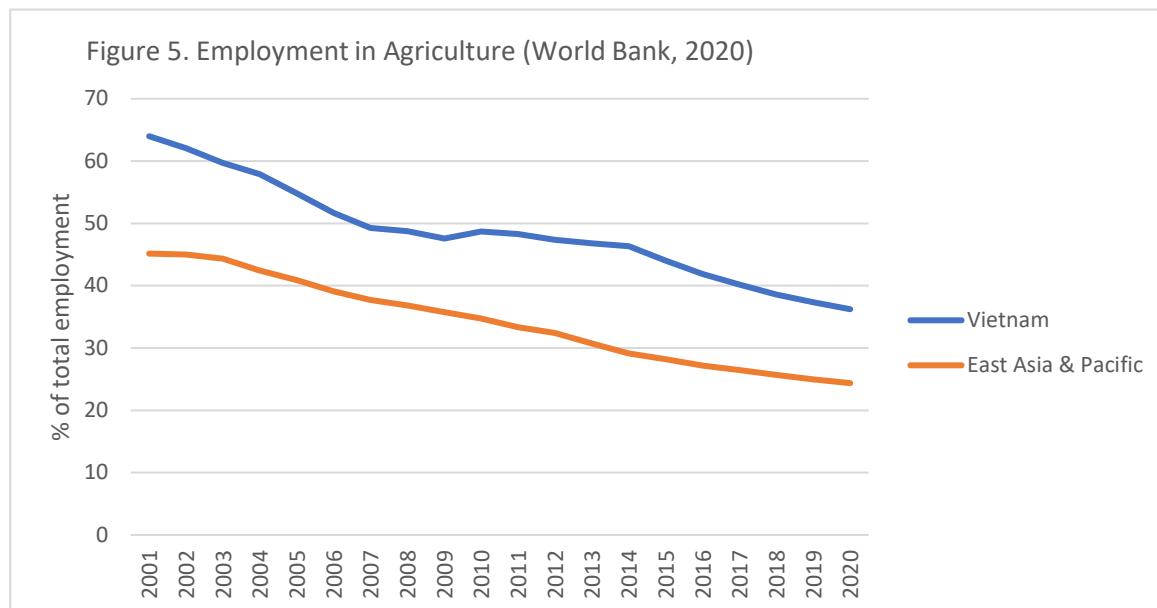
Source: World Bank Data (2020)

These changes partly reflect the structural transformation that is happening in the Vietnamese economy, which has shifted from the traditional reliance on agriculture towards manufacturing and services (Figure 4). This trend is predicted to continue over the foreseeable future.

Figure 4 GDP shares of three economic sector, 2011-2019



Despite the declining share of agriculture in Vietnam's GDP, the sector still plays an important role in the economy. Employment in agriculture still accounts for about 35% of Vietnam's total labor force (Figure 5).



Over recent decades, Vietnamese agriculture has performed remarkably, recording growth rates of 3 to 4 percent per annum. For the period 2010-2017, growth in value-added in agriculture reached 2.66% per annum, with total production growth of 3.9% per year. In 2019, the total value of agricultural production reached US\$36.5b (World Bank data, 2020). Farm income has also increased from VND26.4 million per person per year in 2008, to 35.5 million in 2017. These figures point to opportunities for further development in agriculture in the upcoming period 2021-2030 that can lead to improvements in the standards of living of millions of farm workers and their families who depend on agriculture for their livelihood.

However, agriculture in Vietnam is facing significant challenges in the present and over the coming period. Changes in population dynamics and demographics are affecting consumer preferences and demand for food, as well as altering supply chains and trade in agricultural products. Climate change and environmental resource constraints are other areas of concerns. Together with the opportunities, they demand an aspirational, well-calibrated, yet realistic strategy for agricultural development for 2020-2030.

5.1.2 Challenges and issues

Limited competitiveness of agricultural products

Vietnam's agricultural products are well diversified, leveraging the advantages of natural resource availability (land, climate, water) and the relative abundance of a low-cost labor force. However, the competitiveness of agricultural products is still limited in both domestic and international markets. In the domestic market, an increasing number of imported agricultural products are gradually expanding their market share, even for agricultural products that are normally considered Vietnam's strengths, such as rice and fruit. On the other hand, in the international market, although the market share of some Vietnamese agricultural products like rice or coffee is quite high, their prices are significantly lower in comparison with the same products of other countries. The value-added of most exported agricultural products remains low, due to low prices received

(Table 1). Furthermore, prospects for further international market expansion, especially in fastidious markets, remain challenging.

Table 1 Vietnamese unit prices for key export crops compared to world averages

Major export products	Average export revenues (US\$ per ton)			Value gap	
	World	Vietnam	n		%
Rice	639	514	125		20
Aquaculture products	2,100	1,967	133		6
Rubber	5,307	4,189	1,118		21
Coffee	4,037	2,191	1,846		46
Tea	3,333	1,594	1,739		52

Source: McKenna 2015 based on IFC (FAOSTAT, FAO Fisheries & Aquaculture Statistics Yearbook 2012, UNCTAD/ITC Trade Map).

Inadequate linkages in the agricultural value chains

The linkages between agricultural production and the market are inadequate and inefficient. The co-operation among four key stakeholders - farmers, scientists, entrepreneurs and government - has not been as active and effective as desired. Currently, only 11-14% of agricultural output is marketed through formal supply networks.

Horizontal linkages among producers (farmers, production groups, cooperatives) have been very successful in many countries around the world. However, in Vietnam, the co-operatives have not been as effective as hoped for, as such they did not appeal to farmers. In terms of vertical linkages between enterprises and farmers, there are difficulties in negotiating and signing contracts, remediating contract breaches, and large investment costs (Thuy An, 2017).

Due to poor linkages, farmers and businesses often face high risks imposed by market fluctuations. Long-term contracting between stakeholders is still very weak, with 90-95% of agricultural products still being sold to traders, rather than long-term partners. Long-term partnerships between producers and agribusinesses are beneficial in that they bring greater certainty to all participants in the value chain, and lead to better control and management of food quality and safety. However, there is still a lot more work that needs to be done to further encourage the formation of such relationships.

Furthermore, the lack of supporting industries, agricultural logistics services and post-harvest agri-processing industries have resulted in sluggish product quality improvement (Quyen Dinh Ha, 2017). Limited post-harvest maintenance leads to very high post-harvest losses. According to the Vietnam Chamber of Commerce and Industry, Can Tho branch (VCCI Can Tho), annually, post-harvest loss in Vietnam can reach 40-45%. In the Mekong River Delta, roughly 20-22 million tons of rice are produced each year, and the loss rate is about 10-12%, equivalent to VND3,000-3,500 billion. This is mainly due to underdeveloped agri-processing industries that are operating at small scale with outdated technology (Quyen Dinh Ha, 2017). Vietnam's agricultural exports predominantly consist of raw or preliminary processed (e.g., rice milling) products. In 2013, raw products accounted for 83% of export value. With this approach, there are only a few Vietnamese agricultural product brands recognized internationally (World Bank Group, 2016).

Lack of capital investments in agriculture is another impediment. There are high risks of default associated with lending to agribusinesses. As such, enterprises are reluctant to invest in agriculture, forestry and fishery, due to the large sums of upfront investments required, and high risks.

The structure of the agricultural sector is still small-scale and fragmented

According to the 2016 Agricultural Census, 90% of agricultural land belongs to households and farms, 6% to enterprises and the rest other institutions. Most agricultural households in Vietnam are small-scale producers, of which 69% cultivate on less than 0.5

hectares, 25% on 0.5 - 2 hectares, and 6% on more than 2 hectares. The average cultivated area per agricultural worker in Vietnam is 0.34 hectares, much lower relative to other countries in the region (World Bank Group, 2016). Another aspect of landholding fragmentation is non-contiguous plot held by farming household. According to the 2012 survey conducted in 12 provinces, the average number of plots per household was 4.4 plots with an average area of 0.18 ha, and only 15% of them were attached to other plots with the same landowners (OECD, 2015).

Although Vietnam's government has implemented various policies to encourage agricultural land consolidation (e.g., Prime Minister's Decision No.150/2005/QĐ-TTg; MARD Decision No. 824/QĐ-BNN-TT, 2012), small household farms are still the dominant form of agricultural production, with very few large-scale agricultural enterprises. The government has aimed to reduce the extent of land fragmentation through a land consolidation program, which encourages farmers to swap fields for plots and join cooperatives. In some places, farmers lease land out to businesses, and some family members continue to work on more professionally managed farms. Land fragmentation remains a significant barrier to the modernization of agriculture. In most regions, the land rental market is still underdeveloped due to constraints on the plot sizes, high transaction costs and land valuation by provincial governments (World Bank Group, 2016). This in turn leads to high production cost due to the lack of economies of scale, low level of technological adoption and mechanization, and high transportation costs.

The prioritization of certain agricultural products is becoming problematic

Vietnam has traditionally focused on producing certain agricultural products, notably rice. Rice is still the main crop although consumption patterns have changed significantly. About 90% of the cultivated land in the country is dedicated exclusively to rice (Giesecke et al. 2013). In the mid-2000s, farmers' profit margins for commercial rice farming were about 50% of production costs, but it has recently fallen to 25-30%, even lower and at loss for the summer-autumn crop (Keyser et al 2013). The over emphasis on rice production has led to a decline in agricultural productivity.

Sustainability of Vietnamese agriculture is precarious

Many operational aspects of agriculture are affecting the sustainability of Vietnam's agriculture. This includes exploitation of natural resources (land, water resources, fisheries, forests); the consequences of natural disasters and epidemics; the risks of market fluctuations; and the limited ability to adapt to new consumption trends (such as 'green' consumption). Furthermore, there are limited opportunities to access international markets and global value chains or attracting foreign direct investment due to insufficiently implemented safety standards and certification of origin.

Agricultural productivity remains stagnant

The productivity of Vietnam's agricultural land is comparatively high in comparison to other countries at the same level of development. However, the productivity of labor in Vietnam's agriculture is still comparatively low (Liu et al. 2020). Due to the low level of educational attainment in rural areas, agricultural workers are not able to take full advantage of technological advances in crop, livestock and farm management (Figure 6). Agriculture faces further competition from the manufacturing and services sectors in attracting and retaining highly skilled human resources (Ha Thi Thu Thuy, 2019).

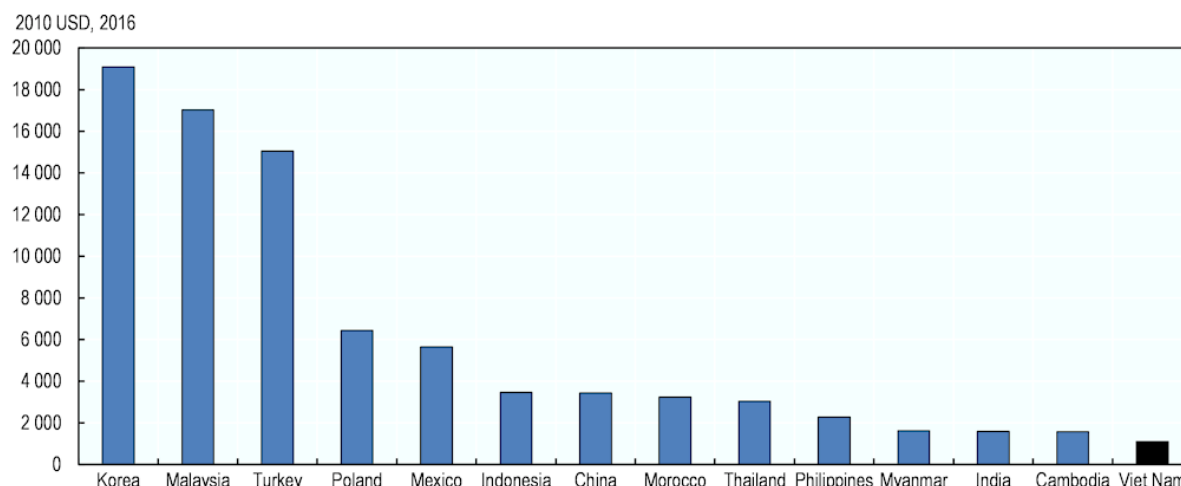


Figure 6. Agricultural value added per worker (World Bank 2019)

As a result, total factor productivity (TFP) in agriculture has been steadily declining (Liu et al. 2020). The main reason for the recorded productivity decline is the increase of input use and increasing costs of inputs (including labor). While output has grown, it has grown at a slower rate than the growth of inputs used and their costs, leading to lower overall TFP growth over time. As we have started to observe a decline in the growth of input use (especially fertilizers and pesticides), it could be expected that total factor productivity might level off. However, the effects of climate change could negatively affect output, in which case TFP might experience significant decline. According to the Vietnam Macroeconomics Report by the Vietnam Institute for Economic and Policy Research (VEPR, 2016), agriculture was identified as one of the two sectors that contributed to a slowing GDP growth in 2016, along with mining. Without changes and reform, it will be difficult to expect that agriculture can continue to contribute to strong economic growth.

5.1.3 Lessons learnt from the implementation of the strategic planning over the 2011-2020 period

- i. Greater emphasis and investment are needed in the processing, post-harvest and marketing aspects of the agricultural value-chain.
- i. The institutional and legal frameworks pertaining to agriculture should be reviewed and strengthened. Areas that require particular emphasis in this respect are the regulatory processes of land consolidation, foreign direct investment laws in agriculture, and investments in infrastructure. Formalizing and strengthening the operation of a functioning land-market in general and the agricultural land-market in particular will facilitate land consolidation, which is a prerequisite for the development of large-scale agricultural production, in contrast to the smallholder agricultural model that is prevalent in Vietnam.
- ii. The focus on rice production should be carefully re-evaluated using evidence-based approaches. While rice remains an important staple in the food security question, the risks to Vietnam from that aspect are fairly low. It is important that the continuing focus on rice does not adversely affect the development of other key agricultural products.

- iii. Greater emphasis should be given to sustainable agricultural production, such as sustainable production models, efficient use and conservation of natural resources and adaptation to climate change.
- iv. The improvement of human capital in rural areas is greatly desired. Skills in entrepreneurship, business management and marketing are particularly needed.
- v. Greater investment in technological innovation and adoption is necessary to secure improvements in total factor productivity.
- vi. Promoting the development of large-scale agricultural enterprises is required in order to complement the current predominantly small-scale agriculture.

5.1.4 International trends and challenges for agriculture expected for the period 2021-2030

The following section reviews key trends and challenges for agriculture at the global level for the next decade (FAO, 2017).

Population growth, urbanization and ageing

While global population growth is slowing, there is an expectation of sizable population increases in Africa and in South Asia over the next 20 - 50 years. Most of the population growth will be concentrated in urban areas, with the population of large cities expected to keep increasing. By 2050, it is expected that nearly 70% of the global population will live in urban centers.

Nevertheless, there will be still sizable rural populations, especially in sub-Saharan Africa and South Asia, characterized by a relatively youthful composition, with substantial increase in the number of people within the 15-24-year-old bracket in those regions. This will be in contrast to rapidly ageing populations elsewhere, including in low- and middle-income countries, and including in Vietnam, albeit at an early stage. This represents both a challenge and opportunity for Vietnam's agriculture.

Global economic growth, investment, trade and food prices

Global economic growth has been strong over the last couple of decades. Low- and middle-income countries, especially within Asia have been enjoying particularly strong growth rates. While the COVID-19 pandemic is going to considerably slow down global economic growth, especially in 2020-2021, it is expected that low- and middle-income countries are going to record stronger growth rates than high income countries, and as a result the income gap will close somewhat. Nevertheless, income levels in low- and middle-income countries are going to remain well below those in high-income countries.

Rising incomes in developing countries have resulted in the establishment of a global middle class and consequently with rapidly changing dietary and nutritional preferences. Food demand is moving towards higher consumption of meat and dairy products that require more resource-intensive production, which will create pressure on the environment and natural resources.

In parallel with economic growth, the global level of investments has also increased, especially in East Asia and the Pacific. Investments have also increased more than proportionally in fast-growing economies in Asia, such as Vietnam and China. While the low- and middle-income countries have increased their investments in agriculture, they have not overtaken high income countries, who have much more capital-intensive agriculture. The ratio of capital to value-added in agriculture is 4 in high income countries,

and only 1.5 in low- and medium-income countries. Current estimates for the trends in agricultural investments show that existing levels of investment in agriculture are not sufficient to sustain the required growth in productivity dictated by the rising food demand.

Food prices in real terms have been flattening and going downwards over the recent decades. In addition, we are currently experiencing an unprecedented period of globally low inflation, which also keeps a lid on any potential jump in food prices. Nevertheless, there are possibilities of periods of substantial volatilities in food prices, as experienced not that long ago.

Changing food systems

The improvement in national income and the process of rapid urbanization have changed the way in which food is produced, processed, distributed and consumed worldwide. The change in lifestyle and dietary demand associated with a rising middle-class favors food that is readily available, pre-packaged or processed, safe and high in nutritional content. Between 2001-2014, pre-packaged and processed food distributed through supermarkets and convenience stores made up the bulk of food sales in high-income countries, with its share increased significantly in lower-and upper-middle countries. The changing landscape of the food retail channels have considerably impacted primary production and processing down the supply chain. As food sold in supermarkets needs to meet certain hygiene and content standards, commercial primary production is increasingly standardized and specialized, which requires economies of scale, investment in mechanization, automation and the consolidation of farmland.

The agri-business value chains therefore are gradually becoming more vertically integrated, from primary production, storage, processing, to cold-chain transport and distribution to markets. While the increasingly integrated food supply chain provides formal employment opportunities for the rural population, smallholders looking to participate in the formal agri-food chain face many challenges relating to quality standards and certification, and access to finance and markets. Appropriate policies and regulatory incentives need to effectively address these issues and support smallholders in making their transition from the traditional to the modern food value chain. This is especially pertinent to Vietnam, at this juncture of its development.

Agricultural technology, supply chain and innovation

Between 1960 and 2015, agricultural production has more than tripled, due in part to the effects of greater technological adoption and higher level of natural resources utilization. In addition, the globalization of agricultural production and distribution has lengthened the food supply chain and distance from farm to plate, with the industry being concentrated in the hands of a few major international food processing and distribution corporations, operating with hundreds of thousands of smallholders. While this system of globalized food production has provided smallholders access to markets beyond their own, and consumers with access to greater choices of affordable food, the threat of disruptions to this lengthened supply chain, as the COVID-19 has demonstrated, warrants efforts in innovation and policies designed to bolster resilience in food production and transportation. In addition, longer food supply chains tend to increase greenhouse gas emissions, from increased production, processing, long-distance transportation and distribution to markets.

Climate change, crises and natural disasters

Data from the last 20 years have revealed that “agriculture, forestry and other land use” are the second largest source of global greenhouse gases emissions (GHGs), at 21%, after the energy sector. While contributing to a warming and less predictable climate, agriculture itself depends on the stability and predictability of climatic conditions, such as rainfall, temperature, salinity level, and seasonal floods carrying sediments. Extreme weather events related to climate change such as droughts, floods and storms threaten

agricultural yields, farmers' livelihood and food security, particularly so for smallholders with lower climate adaptation capacity.

In the context of Vietnam, the Mekong Delta and its peripheral coastal zones are projected to be one of the most severely affected areas in the world by the impact of rising sea level. Salinity intrusion due to illegal sand mining, mangroves clearing, and irresponsible water and soil management has already contributed to the worst drought in the Mekong Delta in 2020. The lack of international (or regional) agreements on the resources sharing and management between countries on the Mekong further adds stress to the downstream delta regions in Vietnam, with an increasing number of dams being built in the countries upstream.

As climate change threatens access to food and food security globally, climate adaptation implemented by smallholders is crucial in safeguarding food production. This entails the adoption of sustainable land, water, soil, fisheries and forestry management practices, as well as innovation in production technologies that result in a lower environmental footprint.

Competition for natural resources

Growing population and food production and its demand for scarce natural resources such as land and water have led to fierce competition for these resources, with conflicting interests between farming and environmental conservation efforts. Although the rate of deforestation globally has stabilized and slowed over the past decade, regional deforestation rates differ markedly. In particular, low-income countries with lower agricultural productivity tend to record the largest annual net loss of forest areas and net gain in agricultural area. Without technological advances in agricultural productivity and their widespread adoption, the trend of farmland clearing, and deforestation is set to continue. The resulting loss of biodiversity further complicates efforts to mitigate climate change and food security, as environmental assets such as forests and mangroves perform vital environmental services and functions. At the inter-sectoral level, competition for land and water resources between agriculture, industries and the urban sector represents another policy challenge for policy makers. Ensuring the efficient allocation of these resources requires them to be correctly priced, and distortions intended to benefit certain sectors removed.

Transboundary pests and diseases

The increased globalization of agricultural production and the food system have led to transboundary pest and disease outbreaks becoming more common and spreading further afield. Coupled with the increasing anti-microbial drugs resistance in bacteria, parasites, viruses and fungi, transboundary pests and diseases threaten animal and human health, farming and livestock yields, farmers' livelihoods and the stability of the global food system. Recent outbreaks of avian influenza and African swine flu, with Vietnam being particularly severely affected, demonstrated how fast outbreaks can spread and cripple farmers' income, in addition to posing significant risks to public health. Deforestation and biodiversity loss further complicate the issue, with close proximity between human and animals increasing the risks of animal-to-human microbial transmission. The COVID-19 pandemic has reminded us of the devastating health and economic impact of such outbreaks, and stressed the importance of hygiene, sanitation and disease management in the food production system.

Poverty, nutrition, health and food insecurity

Although global extreme poverty has fallen dramatically over the last few decades, it is marked by an uneven progress between regions. While East Asia has performed remarkably in lifting its poor out of poverty, more than 700 million people are still living in extreme poverty (below \$1.90 PPP per day), with the majority in Sub-Saharan Africa and South Asia. Within Vietnam, this number has fallen to approximately 1.2 percent today, with 5.8 percent of the population living below the national poverty line. However, the

majority of people living in poverty in Vietnam are employed in the agricultural sector, living in less accessible areas such as the Central Highlands and Northwestern Region. Current income inequality can self-perpetuate into future income inequality and poverty, if poor people are not given opportunities to earn better incomes, save and invest, thus hindering efforts in converging income domestically and between countries. Pro-poor agricultural policies can play a major role in poverty alleviation, by supporting higher agricultural productivity, value chain integration, market connectivity as well as providing greater access to public goods and services (such as education, health and social protection).

In connection to poverty, the issue of malnutrition extends its burdens far beyond the household level. The “triple burdens of malnutrition” - namely undernutrition, overnutrition and micronutrients deficiency – represent a global health challenge, and an economic one. While the current global food system can supply more than enough to feed the entire global population, the availability of food does not equate to universal access to quality food for everyone. Poverty, lack of access to cooking and storage facilities, and to health and nutritional education services all play a role. Ensuring equitable access to nutritional food will not only enhance the productivity of the population, but also lessen the burden on the health system, as well as providing the poor with greater opportunities for escaping poverty.

Structural change in employment, demographics and women in agriculture

The structural transformation that occurred as economies transition into higher income status levels has almost universally involved the movement of labor out of agriculture and into industry and services. Over the past 50 years, the declining contribution of agriculture to gross national income has been observed globally. The share of agricultural employment has also declined steadily over the last 20 years. Increased efficiency in food production and stronger linkages between rural and urban areas have encouraged younger and more mobile workers in rural areas to seek better remunerated employment in the urban areas. While this employment shift provides better prospects for rural youth and reduces instances of rural poverty, the remaining ageing agricultural workers receive less help on the field, which could potentially lower yield and productivity. Again, this demographic shift calls for greater investment in input-saving technology to lift yields and productivity. However, ineffective land policies such as insecure tenure, lack of land titling, land mapping and ownership certification prove to be disincentives for investment and access to credit and thus constrain productivity. Policies that can address and remove barriers to capital and investment in agriculture and rural areas will not only benefit older smallholders, but also provide youth with more rural employment opportunities which may reduce the flow of rural to urban migration. These could include full-time work on family farms, part-time farm work and off-farm enterprises employment, agricultural wage-earning work, or full-time off-farm enterprises. Greater public investments in infrastructure can help increase these rural-urban linkages, creating employment in various rural sectors and contributing to rural poverty alleviation.

Adding further to this demographic shift, while both men and women have been moving out of agriculture and into other sectors, it has been observed that women are more likely to stay in rural areas and work in agriculture, leading to the “feminization of agriculture”. This phenomenon has been particularly prominent in North Africa, South Asia and Central Asia. The increasing commercialization of agriculture has created more formal employment opportunities for women, mainly in processing and packing centers, which nonetheless tends to be concentrated in low-skilled jobs. To empower women to reach their full potential and contribute to the wider economy, policies and institutions need to adapt to the needs of working women, such as greater support for families, childcare, and flexible working arrangements. Furthermore, greater human capital investment in women is needed in order to drive more women into more senior and management roles, such as policies designed to help girls stay longer in the education system, access family-planning and women’s health services.

5.1.5 Opportunities and challenges facing Vietnamese agriculture for the period 2021-2030

Environment and Natural Resources

Vietnam is experiencing severe environmental and natural resource challenges, and agriculture is both a contributor to the problems, but also a sector most exposed to effects of climate change. These include air and water pollution and land degradation caused by rapid industrialization and urbanization; agricultural intensification characterized by use of chemical inputs that contribute to pollution, cultivation practices that contribute to soil loss; undesirable land-use change as a result of converting prime agricultural land into urban areas, which pushes agriculture into marginal areas that are more susceptible to degradation, and deforestation.

In terms of water quality, water scarcity and variability of surface water is going to increase. Groundwater pumping is also a major problem, with aquifers being depleted at a very fast rate, often leading to land subsidence. Water quality is further affected by salinization, organic and inorganic pollution, climate change and by developments in upstream jurisdictions.

Climate Change

The effects of climate change are already being felt in Vietnam, especially in the Mekong Delta and the Red River Delta. Climate change in general, and sea level rise in particular, are already significantly affecting natural resources and the environment in these deltas (ADB, 2013). Effects of climate change combine with non-climate change aspects (such as significant dam building activity in the upstream countries that affect both the river flow and sediment load in the river, sand mining of riverbeds, building and operation of canals in the delta, and groundwater over-extraction from confined aquifers) result in serious issues in the deltas. These include substantially dryer conditions at critical times, salinity intrusion, coastal erosion, land subsidence and flooding (To et al, 2016). This has become evident with the recent severe droughts and saline intrusion observed during the dry season of 2015-2016 and 2019-2020 in the Mekong Delta. There are detailed scenarios and predictions about the effects of climate change on agriculture and its productivity (ADB 2013, Nguyen et al, 2019). As mitigation of climate change is out of Vietnam's control, it is essential that the agricultural sector in Vietnam effectively adapts to climate change.

Agricultural Technology

There have been interesting developments in the use and adoption of agricultural technology in Vietnam over the last decade or so. Since the green revolution the dominant use of agricultural technologies has been around use of chemical fertilizers, pesticides and improved genetics in both plant-based and animal-based agricultural production. There has not been a rapid increase in mechanization or automation. This is starting to change with the greater advent of mechanization on Vietnamese farms (Nguyen, 2017). At the same time, the use of information technology in terms of smart phones, computers and internet has been rapidly growing among the rural population (Kaila, 2015). The vast majority of farmers now have access to at least some type of information technology.

Trends that are expected over the next decade include: relative reduction in use of fertilizers and pesticides; increased use of machinery, especially if paralleled with land consolidation and the advent of larger farms; increased use of information technology, but mostly in terms of information (such as weather and price information); information-based automation (drones, robotics, precision agriculture, etc.) are not likely to play a major role yet simply due to the current small scale of agricultural operations as they require larger farms in order to realize their advantages. It is expected that there will be increased use of advanced information technologies (such as artificial intelligence algorithms or

blockchains) in supply chain management, especially around meat, seafood and dairy supply chains.

Food security and nutrition

Vietnam has done very well on improving food security over the past decades. According to a widely used Global Food Security Index (GFSI), produced by The Economist Intelligence Unit, in 2019 Vietnam ranked 54th out of 113 listed countries on an overall score for food security. This is comparable to countries like Thailand, Bulgaria and Egypt. Based on this, one could argue that Vietnam does not have a food security problem. However, further analysis of the components of the GFSI shows that Vietnam is doing relatively worse in terms of 'food quality and safety' and is doing relatively well in terms of 'food affordability' and 'food availability'. This indicates that the focus of policy on food security in Vietnam should probably shift from supporting increased production of food, in particular rice, towards ensuring that the quantities of food that are already produced in Vietnam are of higher quality and meet stringent food safety standards.

This relates to the discussion on trends in nutrition. While most people in Vietnam now have reasonably affordable access to food, the same cannot be said for access to food that provides adequate nutrition to support healthy lifestyles. Vietnam is at the start of its nutrition transition. Undernutrition is falling, obesity is rising, and nutrition-related chronic diseases account for a significant burden of diseases and death. While the supply of healthy foods, such as vegetables and fruits are plentiful, vegetable consumption has been dropping. On the other hand, there have been increases in meat and milk consumption, which has some positive effects for nutrition, but also many negative effects.

Agricultural employment and migration

Vietnam has experienced very strong rural to urban migration, and that trend is likely to continue, albeit at a slower rate, due to rising costs of urban living, and the inability of infrastructure development to parallel urban population growth. In addition, the COVID pandemic is likely to slow down the speed of migration, at least temporarily. At the same time, there are fundamental changes in agricultural employment taking place in Vietnam. A key characteristic is the increasingly important role of non-farm employment in rural areas, where we see many people who would traditionally be largely employed on their family's farm, now seeking paid jobs in the manufacturing and services sectors in the rural areas, or indeed in larger agricultural enterprises (e.g., aquaculture, animal farms) (Duong et al, 2020). These trends are likely to continue, and there is likely to be drops in agricultural employment as a percent of total employment in Vietnam. Overall, the trend is beneficial in which rural incomes per capita will be higher than might otherwise be the case. It is a general pattern in the economic history of most developed countries.

Changing consumer preferences

Vietnam has experienced consistently growing incomes of its population and a rapidly growing middle class. These trends are fundamentally changing consumer preferences towards food. There are increasing tendencies towards animal-based foods (meat and meat products, fish and seafood, and dairy), and processed foods, and away from more traditional rice (Bairagi et al. 2020), and fruits and vegetables. Nutritional and safety aspects of food are important determinants of consumer preferences, with consumers increasingly being willing to pay premium prices for foods that are perceived as being safe and nutritious. This includes foods that are properly packaged, labeled and stored, and are marketed through channels that are perceived as being safer (e.g., chilled meat or dairy supply chain in the supermarkets). There is also increase in discretionary food consumption on items such as premium alcoholic beverages (artisanal beers and premium wines, premium spirits); imported 'luxury' foods (cheese, pates, confectionary...). The trend is clearly towards increasing demand for higher quality and higher value-added food products.

Food supply chains

While there is still a notable presence of green and wet markets, supermarkets take an ever-increasing share as an end point of food supply chains. On-line food purchases are also on the rise, especially in the time of the COVID pandemic.

These changes at the end of the supply chain translate to changes upstream, at all points of the chain, starting from production in the field, post-harvest management, processing, transportation and marketing. The tendencies are towards better integrated supply chains for both domestic and export markets, so that food safety is ensured and food waste within the supply chain is minimized.

5.1.6 Trends for the Vietnamese agriculture in the period 2021-2030

Many of the challenges that Vietnamese agriculture will be facing over the coming period have already been identified above. Key challenges will include: climate change and natural resource and environmental degradation; changing consumer preferences for food in both domestic and international markets; demographic and employment changes in the rural areas; small-scale nature of agricultural production, which hampers rapid technological advancement; plant, animal and human diseases and pests; and undeveloped agricultural value chains.

Despite these challenges, significant opportunities present themselves for further development of the Vietnamese agricultural sector in the period 2021-2030. Over the short to medium term, Vietnam in general, including its agricultural sector, could benefit from its excellent handling of the COVID 19 pandemic, as Vietnamese economy has been one of the least affected by the pandemic in the world, despite the most recent significant increase in COVID 19 cases in Vietnam. This could bring about opportunities for increased investment, including increased investment in agriculture. Also, in the short to medium term, the demographic characteristics in the rural areas will remain favorable for agricultural production as a result of still ongoing demographic transition in the rural areas (with a still sizable proportion of young people) and slowing down of urban migration due to COVID 19. If properly trained and educated, people in rural areas can become more entrepreneurial and business oriented, which will help drive further developments in the agricultural sector.

Over the long term, opportunities for Vietnamese agriculture lie in further development of high value-added markets both domestically and internationally. This is inextricably linked with the necessary development of agricultural value chains, and with lifting food-safety standards of agricultural products. In the domestic market, opportunities stem from the growing middle class that will ensure a growing demand for high quality, high value-added foods. The key challenge for the sector is to ensure that it can meet this growing demand, especially in terms of quality, rather than let it be satisfied by imported foods.

On the international front, key opportunities stem from Vietnam's participation in several important trade agreements with major economic partners, notably the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the EU-Vietnam Free Trade Agreement (EVFTA). These agreements provide a great opportunity for Vietnam to promote its agricultural products in difficult markets. Seafood, predominantly coming from aquaculture is expected to create a breakthrough with new tariff preferences. The EVFTA also helps Vietnamese exporters to have more opportunities to use services relating to production such as logistics, insurance and finance. Therefore, they could reduce production costs and increase the competitiveness compared to competitors who do not have FTAs with the EU, such as India, Thailand and China. The exporters will also have the opportunity to participate in the European region's supply chain thanks to moving investment of multinational corporations to Vietnam.

5.2 Strategic Vision for Vietnamese Agriculture for the Period 2021-2030

Based on the reviewed current situation in Vietnam's agricultural sector, the achievements as well as the problems and shortcomings that occurred over the period of the previous strategic planning exercise, the review of the expected international and domestic trends for the period 2021-2030 and the identified opportunities and challenges for agriculture, we outline the strategic vision for agriculture in Vietnam below.

5.2.1 Identifying the Role of Agriculture in Vietnam for the Purposes of Strategic Planning

Agriculture has been playing and will continue to play a fundamental role in the Vietnamese economy and society. Nevertheless, for the purposes of strategic planning, the role of agriculture should be articulated beyond simply achieving economic objectives. The role of agriculture is not only to produce plentiful and affordable food, but also to provide high quality food that can assure desirable nutritional outcomes, thereby improving the health and well-being of the Vietnamese population through improved diets. At the same time, the same principles will apply to agricultural export markets, where high quality, wholesome, nutritious and high value-added agricultural products will be provided to consumers throughout the world.

Furthermore, agriculture will need to play an important role in improving Vietnam's environmental quality (air, water, land) in the rural and semi-urban areas in Vietnam in the coming period, by the adoption of less-polluting production techniques.

Agriculture also plays a key part in improving business activities and investment in the rural areas, as it is a key economic driver in these areas. There exists great opportunity to develop innovative business activities in agriculture that will draw domestic and foreign investment to the rural areas in Vietnam. However, a key requirement would be to further develop the quality of human capital available in rural areas, which will demand greater public investment in high-quality education, especially education in entrepreneurship and innovativeness. It will also require public investment in health, infrastructure, and social services. Better education, entrepreneurship and innovativeness will lead to better economic outcomes in agriculture and in rural areas. Without significantly rising incomes, the tendency to migrate to urban centers will continue.

At the same time, agriculture, fisheries and forestry are key suppliers of food, fiber and other raw materials for the Vietnamese economy and export. While the country is increasingly urbanizing, and the services and manufacturing sectors are becoming more significant, it is important to maintain the role that agriculture and other rural based sectors are playing in the Vietnamese society.

Lastly, agriculture remains a critical sector in guaranteeing food security for Vietnam. However, for the purposes of strategic planning 2021-2030, the notion of food security needs to be broadened to include not only the provision of sufficient and affordable food, but also nutritious, healthy and safe food, and that the role of trade (domestically and internationally) and comparative advantage be taken into account.

5.2.2 Identification of direct and indirect beneficiaries of the Strategic Planning for Agriculture (2021-2030)

For the purposes of strategic planning, we need to clearly identify the major stakeholders and beneficiaries of the planning exercise. There are two types of beneficiaries:

- a) direct beneficiaries: stakeholders that are likely to directly derive benefits from the outcomes of the planning exercise; and
- b) indirect beneficiaries: stakeholders that do not directly benefit from the planning, but are positively affected by the outcomes from the strategic planning.

Direct beneficiaries are:

- 1) Farmers and aquaculture producers: this group is likely to most directly benefit from the strategic planning as some of the key objectives of the planning are to improve their livelihoods and economic conditions.
- 2) Cooperatives: being organizations of agricultural producers, cooperatives are also going to directly benefit from strategic planning.
- 3) Agribusinesses and other entrepreneurs operating in the food value-chain.
- 4) Consumers: this is the wider group of beneficiaries, as it involves all of the population of Vietnam, as well as many international consumers. Since the strategic planning will encourage production of better quality, safer, more accessible, more affordable and more nutritious food, consumers are going to directly benefit from the outcomes of the planning.

Indirect beneficiaries are:

- 1) Vietnam's wider economy: agriculture provides important raw materials that are used as inputs into a variety of industrial sectors; it is also an important buyer of goods and services and contributor to the exports.
- 2) Rural population that is not directly engaged in farming: this group of beneficiaries benefit indirectly from the overall improvements in living conditions in rural areas brought about through further development of agriculture and other rural industries.
- 3) Non-rural population that makes use of the rural resources and environment, such as service industries and tourism.

5.3 Vision statement: A 2030 Vision for Vietnamese Agriculture

The following vision for a **Smart, Safe, Sustainable and Resilient Agriculture for Vietnam** is put forward.

By 2030, agriculture in Vietnam will:

1. Provide secure and high-income employment for the rural population.
2. Be a robust contributor to overall economic growth in Vietnam as a key primary industry and as an export sector.
3. Leverage new technologies (precision farming, digital agriculture, Agriculture 4.0) in order to drive improvements in quantity and quality of agricultural output.
4. Be environmentally friendly, and not be detrimental to Vietnam's natural resources.
5. Be sustainable, adaptive and resilient to the effects of climate change (diseases, conflicts and supply chain disruptions).
6. Attract talent and inventiveness and become a nursery for business innovation and entrepreneurship.
7. Support a healthy, productive and food-secured population in Vietnam by producing wholesome, nutritious, safe, and affordable food.
8. Promote further development of the social and cultural structure in rural Vietnam, with an emphasis on gender equality.
9. Supply the domestic and international markets with high value-added agricultural products that are highly differentiated and de-commodified.
10. Create a trusted brand 'Product of Vietnam' that will be recognized in the domestic and international markets.

5.4 Goals and Strategies

5.4.1 Principles for setting strategic goals and strategies

In this section we provide some general guidelines on how strategic goals for the agricultural sector should be formulated. Traditionally in Vietnam, strategic planning in agriculture has involved numerical goals that were not based on clear evidence. We propose that the strategic goals should go beyond traditional, numerical based aspirations, and should encompass a greater set of development aspects than what has traditionally been the case. This means that in addition to focusing on growth figures for agriculture, the strategic plan should stipulate goals for social development, health outcomes, educational outcomes, and environmental/sustainability outcomes. In light of this, it should be clarified what kind of outcomes do the strategic goals refer to, and what type of indicators might be subject to those goals.

The setting of strategic goals, as well as defining the strategies to pursue those goals requires a comprehensive analysis of the current state of the system, and an evaluation of the previous planning exercises, which combined with the expected domestic and international trends can be used to identify the gaps between the strategic vision and the state of affairs without implementation of the strategy. The vision provides us with an aspiration of where we want to be at a given future time, which allows us to identify the gaps between that aspiration and the level of development in the absence of the strategy. A set of short-term and long-term goals must then be developed with the purpose of bridging these gaps. In designing and formulating the goals, strategic planners should not consider the short-term and long-term goals as stand-alone objectives with different time horizons, but rather treat them as being intertwined and sequential over time. Effective short-term goals should establish the foundation upon which long-term goals can be built. The long-term goals should reflect quantifiable and tangible outcomes that conform to the realised strategic vision. However, they should also remain flexible and adaptive in their design, so that they can reflect any newly arrived information, evolving technological advances or impending shocks (Habegger, 2010). The COVID-19 pandemic reminds us very vividly about the importance of the flexibility and adaptability of the long-term goals. Ideally, the long-term goals should be able to adapt to significant shocks such as the COVID-19 pandemic. They could be revised upwards or downwards, as any such shock is likely to bring negative consequences, but also opportunities for more rapid change.

Short-term goals on the other hand have a much narrower focus in scope and timeframe; their outcomes are more specifically defined and measurable, but ultimately set the scene for the long-term goals. Interestingly, empirical research has shown that clearly defined and challenging goals generate better task performance compared to “no goals, do-your-best goals, or specific easy goals” (Smith & Locke, 1990; Locke et al., 1981). A study by Chen et al. (2015) stipulated a useful set of criteria (SMART) which outlined the characteristics desirable of goals and objectives, in ensuring their objectivity, success and sustainability. These criteria include that the goals should be: Specific; Measurable; Achievable; Results-oriented; and Timebound (SMART).

The goals are also closely related to the strategies, which are formulated and decided upon by strategic planners in order to achieve the strategic goals discussed above. Goals are “what is to be achieved and what results are to be accomplished”, whereas a strategy is “the plan that integrates a major goals, policies, and action sequences into a cohesive whole” (Quinn, 1981).

5.4.2 Strategic Goals for Vietnamese agriculture for period 2021-2030

In the section, we describe and discuss the groups of strategic goals for agriculture in Vietnam to be pursued over the next decade. The quantitative goals expressed in numerical terms have been developed separately by MPI and the General Statistical Office of Vietnam, without direct input from this project. We provide those goals in

Appendix 1, but we note again that these goals were not determined as a result of the work on this project.

Economic goals

Strategic economic goals for Vietnam's agriculture revolve around growth in the gross sectoral product, growth in output value-added, changes in productivity, growth in business activity and investment in rural areas, changes in value of agricultural exports, and growth in incomes earned in agriculture.

The year-on-year growth in the gross sectoral product of agriculture, forestry and fisheries has been around 2.8% for the past five years (Appendix 1). Given the developments, trends and challenges and opportunities described in this document, the strategic goal for the gross sectoral product over the next decade should be moderate. It should reflect the expected stable growth similar to what has been experienced over the recent years. There are significant technological, natural resource and environmental constraints preventing further expansion in the quantity of output. In addition, there will be significant changes in domestic food demand shifting away from high volume commodities to higher value-added food, some of which will come from imports. Overall, the strategic goal should be to maintain stable growth in gross sectoral product.¹

When it comes to growth in value-added of agricultural output there are big opportunities to increase value-added through improved supply chain linkages and branding. Examples could be found in the coffee and livestock sub-sectors, but there are opportunities in many other sub-sectors. The strategic goal should therefore be to achieve as much as possible in terms of improvement of value-added. Strategic targets should be ambitious in this regard.

Total Factor Productivity (TFP) in agriculture in Vietnam has been stagnating over the last ten years. Improvements are possible, especially if mechanisation and other agricultural technologies are rapidly adopted, and as inputs (fertilisers, pesticides) are used much more moderately. On the other hand, effects of climate change that bring increased incidence of extreme events and natural disasters, are going to result with rapid drops in TFP in years when such disasters occur. On balance, the strategic goals for TFP growth should be cautiously ambitious but should also consider the very likely increase in the variability of the growth over time.

A number of government initiatives that have targeted increases in business activity in rural areas have generated growth in investment in agriculture. For example, Decree 57 specifically addresses these issues. There are already some indications of improved business activity in agriculture. While the strategic targets in this respect should be ambitious, their achievement will hinge on development of entrepreneurship skills in the rural areas, which are currently lacking.

Values of agricultural exports are expected to keep increasing over the next decade, largely driven by improvements in the value-added and decommodification of the exports. Reasonably ambitious targets in this regard are appropriate.

An ultimate economic indicator of the success of the strategic planning in agriculture will be the increase in incomes that are earned in agriculture. These incomes are still very low by global standards, and large improvements are needed in this regard. Again, the critical points will be the improvement in productivity, development of entrepreneurship skills, improvement of value-added, and development of adequate value chains. While strategic targets should be fairly ambitious in this regard, they also need to be realistic, especially in

¹ Gross sectoral output is equivalent to gross domestic product at a sectoral level and is the market value of all the goods and services produced in the country for that sector. Value added is the difference between gross output and the value of intermediate inputs such as labour and capital used in producing the output. The sum of value added across all industries would equal gross domestic product.

the light that incomes cannot grow without significant improvements in the other underlying factors.

Related to the economic goals are the production goals. While production goals have been very prominent in previous Strategic Plans in Vietnam, the need for these types of goals are questionable in a market-oriented economy. Some justification for production goals may be found in the food security argument, but even there it is hard to articulate reasonable strategic targets. Nevertheless, some strategic targets for the extent of the rice production – which is expected to decrease over the next decade have been put in place (Appendix 1). Similarly, there are targets for increase in the extent of aquaculture production (Appendix 1).

Agricultural Technology Goals

There is a strong sense that the Vietnamese agriculture could benefit significantly from the use of digital as well as more conventional technologies. Many policies and initiatives are in place to support greater uptake of technologies. Consequently, there should be fairly ambitious strategic goals formulated that will further promote increased use of information and data generated by digital technologies, and the more rapid uptake of non-digital technologies, such as mechanization.

Environmental and Natural Resource Goals

Agriculture is responsible for serious degradation of the environment and natural resources that are caused by nutrient, pesticide and chemical runoff, depletion of groundwater aquifers, soil degradation, loss of forest cover, and loss of biodiversity on farms. Therefore, there is a need for clear strategic goals in terms of the reduction of fertilizer use on farms, limitation on groundwater pumping, adoption of best management practices for maintaining soil health and quality, increase in forest cover, and improvement in biodiversity on farms. Currently, only a few of these goals are quantitatively determined, as shown in Appendix I.

Food safety goals and health goals for the rural areas

Improved food safety is critical for the further development of Vietnamese agriculture. In addition, the health of the rural population, a large part of which is engaged in agriculture, is also critical for the prosperity of the agricultural sector. Consequently, ambitious strategic targets in this regard are appropriate. Specifically, the incidence of food related morbidity (e.g., food poisoning due to poor safety of agricultural produce) should be substantially reduced over the next decade (Appendix 1). Achieving this goal will critically depend on further development of adequate food supply chains.

The improvements in health and wellbeing of the rural population will need to be approached through several goals. For instance, access to safe drinking water and sanitation for the population needs to be significantly improved over the next decade, moving from the current 85% of the population having such access to nearly 100% by 2030 (Appendix 1). Rural population also needs better access to health services, with a goal for life expectancy to increase to 78 years (Appendix 1). An important aspect of rural health is appropriate nutrition for children. Significant reduction of malnourishment in children in rural areas should be pursued (Appendix 1).

Social Goals for the Rural Areas

Agriculture has always been a mainstay of the Vietnamese society, and that is likely to continue in the future. Therefore, overall improvements in the state of human and social development in rural areas are crucial for further development in agriculture. Social aspects involve education, physical and social infrastructure, and cultural life.

Education in the rural areas is particularly important, as developments in agricultural technology and agribusiness will require a well-educated workforce in agriculture to take

full advantage of the opportunities. An ambitious goal of nearly universal secondary education attainment (at least 10 years of education) by 2030 is well justified.

Improving physical infrastructure (e.g., roads, communication, schools, hospitals) and social infrastructure (e.g., theatres, cinemas, community festivals) in rural areas will improve social cohesion and cultural ties in the rural areas. The aim should be for rural areas to become desirable places to live, work, and invest in.

5.4.3 Strategies

The stipulated strategic goals should be pursued by putting in place adequate strategies that align with the strategic vision and the goals.

Strategies for pursuing the economic goals

There are limits imposed by environmental and natural resource conditions on further expansion of the volume of agricultural production. There is practically no possibility to devote more land to agriculture than already is allocated. Hence, any increase in the volume of production has to come by increasing the output per unit of land. In the past, yields have been improved by increasing use of fertilizer, pesticides, hormones and other chemical inputs. As this has led to notable natural resource and environmental degradation, it is not a sustainable option going forward.

While there are opportunities to further increase output per unit of land by using improved genetic material and improved cultivation and animal rearing technologies, those opportunities are limited. Therefore, a key to achieving the strategic vision and the stipulated goals will be to increase the value per unit of output from the agricultural sector. This can come as a result of improving the quality of agricultural products and improving the functionality of agricultural supply chains and reducing waste. Those improvements will result in increased value of agricultural production. In other words, the key for agriculture will be to increase the value-added of production.

The strategies that will help the agricultural sector fulfil its role as strong contributor to the overall economic growth come in two groups. One group of strategies will address the opportunities to increase the quantity of output produced by the sector. These strategies might involve strengthening existing and initiating new programs for adoption of world best practice genetic material, best practice cultivation and animal rearing techniques, and best practice veterinary and plant protection approaches. They might also involve programs and/or regulations that will minimize losses of agricultural/fishery/forestry products along the supply chains. Currently, significant amount of output is lost as spoilage due to inadequate processing, storage, and transportation. Overall, this group of strategies will work towards achieving sustainable, if modest increases in the output from the sector.

A second group of strategies will be geared towards increasing the value-added of the output from the sector. This will involve implementing appropriate programs and regulations. For example, an obvious improvement would be to further adopt cold chain management technique in the meat supply chain and move away from wet meat markets. Implementing and enforcing strict health and safety food regulations will spur the industry to faster adopt cold chain management. This will add value to the product.

In addition, programs to assist farmers that currently participate in the wet market meat supply chain to convert, or to exit the operations will be needed. Another, and different example is in coffee production. Up until recently, Vietnam has had no recognizable coffee brands, and has not been recognized as a major coffee growing region in the world, despite being the second largest producer globally. This has changed in recent years, especially in the domestic market, where we see vertically integrated supply chains of coffee with highly recognizable branding. Strategies should be implemented to aid in maintaining and strengthening these trends domestically. These might involve strengthening patenting rights on the brands and offering tax incentives for companies that are successful in branding and product innovation (e.g., aluminium or plastic capsules

for coffee machines). Other strategies should be initiated to help establish Vietnam as a recognizable coffee producing region globally. This might involve advertising campaigns or partnering with global coffee marketers (e.g., Nestle or Starbucks). Overall, these strategies should increase the value of coffee produced for domestic and international markets. Similar strategies could be used for other agricultural products, such as tea, nuts, seafood, and even rice.

Separate but related strategies need to be implemented in order to achieve the goal of significantly increasing the average income earned in agriculture. There are at least three avenues for developing strategies toward achieving this goal. A key factor that determines incomes is labour productivity. The more productive workers are (i.e., the greater value of output of goods and services per working period they produce) the greater the income that they will earn. Currently, increases in labour productivity are limited by several well-known impediments. These include highly fragmented agricultural land holdings, which precludes use of mechanization and other advanced agricultural technologies. In addition, the labour force in agriculture is still relatively poorly educated, and therefore is not able to take full advantage of technological developments and business conditions, and to develop strong entrepreneurship. Another key factor is surplus labour in the agricultural sector. Rural to urban migration has been strong over several recent decades, and will no doubt continue and intensify.

In this light, the following strategies will need to be undertaken:

- a) Increase labour productivity in agriculture. This will involve proposing new laws, regulations and programs to encourage more efficient operation of land markets (both rental and asset markets). More efficient land markets will be conducive to land consolidation, which in turn will result with more rapid technology adoption. Increasing the use of mechanization is fundamental for enabling effective operation on larger agricultural holdings, so programs and regulations (e.g., taxation relief on agricultural mechanization, accounting practices to allow depreciation of machinery to be counted as a cost; low interest rate loans for machinery, etc.) that encourage further uptake of mechanization would be required.
- b) Strategies to improve educational outcomes in the rural areas will need to be put in place, to ensure that farm workers are capable of taking full advantage of new technologies, as well as more sophisticated business practices and to develop entrepreneurship skills. These might include increases in funding to public primary and secondary schools that operate in the rural areas, which will allow them to hire high quality teachers and develop contemporary educational programs.
- c) Manage the rural-urban migration process. This will involve revising existing regulations and proposing new regulation in relation to labour migration to enhance rural labour productivity and reduce poverty by sustainably managing ongoing rural to urban migration, with improved transfer of residency options.

Strategies for pursuing agricultural technology goals

The increase in the use of new technologies has to be endogenous, i.e., the decision to use new technologies have to be made by farmers. It is widely documented that new technology will be adopted when farmers find it profitable and convenient to use. As the direct or opportunity cost of labour increases in agriculture, many farmers will make the decision to adopt labour saving technologies (such as mechanization). Also, as some farms become larger, there will be further incentives to adopt labour saving, input conserving and output enhancing technologies. So, in many ways the strategies for the increased uptake of agricultural technologies will need to be indirect and will be subsumed in the strategies designed to address other groups of goals.

There are some issues that are specific to technology and technology adoption, which might need to be addressed with specific strategies. These are:

- a) knowledge about the technologies and their diffusion.
- b) ability to access technology (education and capital constraints)
- c) creation of new technologies and the adaptation of technologies to specific conditions in Vietnam.

To address the issue of technological diffusion, there is probably a need for continuation of strategies around extension. In addition, sectoral or industry groupings (e.g., Vietnam Association of Seafood Exporters and Producers, Vietnam Fisheries Society and Vietnam Fruit and Vegetable Association) are also important sources of presenting new knowledge to their members and encouraging adoption. One strategy could be to help these associations in communicating knowledge about new technologies to their members, by providing small and targeted grants to the associations.

The ability of farmers to utilise new technology depends on their educational level. New technologies are becoming ever more sophisticated and require their users to be technologically competent. Consequently, one strategy is to increase the capability of extension services to deliver education to farmers in this domain.

In addition, the strategies to increase the overall education level in rural areas (as above) will be complementary in this sense. An additional factor that limits farmers' ability to access new technology is capital availability. New technologies can be costly, requiring large upfront investment, and therefore can be out of reach of smaller farmers. Some strategies in this direction could be to provide dedicated loans with subsidized interest rates, or strategies that will encourage investment in new technologies by co-operatives or other farmers groups (i.e., while a single farmer might not be able to afford to acquire new technology, a group of farmers might be able to, and might be able to share in using the technology).

Vietnam already has good research and development in new agricultural technologies and adaptation of technologies developed elsewhere to Vietnamese conditions. Strategies need to be implemented to continue the support of research and development (R&D) in agricultural technology development and adaptation by providing adequate funding to public and private R&D institutions. This might involve strategies to establish agricultural innovation hubs in rural areas that will be specifically tasked with researching, evaluating and implementing new technologies.

Strategies for pursuing environmental and natural resource goals

It is evident that Environmental and Natural Resource problems will be one of the largest threats facing Vietnam's agriculture. A number of general and specific strategies have to be developed and implemented to address this. Some of those possibilities are mentioned below. However, environmental and natural resource problems are prevalent not just in agriculture but other economic sectors, it warrants a separate specific strategic planning. One possible approach would be setting up a high-level joint committee between MARD and MONRE that will comprehensively investigate and document the environmental and natural resource challenges in agriculture, fisheries and forestry, and produce a comprehensive set of strategies that will systematically address those challenges.

General strategies:

- a) Improve the quality of water in rivers and water bodies of Vietnam. These will involve urgent improvement in enforcing existing regulations for wastewater discharge as well as introducing new, stringent regulations for water quality that will include agriculture and aquaculture as significant water polluters.
- b) continue the program and strategies for increasing forest cover, including revision of the Payment for Forest Ecosystem Program,
- c) introduce management systems for wild fish stocks, such as quotas, strict fishing licenses, and abolition of subsidies on fuel used by fishermen.

Specific strategies:

- a) abolish subsidies for fertilizer and pesticides.
- b) promote production methods with lower use of fertilizers and pesticides.
- c) promote agricultural practices that conserve soil, and limit sediment loading and runoff (e.g., buffer strips, reduced tillage);
- d) introduce strict licenses and metering for groundwater pumping.

Strategies related to adaptation to climate change and dealing with other risks:

Separate but related strategies will have to be put in place to ensure that agriculture becomes resilient to already evident climate change as well as capable of effective adjustment to new climate reality, and to other unforeseen risks (diseases, conflicts and supply chain disruptions). The problem of climate change and adaptation by the agricultural sector is enormous. This problem requires a separate, specific strategy on its own. Therefore, a key recommendation from the overall strategic planning exercise for the period up to 2030 in relation to climate change is to renew the ‘National Action Plan to Respond to Climate Change 2012–2020’ (Vietnam Climate Change Adaptation Strategy 2011). During 2021, Vietnam should adopt a new climate change adaptation strategy for the period to 2030. In this strategy, a key position should be dedicated to the agricultural sector. Specific vision, goals, strategies, and instruments should be developed for the agricultural/fisheries and forestry sectors. These sectors are the most vulnerable to climate change and are likely to feel the effects of climate change even more over the next decade. There are many aspects of this problem to be meaningfully covered in the national agricultural strategy planning exercise. As such, there is an urgent need for separate and specific strategic planning on climate change adaptation in the agricultural sector.

A key strategy for addressing the threats of unforeseeable risks is to form teams or groups that will try to identify such threats within the relevant ministries (e.g., MARD). These groups should be specifically tasked with proactive detection of possible future risks and threats to the agricultural sector, such as spread of animal and plant diseases and pests; human diseases (epidemics and pandemics), or changes in global trading arrangements. The teams should also be developing contingency plans to deal with those risks, should they ever eventuate.

Strategies for food safety and health goals

Strategies for food safety goals:

Improving food safety is a paramount priority for the Vietnamese agriculture. Enacting more stringent consumer protection and food-safety laws and ensuring full enforcement of those laws will be of critical importance in addressing this issue. It will also involve putting in place regulation and programs that will lead to improvement in the food distribution systems, including: reducing food spoilage and waste in the value chain (cold chains, processing, storage); introducing a coherent certification system for safe and healthy food; and introducing labelling requirements for food nutritional content. In particular, if wet markets and traditional food production are here to stay, the government needs to introduce and enforce a clear framework in order to regulate and monitor them, so as to ensure highest food safety standards. Another strategy is to develop a robust communication campaign that will increase the awareness among farmers and retailers about the benefits, sustainability and profitability of hygienic food production and retailing practices. Fully understanding the benefits will create incentives for the food industry to self-regulate in terms of food safety.

Strategies for health goals:

Develop communication campaigns that will generate greater public awareness about the burden of diseases (diabetes, obesity, cardiovascular) - such as healthcare costs and loss-in-productivity costs – and emphasise the evidence that these diseases are highly

influenced by dietary and lifestyle choices. Specific strategies to improve access to healthcare in rural areas will need to be put in place, including: increased investment in healthcare facilities and personnel in rural areas (hospitals, clinics, care facilities); improvement in doctors-to-patients ratios (e.g., doctors per thousand population) in rural areas to internationally defined standards, by providing incentives to healthcare providers to relocate and operate in rural areas.

Strategies for pursuing social goals in the rural areas

Social goals in rural areas comprise of improvement in human capital (education), social capital (culture), and physical capital (physical infrastructure). Each of these goals have to be approached by specific strategies.

Education strategies:

One strategy would be to provide greater financial support (e.g., scholarships) for rural families with school-age children, particularly households living under the national poverty line, conditional on their children's continuous enrolment in schools. Another strategy is to increase the provision of affordable, government-funded vocational training in rural and peri-urban areas, focusing particularly on IT skills, English language, and business management skills (accounting, marketing, budgeting, logistics, etc.).

The education strategies go in parallel with strategies for strengthening the functions of agricultural research centres in rural areas, such as data collection and dissemination to users, including information on market conditions.

An important part of education strategies is to encourage greater entrepreneurship among rural population. This will involve investing in entrepreneurship education programs specifically tailored to emerging entrepreneurs in rural areas. It will also involve providing incentives to experiment with different business models that are well-suited for rural areas: such as tourism, heritage, homestay, and specialized agriculture. As access to credit is often an important barrier for developing these business models, programs that will ensure access to credit for rural businesses, particularly women-owned businesses will need to be developed.

Social capital strategies:

One set of strategies should be directed to promote, preserve and leverage the diverse rural identities of Vietnam. This might involve creating TV programs and social media posts showcasing the richness and diversity of Vietnam's rural landscapes and traditions; provide financial support to organizers of rural festivals at the local and regional levels; and develop programs for promoting Vietnam's agri-tourism domestically and abroad.

Another set of strategies involves simplification and digitization of public services. This involves simplification of administrative processes, online administrative self-service, increased efficiency in tax collection, reduction in services time, secured data storage, and timely issuance of permits and certificates.

Physical capital strategies:

These strategies will involve committing greater public investment in physical infrastructure with an objective to improve interconnectivity between rural and urban areas, and intra-connectivity among rural areas (regional linkages), in areas such as transport, communications, and quality provision of public services. This will direct adequate investment in rural infrastructure, including roads, public transport, communications, utilities and internet coverage.

In addition, municipal developments in rural areas should be guided by state-of-the-art planning strategies, budget commitment, and investment in infrastructure so that they can develop into pleasant and desirable places to live. This will further attract private investments into rural areas and help further establish the formal sectors. Private

investments, and public-private partnerships should be encouraged in construction of toll-roads, and construction of commercial and entertainment centres.

5.5 Instruments and implementation

Implementation of the outlined strategies will have to be conducted through various instruments. By instruments of strategic planning, we mean programs, policies, initiatives, laws, regulations, and other similar activities that governments and other relevant stakeholders (e.g., the private sector) can put in place. We first examine the relevant instruments that are currently in place, or have been active in recent years in Vietnam, as some of them are likely to already cover some aspects of the strategies. We then identify the gaps and propose additional instruments to be implemented.

5.5.1 Existing instruments

The overarching existing strategic guidelines upon which specific instruments have been developed, stem from the Resolution No. 26-NQ / TW, of the 10th Party Central Committee from 2008, and a number of subsequent documents (e.g., Conclusion No. 56-KL/TW, 2013; Decision No. 899 / QD-TT, 2013, and Conclusion No. 97-KL/TW, 2014). These documents define the restructuring in the agricultural sector under the market mechanisms, while ensuring the basic goals of welfare for farmers and consumers. They also envisage substantial shifts from the focus on agricultural development, towards greater focus on improving quality of production, increasing efficiency and productivity, and increasing value-adding and profitability.

5.5.2 Instruments on agricultural technology

There is a large number of existing instruments that pertain to the development and adoption of agricultural technologies. The main principles guiding these instruments are defined by the Law on High Technology issued in 2008. Subsequently the Prime Ministerial Decision No. 1985 / QD-TTg of December 17, 2012, approved the Agricultural Development Program with technology application under the National High-Tech Development Program to 2020. The targets of the program are to promote the development and effective application of high technology in the agricultural sector. This program has expired at the end of 2020.

Encouraging adoption and use of new agricultural technologies by co-operatives has been a high priority for the Vietnamese government, with Prime Ministerial Decision No. 176/2010 / QD-TTg of January 29, 2010, supporting agricultural cooperatives to apply high-tech. This decision approves the High-Tech Applied Agricultural Development Scheme to 2020. Another Prime Ministerial Decision No. 923 / QD-TTg of June 28, 2017 sets a target that by 2020 there will be 1,500 cooperatives applying high-tech in agricultural production.

A further Prime Ministerial Decision No. 575 QD-TTg of May 4, 2015 approved the master plan for hi-tech agricultural zones and regions with an effect to 2020, with a vision to 2030. This is related to Prime Ministerial Decision No. 319 / QD-TTg from March 15, 2018 that sets out the Strategy for the development of Vietnam's mechanical engineering industry to 2025, with a vision to 2035. In the strategy, priority is given to greater uptake of tractors and other mechanisation in agricultural production, as well as machinery for preservation and processing of agricultural, forestry and aquatic products. The strategy includes a list of key machinery to be prioritized for investment and adoption in the period 2017 - 2025.

Most recently the Prime Minister has issued Directive No. 25 / CT-TTg, from June 4, 2020, aimed at promoting the use of high-level technology in agricultural product processing. The directive defines the tasks and solutions to develop agricultural, forestry and aquatic product processing industries and mechanization of agricultural production.

Gaps in instruments on agricultural technology:

It appears that many of the existing instruments designed to target increased adoption of agricultural technology are still within their effective dates of operation. Nevertheless, some programs have expired and their continuation, or replacement has to be decided upon (e.g., Agricultural Development Program under the National High-Tech Development Program to 2020; and the Programs that encourage adoption of high-tech in agriculture by co-operatives).

In addition, it appears that existing instruments to encourage the use of agricultural technologies are fairly comprehensive. Currently missing are instruments to promote establishment of agricultural innovation hubs in rural areas that will be specifically tasked with researching, evaluating and implementing new agricultural, aquacultural and fishery technologies. It would be desirable to propose and adopt instruments in this regard. Also, additional instruments that specifically target access to credit for the purpose of acquiring farm and processing machinery need to be proposed and applied. We note that some of this is already covered by instruments dedicated to support agricultural financing.

5.5.3 Instruments on agricultural financing

There is a set of policies designed to mobilize capital and financial support for agricultural development. These are credit subsidy policies for agri-businesses participating in the agricultural value chain, and financing of the adoption of high technology in agricultural production, including medium and long-term credit packages with preferential interest rates. Several Decrees comprise this set of policies:

The initial Decree 41 has been amended, supplemented and completed by Decree 55/2015 / ND-CP and most recently by Decree No. 116/2018 / ND-CP dated September 7, 2018. These Decrees deal with credit policy for agricultural and rural development. Specifically, they give provisions for: facilitating unsecured loans for individuals or agricultural households; policies to encourage enterprises to cooperate and apply high technology in agricultural production; policies to handle risks for farmers who face difficulties due to objective and force majeure reasons (e.g., disasters); regulations on managing cash flows in agricultural production, management of credit risk and encouragement of financial institutions to lend to the farming sector.

According to Articles 14 and 15 of Decree No. 55/2015 / ND-CP on credit policy for agricultural and rural development there are stipulations about the credit policy to encourage agricultural production using high-tech agricultural production. Furthermore, Resolution 30 / NQ-CP from 7/3/2017, provides for 100,000 billion VND credit package mobilized from banks with preferential interest rates to encourage the development of agriculture with high technology and clean agriculture.

In addition, there are policies to encourage enterprises to invest in agriculture and develop new types of agricultural start-ups. The most recent is Decree No. 57/2018 / ND-CP from April 17, 2018, on incentive policies for enterprises investing in agriculture and rural development sector. A comprehensive report on the effectiveness of this Decree is available from ACIAR (www.aciar.gov.au).

Gaps in instruments on agricultural financing

Instruments for agricultural financing are fairly comprehensive. Many of them are current and will be in effect for some years within the strategy planning period 2020-2030. One issue identified through reviewing Decree 57 is that support in agricultural financing offered by government is geared much more towards larger and established enterprises and does not effectively help smallholder farmers. This consideration needs to be explicitly taken into account when the instruments are revised or renewed so that smallholders, who are still comprising a significant part of the agricultural sector can benefit from the government programs.

5.5.4 Instruments on Environmental and Natural Resource Goals

In September 2020, the government of Vietnam issued Resolution No 136/NQ-CP on the sustainable development for Vietnam. The Resolution provides directions for ministries and agencies at national level, as well as for their counterparts at provincial level to achieve the set goals for sustainable development including environmental and natural resource goals. Other existing legislation, such as the Law on Environmental Protection sets environmental standards, including contaminants of surface water, groundwater, and wastewater flowing into water sources. The law also specifies requirements for environmental protection, dealing with matters related to the collection and treatment of waste, water, air and hazardous substances. By law, all projects with potential significant environmental impact are subject to carrying out an Environmental Impact Assessment (EIA) that includes potential impacts during project design and operation and mitigation measures and contingency plans. Fines can be imposed for breaking environmental laws. However, environmental monitoring and law enforcement remains weak and as a consequence environmental damage continues in many contexts, including from agriculture.

Existing legislation (e.g., Law on Water Resources 2012 and Law on Irrigation Works 2017) regulates the licensing system for water use and wastewater discharge and encourages water conservation. Under the law, organizations and individuals must protect the water sources exploited by them and supervise the state of water pollution, degradation and depletion performed by others. Those whose activities reduce water sources, or cause land subsidence, water pollution, or salinity must rectify those problems. If damage to water resources is caused, those who caused them must pay compensation. Despite this strong legislation, monitoring water usage and regulating water pollution is difficult. Sustainable water use in agriculture is a major challenge in Vietnam given that about 45% of agricultural land is irrigated, and the agricultural sector uses about 95% of the freshwater withdrawn (USAID, 2013). The uncontrolled use of pesticides, herbicides and antibiotics has increased water pollution in the Mekong and Red River deltas. The result of over-pumping of groundwater in the Mekong Delta causes land subsidence and exacerbates saline intrusion (IPSARD, 2010).

Reduction of greenhouse gas (GHG) emissions from the agricultural sector is an important objective. The Ministry of Agriculture and Rural Development has encouraged the application of advanced mitigation measures in agricultural production such as improved rice intensification, wet/dry irrigation and promoting more efficient use of agricultural inputs. Existing legislation supports research on, selection and production of cultivars and animals capable of reducing GHG emissions and adapting to climate change; minimal soil preparation and water and fertilizer use reduction techniques to reduce methane emissions from paddy fields; increase the acreage of bioenergy crops (Decision No. 543/QD-BNN-KHCN of 2011 on “The action plan to respond to climate change in the agricultural sector in 2011-15 and vision to 2050”).

GHG emission reduction also relies on sustainable forest management. Expansion of agricultural land leading to serious deforestation has only been partially overcome by reforestation efforts taking place over the past decade. Since the early 1990s, many initiatives have been enacted to ban large-scale logging, provide broad financial incentives for afforestation and forest protection, and protection of coastal wetlands and mangroves, as well as expansion of nature reserves and protected forests. For example, this includes Programme 327 in 1993-98 to reforest barren land and Programme 661 in 1998-2010, also called the Five Million Hectares Reforestation Programme; Decision No. 7/2012/QD-TTg on the intensification of forest protection practices; Decree 99/2010/ND-CP on payment for forest ecosystem services; and Decision No. 799/QD-TTg of 2012 on the “National action programme on the reduction of GHG emissions by reducing deforestation and forest degradation, promoting sustainable forest management, and enhancing forest carbon stocks from 2011 to 2020”.

In addition to these, number of instruments have been put in place that aim to promote 'organic' agriculture in Vietnam. To encourage development of organic agriculture, the Ministry of Science and Technology has promulgated the Vietnamese set of standards on organic agriculture according to Decision 3883 / QD-BKHCN from December 2017. In addition, the uptake of organic agriculture and organic food is further supported by the Decree 109/2018 / ND-CP from August 29, 2018, which stipulates the main principles for organic agriculture in Vietnam. Recently, the Government has further promoted restructuring towards organic agriculture through Decision No. 885 / QD-TTg of the Prime Minister from June 23, 2020, approving the Organic Agricultural Development Scheme for the period 2020 – 2030.

Gaps in instruments on Environmental and Natural Resource Goals

Adequate environmental and natural resource laws and regulations are in force in Vietnam. The problem is that they are not properly enforced. Therefore, the key focus in the coming period should be on how to significantly improve enforcement. It is well known that the 'command and control' instruments for environmental and natural resource protection (e.g., emissions or technology standards) are typically difficult to enforce, as opposed to incentive-based instruments (e.g., taxes, tradable permit schemes). In this light, orientating the instruments towards being incentive-based might be opportune.

In addition, it appears that there is a gap in addressing efforts to adapt to climate change. There has been some focus on mitigation, but Vietnam is a relatively minor emitter of GHGs globally and is not able to strongly affect the global politics of GHG policies. On the other hand, Vietnamese agriculture is going to be, and in fact already is, very significantly affected by the effects of climate change. In this light, urgent focus on adaption practices is necessary, and instruments in that regard need to be urgently put in place.

5.5.5 Instruments on enhancing value chains and market development

There has been a significant set of policies designed to enhance the role of industry associations in agricultural value chains, including in production development strategies, and business linkages, negotiations and contracting. These policies promote the development of linkages among and between actors in the value chains, such as encouragement to develop linkages between farming households and businesses, cooperatives, scientific organizations, commodity associations and product markets.

The main instruments include:

Decree No. 98/2018 / ND-CP that defines policies to encourage the development of cooperation and association in the production and consumption of agricultural products. Incentives and support under this Decree include: financing infrastructure that supports linkages; support for agricultural extension, training, and seeds, materials, packaging, product labelling. Another instrument that has been implemented is Prime Ministerial Decision No. 01/2012 / QD-TTg on several policies to support the application of good agricultural practices (GAP) in agriculture, forestry and fisheries. These policies aim to build and promote the application of GAP standards and production processes to facilitate the development of value chain production. Further to this Decision No. 62 / QD-TTg stipulates policies to encourage development of cooperation across value chains and linking production with markets. Recently, the Government issued Decree No. 98/2018 / ND-CP, replacing Decision 62 / QD-TTg in order to strengthen the policies that encourage the development of cooperation and linkages in production and consumption of agricultural products.

The project "Supporting small and medium enterprises to develop sectoral clusters in the value chain of agricultural and rural areas" was formulated by the Decision No. 644 / QD-TTg. This project focuses on forming several typical agricultural product value chains and improving management capacity for businesses in agricultural value chains.

In addition, Article 64 of the Law on Cultivation stipulates the approaches to promote attainment of food safety standards and high quality of agricultural products in order to ensure favourable conditions in the value chain focusing on processing and exporting.

In order to connect farmers with businesses and markets, there are many policies to encourage the development of cooperatives. The Law on Cooperatives 2012 spells out the support and preferential policies towards cooperatives (Article 6). Decree 193/2013 / ND-CP was issued to detail and operationalise several articles of the Law on Cooperatives 2012. Decision No. 2261/2014 / QD-TTg approved the cooperative development program for the period 2015-2020. Recently, Prime Ministerial Decision No. 461 / QD-TTg from April 27, 2018, has approved a project that aims to have 15,000 agricultural cooperatives be put in operation until 2020.

Gaps in instruments on enhancing value chains and market development

Many of the instruments are current and have been recently revised. Nevertheless, some instruments have expired, especially the ones that deal with co-operatives. While the instruments are fairly comprehensive, it seems that gaps exist when it comes to specific engagement of smallholders in value chains. In addition, greater emphasis will need to be placed on food safety standards, quality control, food and nutritional labelling and other aspects of marketing channels.

5.5.6 Instruments on development of socio-economic infrastructure in rural areas

The key instrument for rural infrastructure development is the National Target Program on New Rural Construction for the 2010-2020 period, according to the Prime Ministerial Decision No. 800 / QD-TTg from June 4, 2010. After 10 years of implementation, the program has made a big impact on rural infrastructure. By June 2020, there are 5,177 communes nationwide (58.2%) meeting the new rural standards. Nine out of 63 provinces and cities have 100% of the communes recognized as meeting new rural standards.

Another set of policies focus on training and developing human resources for agricultural development. Prime Ministerial Decision No. 1956 / QD-TTg approved the project "Vocational training for rural workers until 2020". This project has already brought significant results: it has increased awareness for the possibilities for vocational training for rural workers; the number of trained rural labourers increased, reaching about 9.6 million apprentices in 10 years, of which 80% were able to find new jobs; under the project, the rate of trained workers will increase from 28% (2010) to 65% (2020). In addition, the Ministry of Labour, War Invalids and Social Affairs recently issued Decision No. 895 / QD-LĐTBXH from July 30, 2020, on the national occupational skill standards, including skill standards in the agricultural sector. In order to meet the needs of modern and sustainable agricultural development, with the funding from the International Labour Organisation, the General Department of Vocational Training is implementing the Strategy for development of occupational skills in the agricultural sector in the period 2021 - 2025.

Gaps in instruments on development of socio-economic infrastructure in rural areas

Several of these instruments have expired in 2020 and should be renewed or replaced by other instruments. There is lack of instruments on cultural infrastructure in rural areas. Also, there is lack of instruments that focus on rural health, which is an area that needs emphasis over the planning period 2020-2030. When it comes to instruments related to education and vocational training, specific instruments to promote greater entrepreneurship and business skills among rural population need to be put in place.

5.5.7 Other gaps and areas that need attention

Apart from the groups of instruments identified above and the gaps identified for those groups, there are some elements of the strategic vision that are not sufficiently covered by the existing instruments and have not been discussed under the gaps above.

One such aspect is the need for the Vietnamese agricultural and food industry products to establish a strong, recognisable and trusted brand name 'Product of Vietnam' that will be highly regarded both in the domestic and export market. This endeavour subsumes some of the strategies already discussed, such as dramatic improvement in food safety and quality of agricultural products and improvements in supply chains. Nevertheless, achieving those strategic goals is only a necessary condition, but not sufficient for establishing a strong brand name. It will involve carefully conceived and executed advertising and promotional campaigns in Vietnam and abroad. Those campaigns can be quite costly, so their timing has to be carefully determined based on the potential to achieve the greatest impact. Strategic instruments that will support these campaigns by the public and the private sector should be put in place, and properly resourced.

A related aspect that is not currently given much attention is the promotion of food and diets that offer balanced nutrition which will be critical for improved health outcomes for the Vietnamese society in the future. There is a need to raise awareness about the nutritional status of various foods and to shape the food value chains towards delivering nutritious and healthy food to the consumers. Specific strategic instruments, such as nutritional labelling regulations, nutritional recommendations, and programs for raising awareness about nutritional requirements should be developed over the strategic planning period.

While there are numerous instruments devoted to economic, technological, and financing issues in agriculture, there seem to have been a general lack of focus on instruments for social and cultural development. A key to the successful development of agriculture in Vietnam is going to be linked to not only economic, but also social and cultural status in rural areas. Rural areas need to become modern, and to feature many of the social and cultural facilities available in the urban areas. Consequently, strategic instruments for improving social and cultural life in rural areas should be implemented. Examples could include programs for supporting local arts and crafts and local festivals, establishment of cultural centres, establishing local museums and similar.

Related to the social and cultural status in rural areas is the notion of gender equality. Empowerment of girls and women in rural areas is going to be critical for the improvement of the social and cultural life. Consequently, strategic programs for promoting engagement of women in rural areas should be implemented. Examples might include aspirational targets for women in leadership positions in rural districts (e.g., heads of communes...), or entrepreneurship training programs specifically targeted to girls and women.

5.6 Evaluation and Monitoring

5.6.1 Evaluation and Monitoring of Strategic Planning

Evaluation in the case of strategic plans involves an ongoing process of testing the current status of the strategic plan against the desired status as documented in the strategic plan. This implies a need for a set of measures which allow reporting of comparisons of "current vs targets". This comparison should be reviewed and considered by high level decision makers who can slow down or speed up the rate of reaching the targets during the planning period, by controlling the corresponding policy levers or instruments.

In addition, it is important to understand the connection between the targets, the instruments or policy levers available to policy makers and the technical relationships between the levers and the outcome variables or goals. The set of policy levers that can be operated by government may not cover the range of set targets and so the levers may

need to be indirectly operated. For example, tax incentives might be used to achieve environmental goals and outcomes, instead of or in addition to direct expenditures on reducing environmental pollution. These indirect levers are sometimes difficult to measure and relate to the goals. In addition, some goals like “Economic growth in rural GDP” are very broad and have multiple levers which will impact on the measure of rural GDP.

5.6.2 Types of Evaluation and Indicators

There are two broad types of evaluation: formative and summative. Formative evaluation is testing throughout the period of the strategic plan on the progress being made. This form of evaluation might be referred to as monitoring of progress. Summative evaluation is evaluating how much progress has been made at the end of the plan. This will be focussed on the extent to which intended and unintended outcomes have been achieved in relation to the original objectives and goals. They both have different methods and different functions. Formative assessments will help inform how the policy levers should be managed over time. Summative assessments should inform the development of the next strategic plan. The performance measures may be similar for both types but the recommendations for action will be quite different.

Three types of measures or indicators have been developed (Siteware 2019)

1. **Strategic indicators:** They point to the future and the path the plan is expected to take and are linked to the vision developed as part of the strategic plan. They reflect the longer-term results and will usually be measured on an ongoing basis and at the end of a strategic plan. These will usually relate to summative evaluations.
2. **Tactical indicators:** They are related to the actions to be taken in the various areas of the plan. They relate to the action plan and shorter periods than the strategic measures and may be assigned to decision makers at the organisational level. They will usually relate to formative evaluation.
3. **Operational indicators:** These are the shorter-term measures related to quarterly or six-monthly progress or performance. These operational indicators may be assigned to operational units. These also will be measures related to formative evaluations.

Strategic indicators will usually point to the future and be achieved in the longer term and be associated with the vision and the broad goals. They also provide a focus for the idea of continuous improvement as it is not certain that such goals will be actually reached given uncertainty about the longer-term future. They will, however, help keep decision makers focused on the big picture. Ackoff (1970) introduces the idea of adaptive planning. The idea of adaptive planning is that the real benefits of planning come not so much from the plan but from the process of developing and modifying the plan. Thus, it is important that the responsible decision makers are involved in the planning process. Ackoff also refers to the idea of the real world creating “messes”. A mess in Ackoff’s terms (Ackoff 1981) is usually a large complex dynamic system of problems that cannot be easily decomposed into parts. He suggests that the properties of the complex of problems will be different from the properties of the component problems. Managing a mess thus requires planning for the whole and not planning for problem solving for the parts. In this sense, strategic planning is designed to eliminate or avoid retrospective planning designed to clean up “messes” or planning that is designed to deal with past deficiencies.

5.6.3 Strategic Plan Evaluation Management

In setting up an evaluation process there are some important factors to take into account. These include:

1. A need for a strong sense of ownership, support and approval of the plan, its strategies and policies and the allocation of responsibilities.
2. A need for wide agreement within the affected population or stakeholders to the strategic plan and the vision that is created so that progress in implementing the plan is possible. This implies a significant promotion and advertising effort that will require resources to implement.
3. Allocation of the appropriate financial and human resources to the implementation of the strategies. This will also involve ongoing research and policy development to ensure there is effective implementation of the plan.
4. Clear and well-defined responsibility and task allocations to policy officers that have the skills and resources to implement the actions in the plan.
5. Agreement amongst responsible entities to the design of an evaluation plan, to the timing and the extent of the evaluation through time. The type of evaluation needs to be reasonably simple and be considered in the context of the benefits to be had from the evaluation.
6. Establishment of a high-level committee or review panel that monitors and considers the evaluation reports on a regular basis. This committee needs to have sufficient powers to be able to change the ways in which the strategic plan is being implemented, to change resource allocations and to change the rate of implementation.

Some research has shown that leadership is a key to strategic planning. Leaders, in this context, have the role of visualising and communicating the challenges and possibilities of the plan rather than the ways of doing the planning or its evaluation. Leaders also have the role of ensuring there are concrete actions built within the plan on how to achieve the goals with the resources and personnel allocated to the tasks including the evaluation tasks.

Important in the management of the plan is ongoing communication to stakeholders of the results of the plan and the evaluation. There will be a need to continue to gain support for the plan and this is a further role of the leaders who are responsible for the plan. In addition, major “wins” and successes should be celebrated.

5.6.4 Evaluation Methods

There are many approaches to evaluation in planning. These range from descriptive reporting and evaluation, through various forms of structured review such as Balanced Scorecard, Gap Analysis, Multi-criteria Analysis and the economically focussed Cost-Effectiveness, Break-Even Analysis and Benefit-Cost Analysis (Victoria State Government 2020). This is only a sub-set of the techniques that have been proposed.

Because of its relative simplicity and that it is easily understood and reported, Gap Analysis is chosen here for illustration of the process of evaluation in this report. Gap Analysis provides the opportunity to use the relevant indicators and examine the gap that exists between the current state of the indicator and the desired future state. A useful review of the process of evaluation and strategic planning in government is provided by the Queensland Government (2018).

Gap Analysis

Gap Analysis is focussed on the difference between a desired future state and the current state, where both these states are seen in the context of the strategic actions. The difference can be measured by a wide range of indicators. It is worth noting that this form of analysis is not designed to measure the impact of the strategy or policy as there is no effort to measure the state of the system without the action or policy (usually referred to as a “do nothing” or the “business as usual case”). Such an approach would be required for benefit-cost analysis. In contrast, Gap Analysis is effectively a view of the progress of the system at a point in time.

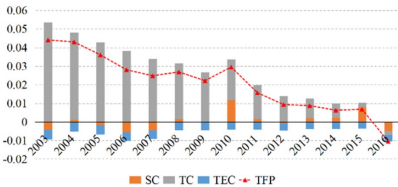
An example of a Gap Analysis table (Table 1) is provided below. This table starts with a focus area or goal. Then the value of a strategic measure is specified for the future (say, in five years), followed by the current value and then a percentage difference between the two values. Associated with this, is the action or policy that is designed to get from the current state to the future state and this includes the allocation of responsibilities to units or people responsible for implementation. There may also be comments on the progress being made.

The work to review and revise this table should be carried out at regular intervals so that it becomes a formative evaluation (possibly each six months or yearly). It would then be submitted to the high-level monitoring committee for decision and recommendations for changes and revisions to the way the plan was being moved forward. At the end of the planning period (either five or ten years) a more extensive summative evaluation, using a similar table, would be undertaken in which recommendations would be made on key items to be included in the next strategic plan.

Table 2. Illustrative Gap Analysis

Focus area	Desired future state in 5 years	Current state	Identified gap	Action plan and responsibility area
What are you focussed on?	Where would you like to be?	Where are you now?	Difference between desired state and current state	Projects to undertake to bridge the gap
Rural economic growth	Rural GDP per year of 4% growth Gross output/ha VND106 mil	Rural GDP per year of 2.01% growth (Prel. 2019 constant 2010 prices) https://www.gso.gov.vn/wp-content/uploads/2020/09/Nien-giam-thong-ke-day-du-2019.pdf page 197 Gross output/ha (Prel. 2019) VND97.1mil https://www.gso.gov.vn/en/px-web/?pxid=E0603&theme=Agriculture%2C%20Forestry%20and%20Fishing	Say 2%/year	See other projects
Rural income distribution	Lorenz-curve based Gini index of 0.3. Lowest quintile increased by 1% each year. Rural poverty rate of 10%	Gini index 0.422 https://knoema.com/atlas/Viet-Nam/GINI-index Lowest quintile has 27 % of disposable income Rural poverty rate of 18% (2014) Source: https://knoema.com/atlas/Viet-Nam/Rural-poverty-rate	29%	Revise rural family supports. Expand rural education investment. Expand government investment in low-income area infrastructure.

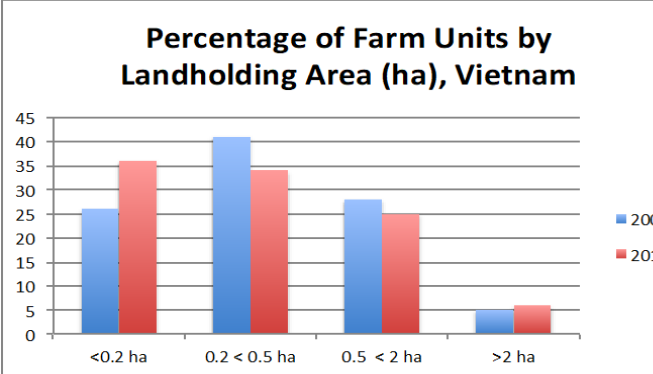
Rural exports (Agric, forestry, fishing)	<p>Est of \$US 9.7 bill.</p> <p>Note there are expectations of some major export prices declining in real terms (e.g., rice and coffee).</p> <p>Source: https://openknowledge.worldbank.org/bitstream/handle/10986/34621/CMO-October-2020.pdf?sequence=7&isAllowed=y</p>	<p>Est 2019 \$US 8.1 bill</p> <p>Source: https://www.gso.gov.vn/en/px-web/?pxid=E0807&theme=Trade%2C%20Price%20and%20Tourist</p>	4% per year (20%)	See projects on R&D and productivity, food quality and international marketing.
Technology and R&D	<p>Est of VND600 bill/year on agricultural R&D.</p>	<p>VND300 billion/year on agricultural R&D.</p> <p>Source: https://english.thesaigontimes.vn/64214/vietnam's-investment-in-agricultural-rd-activities-remains-limited.html</p>	Double	<p>Support development of Research Institutes such as Vietnam Rural Industries Research and Development Institute and develop an improved project funding system.</p> <p>Cf. https://viri.org.vn/action/contact</p> <p>Strengthen property rights around inventions.</p>

Productivity and productivity growth	<p>Target 2.5 per cent/year agricultural productivity growth in 5 years.</p> <p>This is seen as a key parameter in growing incomes and in sustainability of agriculture (reflected in better use of resources and less waste).</p>	<p>Address long-term agricultural productivity decline.</p> <p>Say 2.0% (2.08 TFP per year 2002 to 2016).</p> <p>Source: Liu, et al.(2020) https://www.mdpi.com/2071-1050/12/12/4981</p>  <p>(g) Vietnam</p>	<p>25% increase</p>	<p>Remove restrictions on land, labour and capital use, e.g., rice production requirements, etc.</p> <p>Invest in human capital development of farmers and rural families. Improve education and rural infrastructure.</p> <p>Expand international co-operation effort in agricultural technologies.</p>
Environment	<p>Yale environment index score to be raised to 37.3 equivalent to current value for China.</p> <p><i>Key components:</i></p> <p>Forest cover to 43 %</p> <p>Sanitation and drinking water quality index</p> <p>Air quality index</p> <p>Climate change index</p>	<p>Current Yale environment index score for Vietnam (2020) is 33.4 (range is 82.5 to 22.6) with a rank of 141 in 180 countries. Includes 32 indicator variables relating to environmental health and ecosystem vitality.</p> <p>Forest cover 42%</p> <p>Sanitation and drinking water quality index 52.7</p> <p>Air quality index 32</p> <p>Climate change index 30.7 rank 155</p> <p>Wendling, Z. A., Emerson, J. W., de Sherbinin, A., Esty, D. C., <i>et al.</i> (2020). <i>2020 Environmental Performance Index</i>. New Haven, CT: Yale Center for Environmental Law & Policy. epi.yale.edu</p>	<p>11.6 % in 5 years</p> <p>2.3% increase</p>	<p>Investment in state-owned forest land.</p> <p>Funding of community-based environment groups</p> <p>Provide additional policing and investigatory resources for water, sanitation and air pollution monitoring.</p> <p>Investment in additional water purification plants</p>

Food security	<p>Crop diversity index. Use the Shannon index of diversity H where:</p> $H = -\sum_{i=1}^S [(cropshare_i) \times \ln(cropshare_i)]$ <p>The future desired value might be 0.50 per cent.</p>	<p>Base values for a Vietnamese crop diversity index need to be established using the total crop area and the various shares of the area. As an illustration use an index value of say of 0.43 per cent for the current state.</p> <p>Reference: Torres, B. Vasco, C. Günter, Knoke, T. (2018) Determinants of agricultural diversification in a hotspot area; Evidence from Colonist and Indigenous Communities in the Sumaco Biosphere Reserve, Ecuadorian Amazon, <i>Sustainability</i> 10, 1432.</p>	16% increase in diversity	<p>Investment in extension activities relating to alternative uses of cropland.</p> <p>Gradual relaxation of the rice land limit of 3.8 million hectares to increase agricultural land use flexibility, productivity and production diversity and thus effectively food security.</p>
Gender equality	<p>Achieve a score of 65 per cent of women considered empowered in Vietnam's agriculture sector</p>	<p>Gender empowerment index based on work by IFPRI using survey methods and the domains of: decision-making power, access to productive resources, control over income, leadership in community, and time use. Current index for women in agriculture in Vietnam is 57 % of women with a score over 80% considered empowered.</p> <p>SNV Netherlands Development Agency (2017), Enhancing Opportunities for Women's Enterprises (EOWE) Programme: Baseline Report, Vietnam, Accessed on 12 March 2021 at https://snv.org/cms/sites/default/files/explore/download/snv_eowe_baseline_report_vn_final.pdf</p> <p>US Aid, IFPRI and OPHI (1917), "Women's empowerment in agriculture", <i>Feed the Future Program</i>. Accessed on 13 March 2021 at http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/126937/filename/127148.pdf</p>	Gain of 8 per centage points	<p>Extension programs for agriculture based on empowerment of women.</p> <p>School education programs in low-income areas.</p> <p>Surveys of men and women needed.</p>

Value adding	<p>By the end of the five-year period have a rate of growth of 4 per cent in value added in agriculture.</p>	<p>Long-term growth in agriculture, forestry and fishing value added of about 3.6 per cent per year and 2.0 per cent 2018 to 2019 with a declining share of GDP from 13.9 per cent in 2019 (World Bank data, 2020). Since 1986 there have been 12 years with a rate greater than 4.0 per cent.</p> <p>Source: https://data.worldbank.org/indicator/NV.AGR.TOTL.KN?end=2019&locations=VN&start=1999, Also see General Statistical Office, Vietnam.</p> <div data-bbox="960 553 1523 903" data-label="Figure"> <p>Value Added for Vietnam's Agriculture, Forestry and Fishing, 1985-2019 (Trillion VND)</p> <p>Source: World Bank (2020) data.</p> </div>	<p>Doubling of rate of growth from 2019.</p>	<p>Requires a broad policy agenda. Use factor productivity increasing policies (see productivity above).</p> <p>Focus on cost reducing infrastructure for rural areas, e.g., telecommunications, transportation and logistics, insurance and finance.</p> <p>Enhanced rural education and extension services.</p> <p>Strengthened property rights over land, inventions and other property.</p> <p>Highly developed marketing and international trade arrangements and support for participation in global value chains.</p> <p>(See: Hollweg, C.H., Smith, T., and Taglioni, D. Eds 2017)</p>
--------------	--	--	--	--

Marketing	Establishing “Made in Vietnam” as a high-quality brand used widely for agricultural products.	Current use is not well recognised as associated with quality. Development of a marketing promotion plan using a wide-ranging survey of agricultural processors, distributors, exporters and others with a vested interest in the branding of agricultural products.	Change of use and reputation based on surveys.	Promotion expenditures encouraged, training in marketing for food processors and distributors and monitoring using surveys.
Capital use	See Productivity focus above	See Productivity focus above		
Labour use and migration	See Productivity focus above.	See Productivity focus above.		Increase flexibility in relation to farm and non-farm employment.
Water use	See Productivity focus above.	See Productivity focus above.		Water infrastructure investment.

Land use	<p>Provide a range of policies that shift the average farm area by 5 per cent over 5 years to 0.81 ha with a particular focus on areas <0.2 ha and reduce the average number of plots by 5 per cent to 2.73 (numbers should be updated) when the 2019 Census data is available).</p>	<p>Small farms and larger farms have been found to be more efficient than medium sized farms, however, a living income is difficult to generate on a small farm. Off-farm work relaxes this constraint in many cases.</p> <p>Farm size distribution in Vietnam</p> <div><p>Percentage of Farm Units by Landholding Area (ha), Vietnam</p><table><thead><tr><th>Farm area</th><th>2001</th><th>2011</th><th>2019</th></tr></thead><tbody><tr><td><0.2 ha</td><td>26</td><td>36</td><td></td></tr><tr><td>0.2 < 0.5 ha</td><td>41</td><td>34</td><td></td></tr><tr><td>0.5 < 2 ha</td><td>28</td><td>25</td><td></td></tr><tr><td>>2 ha</td><td>5</td><td>6</td><td></td></tr><tr><td>Average (est.)</td><td>1.04</td><td>0.77</td><td></td></tr></tbody></table></div> <p>GSO, Census data and World Bank (2016, p. 10).</p> <p>The estimated number of plots per household in 2014 was 2.83 (World Bank 2016, p. 11)</p>	Farm area	2001	2011	2019	<0.2 ha	26	36		0.2 < 0.5 ha	41	34		0.5 < 2 ha	28	25		>2 ha	5	6		Average (est.)	1.04	0.77		<p>Average farm area increased by 5 per cent and number of plots reduced by 5 per cent.</p>	<p>Facilitate land consolidation, land pooling, re-arranging land parcels, changing roads, water supply and drainage.</p> <p>Part of this is also to reduce land transaction costs and encourage the rental market. Improve land title security and better records.</p>
Farm area	2001	2011	2019																									
<0.2 ha	26	36																										
0.2 < 0.5 ha	41	34																										
0.5 < 2 ha	28	25																										
>2 ha	5	6																										
Average (est.)	1.04	0.77																										

Health and safety	Seek to reduce rate by 10 per cent in 5 years to 180 injuries per 1,000 full-time equivalent hours.	Based on a survey in 2615 households in Xuan Tien by Maruccie-Wellman et al. (2011) agricultural workers had an injury rate of 203 per 1,000 full-time equivalents per year. Assume the rate nationally is 200 per 1,000. Collection of survey data would be required.	10 per cent reduction in injuries	Legislation relating to employer responsibility, publicity about agricultural risks and particularly the higher risks in mixed employment in agriculture and industry.
Education (focus on vocational education)	Training of 5 million over 5 years	Vocational training for rural workers. Suggested need from 2019 to 2030 that 4.5 to 6 million workers will need training (Department of Co-operatives and Rural Development) Reported in <i>Vietnam News</i> 10 August 2019 https://vietnamnews.vn/society/523858/six-million-people-to-need-agricultural-vocational-training.html)	5 million places over 5 years	Expand scholarship support for rural families under the poverty line. Provision of affordable vocational training in rural areas and associated development of entrepreneurship.
Climate change	Reduce agricultural greenhouse gases by 10 per cent in 5 years to a level of 93.4 mill tCO ₂ e. A growth of about 1.04 mill t/year reduced to 0.93 mill t/year.	Major areas of emissions are from rice and cattle production. Agriculture contributes about 1/3 rd of Vietnam's greenhouse gas emissions. A carbon pricing scheme is to be implemented on 1 January 2022. In 2010 the agricultural sector produced about 88.3 mill tCO ₂ e (Mulia 2020) projected to 109 mill tCO ₂ e by 2030 (i.e., about 1 mill tCO ₂ e per year increase). Interpolating the above data gives a production of 98.6 mill tCO ₂ e in 2020 and 103.8 mill tCO ₂ e in 2025.	Reduction of 10 per cent over 5 years.	Policies related to a range of technologies such as agri-forestry developed on coffee and tea areas, wet and dry cycle production of rice, controls on open burning, solar power initiatives, biogas production, manure digestion, etc. Green Growth and Climate Smart policy mechanisms (Mulia et.al (2020))

6 Recommendations and policy implications

The framework outlined in the previous chapter provides directions for the strategic planning in agriculture in Vietnam for the period 2021-2030. It outlines the vision, the goals, the strategies and the instruments to pursue those strategies, as well as an approach for monitoring and evaluation of the implementation of the strategic planning. In this chapter, we distil the main general recommendations stemming from research conducted under the project, and we provide some specific recommendations for policies and other instruments for implementing the strategies.

6.1 General recommendations

The main recommendations derived from the analysis presented in this report are:

- It is important to have a strategic vision on what the agricultural sector will look like in ten-years' time. This vision is much broader than simply providing numerical goals to be achieved over the period. It comprises a wide set of outcomes in terms of economic, social, environmental, cultural and technological achievements that the agricultural sector should aim towards.
- Strategic directions relevant to the economic performance of the agricultural sector should move away from production-oriented targets and towards targets that will result with increasing value-added in agricultural production.
- An ongoing strategic direction should be to continue to develop value chains across the agricultural and food supply networks in Vietnam. This is complementary to the goal of improving value-added. While at the same time encouraging formation and participation of larger organizations in agricultural value chains are worthwhile, it is important to acknowledge that smallholder farmers will continue to represent a large part of the agricultural and food supply sector in Vietnam for the foreseeable future. Therefore, an important strategic direction is to actively engage smallholders in the development of all aspects of agricultural value chains.
- Environmental challenges are probably the most serious threat to Vietnamese agriculture. As the effects of climate change are already felt in many agricultural areas of Vietnam, an urgent strategic direction is to work towards adaptation of agriculture to climate change. In addition, strategies to reduce negative environmental and natural resource impacts from agriculture are also needed, as are strategies to reduce environmental and natural resource pressures imposed by other parts of society that negatively affect agriculture.
- Improvement of productivity in agriculture is a key requirement for improving incomes for farmers and other residents of rural areas, and it is achieved through improvement of labor productivity. This can be achieved through increased use of technology, which will likely depend on widespread land consolidation. More importantly, the improvement of labor productivity in agriculture depends on the level of education of people involved in farming. Therefore, an important strategic direction is to increase the investment in the education in rural areas in general, and specifically to initiate educational programs focused on improving entrepreneurship and business skills among farmers.
- A pre-condition for a thriving agricultural sector in Vietnam that will attract investment and business activity domestically and internationally is to ensure that the desirability for living and investing in rural areas is significantly improved. This will involve an overall improvement of the quality of life in the rural areas, including, education, health, and infrastructure improvements, as well as improvements in social and cultural amenities.

Improving the conditions for girls and women in rural areas is a significant component of this overall improvement of the quality of life.

- Vietnam has long been concerned about food security, and agriculture has played a key role in providing food for the nation. The current evidence suggests that food security risks to Vietnam are relatively low. Therefore, a strategic direction should be taken where the notion of food security will be broadened to nutritional security, in which wholesome and balanced nutrition food support a healthy population over the long-term.
- The agricultural sector in Vietnam is a significant global exporter of food. However, the brand 'Product of Vietnam' is not highly recognized or trusted in international markets. Even in the domestic market, there are serious concerns that some segments of the high value-added market might be lost to imported food due to a lack of trust and recognition of the Vietnamese brand. A strategic direction to establish a strong and trusted brand 'Product of Vietnam' is therefore needed. This will critically depend on substantially improving the food safety record, overall improvements in value chains, as well on concerted efforts in marketing and brand building at home and abroad.
- Strategic planning should not be seen as a one off, ten-yearly, 'set and forget' exercise. The realization of the strategies requires ongoing attention and work. Therefore, a process of monitoring, interim evaluation, and adaptive feedback actions is crucial for a successful achievement of strategic goals.

6.2 Recommendations for policy and other instruments to pursue the strategies

A vital part of pursuing strategic directions and goals is to implement policies, programs, regulations, and initiatives that will drive changes. We call these 'instruments' for pursuing the strategies. Many such instruments currently exist in Vietnam. Nevertheless, in many areas these instruments need to be extended, or renewed, and some new policies or other instruments are needed to pursue specific strategic directions. It will be the task of the Government of Vietnam to put forward and implement these instruments.

Consequently, we make the following recommendations for areas where strategic planning instruments should be developed and implemented:

- Implement policy or regulation to establish agricultural technology innovation hubs that will promote the development and use of digital and conventional agricultural technologies.
- Refocus existing or develop new policies or regulations that will target agricultural financing and supply chain management support towards smallholder farmers. While land consolidation remains an important strategic goal eventually leading to enlargement of farms in Vietnam, it is almost certain that smallholder farmers are going to remain a mainstay of the Vietnamese agriculture over the next decade, and therefore they need to be adequately supported so that they effectively link into agricultural value chains and contribute to their development.
- Develop and implement policies/programs that will lead to improvement of the enforcement of environmental and natural resource regulations. These regulations exist, but they are very poorly enforced, and this needs to be urgently addressed.
- Refocus existing or develop new policies or regulations that will specifically and comprehensively target adaptation of the Vietnamese agriculture to climate change. The effects of climate change are already felt quite strongly by Vietnamese farmers.

Implementing policies/regulations that will improve the ability of the agricultural sector to adapt to climate change is therefore urgently needed. This also relates to the development of processes and programs to identify and react to unforeseen risks, such as the current COVID-19 pandemic.

- Refocus existing or develop new policies/regulation that will specifically address the issues of food safety standards, quality control, and food and nutritional labelling. It is essential that enforcement of these policies/regulation is ensured.
- Develop and implement programs for promotional and advertising campaigns to build the 'Product of Vietnam' brand.
- Develop and implement comprehensive regulations and programs that target substantial improvement of rural health, and access to health services.
- Develop and implement programs that promote entrepreneurship and business skills among the rural population.
- Develop and implement programs for girls' and women's empowerment in rural areas.

7 Conclusions

Vietnam's agriculture has experienced significant development over the last ten years, achieving remarkable results in terms of volume of production and exports. Nevertheless, the value-added in agricultural production is still fairly low, productivity is stagnating, agricultural value chains are not well developed, the food safety record is problematic, and Vietnam's agricultural products are not perceived as a trusted brand in the domestic and international markets. In addition, agriculture in Vietnam is facing the challenges of climate change and environmental degradation. The COVID 19 pandemic has further highlighted the ongoing issues in agricultural value chains, the sensitivities of the food markets, especially traditional wet markets, and the changes in consumer preferences for food. In addition, the pandemic can probably open certain opportunities for the Vietnamese agriculture, especially in international markets.

Given the trends, challenges and opportunities facing agriculture over the next decade, it is appropriate to prepare a strategic plan for the agricultural sector in Vietnam for the period 2021-2030. In this report, we outline a framework for the strategic planning that we recommend being adopted. The framework consists of:

- a) assessment of the current situation in the agricultural sector,
- b) identification of international and domestic, trends, challenges and opportunities,
- c) forming a vision of the agriculture in Vietnam for 2030,
- d) identification of strategic goals and strategies to pursue those goals, and
- e) a process for ongoing monitoring and evaluation of the strategic plan outcomes.

We provide extensive discussion on each of these elements of the framework. Specifically, we articulate a vision for a Smart, Safe, Sustainable and Resilient Agriculture for Vietnam in 2030, and we characterize it through ten descriptive points about how the agricultural sector should look like in 2030. We then identify strategic goals that go beyond the traditional numerical targets that have been a defining feature of the previous strategic planning exercises in Vietnam. Consequently, we discuss the strategies towards pursuing the goals. We then survey the current policy landscape relevant for the implementation of the strategies, and identify gaps where there is absence of policies/regulations to implement the strategies. We then make recommendations for implementing new or refocusing existing policies and other strategic instruments to pursue the strategies. We also outline a process for ongoing monitoring and evaluation of the strategic planning. Based on the research conducted under the project we put forward general recommendations for strategic directions for the Vietnamese agriculture to 2030. We communicated the recommendations and the key findings to relevant Vietnamese government staff at a training workshop.

A separate, but related outcome from the project is the establishment of the Agribusiness Reference Group (ARG). The ARG is a panel of willing representatives of companies and other private sector organizations who will contribute to thinking and emerging ideas from ACIAR-funded agribusiness and other program areas research projects. The ability of ACIAR to positively impact the development of the agribusiness sector in Vietnam depends on research leaders understanding and considering the issues that are important to private firms, farmers and industry groups. The ARG represents a pathway of connecting research teams with agribusiness companies. We conducted research that informed us about the key private sector companies across agricultural sub-sectors and regions of Vietnam. The analysis provided a comprehensive overview across 11 sub-sectors and by region of Vietnam. We consequently formed a list of candidates for inaugural members of the ARG. These candidates were then formally invited to join the ARG. The group was formally established with an in-person meeting (with on-line participation of the Australian research team) that was held at the Australian Embassy in Hanoi in December 2020. The occasion of the inaugural meeting was used to gauge the views of the private sector on the strategic planning in agriculture, which we pursued by administering a short survey among the members of the ARG. The responses to

the survey were used in preparing the analysis presented in this report. Activities are currently undertaken to further galvanize the work of the ARG.

Vietnam's agriculture is at a critical juncture of its development. Rationally calibrating and implementing strategies to achieve the vision for a **Smart, Safe, Sustainable and Resilient Agriculture for Vietnam in 2030** is going to be fundamental for the ongoing success of the sector. The analysis, activities, the outcomes and the recommendations from this report provide some directions towards achieving that success.

8 References

8.1 References cited in report

- Ackoff, R. (1970). A Concept of Corporate Planning. *Long Range Planning*, 3(1): 2-8.
[https://doi.org/10.1016/0024-6301\(70\)90031-2](https://doi.org/10.1016/0024-6301(70)90031-2)
- Ackoff, R.L. (1981). On the use of models in corporate planning. *Strategic Management Planning*, 2(4): 353-359.
- Agriculture Victoria. (2021). Strong, Innovative, Sustainable: A New Strategy for Agriculture in Victoria. Accessible on: <https://agriculture.vic.gov.au/about/our-role/agriculture-strategy>
- Asian Development Bank (2013). Viet Nam: Environment and Climate Change Assessment. Mandaluyong City, Philippines
- Asian Development Bank (2020), Balanced Scorecard for State-Owned Enterprises: Driving Performance and Corporate Governance, eds Johnson, C.C. and Beiman, I., Philippines. Accessed on 31 December 2020 at <https://www.adb.org/sites/default/files/publication/29027/balanced-scorecard.pdf>
- Bairagi, S., Mohanty, S., Baruah, S. and Thi, H.T. (2020). Changing food consumption patterns in rural and urban Vietnam: Implications for a future food supply system. *The Australian Journal of Agricultural and Resource Economics*, 64: 750-775.
<https://doi.org/10.1111/1467-8489.12363>
- Chen, S.-H., Nasongkhla, J., & Donaldson, J. A. (2015). From vision to action – a strategic planning process model for open educational resources. *Procedia - Social and Behavioral Sciences*, 174: 3707-3714.
- Department of Agriculture, Water and the Environment. 2021. Delivering Ag2030. Accessible on: <https://www.agriculture.gov.au/ag-farm-food/ag2030>
- Department of Agriculture, Fisheries (QLD). 2013. Queensland's Agriculture Strategy. Accessible on: <https://cabinet.qld.gov.au/documents/2013/jun/qld%20ag%20strat/Attachments/Attachment%20-%20Queensland%20Agriculture%20Strategy.PDF>
- Duong, P.B., Thanh, P.T. and Ancev, T. (2020), Impacts of off-farm employment on welfare, food security and poverty: Evidence from rural Vietnam. *International Journal of Social Welfare*. <https://doi.org/10.1111/ijsw.12424>
- FAO (2011). Economics of Adaptation to Climate Change: Country Case Studies. <http://www.worldbank.org/en/news/feature/2011/06/06/economics-adaptation-climate-change-country-case-studies>
- FAO (2017). The future of food and agriculture: Trends and Challenges. Rome, Italy.
- General Statistics Office (GSO). 2019. Report on economic data and development in Quarter IV 2019. Hanoi
- General Statistics Office (GSO). 2020. Public Data Announcement Report, Quarter III 2020. Hanoi
- Giesecke, J. A., Nhi Hoang Tran, Erwin L. Corong & Steven Jaffee. (2013) Rice Land Designation Policy in Vietnam and the Implications of Policy Reform for Food Security and Economic Welfare. *The Journal of Development Studies*, 49(9): 1202-1218, doi: 10.1080/00220388.2013.777705
- Government of South Australia. 2010. South Australian Food Plan 2007– 2010. Adelaide.

Habegger, B. (2010). Strategic foresight in public policy: Reviewing the experiences of the UK, Singapore, and the Netherlands. *Futures* 42(1): 49–58.
<https://doi.org/10.1016/j.futures.2009.08.002>.

Ha Thi Thu Thuy. (2019). Vietnam's agriculture faces the opportunities and challenges of international economic integration, *Electronic Sources of Industry and Trade* magazine. Retrieved from: <https://www.tapchicongthuong.vn/bai-viet/nganh-nong-nghiep-viet-nam-dung-truoc-nhung-co-hoi-va-thach-thuc-cua-hoi-nhap-kinh-te-quoc-te-67225.htm>

Harris, J., Nguyen, P.H., Tran, L.M. et al (2020). Nutrition transition in Vietnam: changing food supply, food prices, household expenditure, diet and nutrition outcomes. *Food Security* 12: 1141–1155 (2020). <https://doi-org.ezproxy.library.sydney.edu.au/10.1007/s12571-020-01096-x>

Hoang Giang, and Thuy T. Nguyen (2020). Geographical indications and quality promotion of agricultural products in Vietnam: an analysis of government roles. *Development in Practice* 30(4): 513-522, DOI: 10.1080/09614524.2020.1729344

Hollweg, C.H., Smith, T., and Taglioni, D. Eds (2017). Vietnam at a Crossroads: Engaging in the Next Generation of Global Value Chains. Accessed 15 March 2021 at <http://documents1.worldbank.org/curated/en/808541488967692813/pdf/113225-PUB-PUBLIC-PUBDATE-3-6-17.pdf>

Hung, P.V., MacAulay, T.G. and Marsh, S. (2007), The economics of land fragmentation in the north of Vietnam. *Australian Journal of Agricultural and Resource Economics* 51(2):195-211.

Indiana State Department of Agriculture. 2017. Indiana Agriculture Strategic Plan. Accessible on: <https://www.in.gov/isda/programs-and-initiatives/indiana-agriculture-strategic-plan/>

International Monetary Fund (IMF). 2020. World Economic Outlook: A Long and Difficult Ascent. Washington, DC, October.

International Labour Organisation (ILO) 2017. Strengthening agricultural cooperatives in Vietnam. MyCoop training report. Hanoi, February 2017

IPSARD (2010). Land Policy for Socioeconomic Development in Viet Nam, Dang Hoa Ho and Malcolm McPherson, Fulbright Economics Teaching Programme and Ash Center for Democratic Governance and Innovation, John F. Kennedy School, Harvard University, 27 May 2010.

Kaila, Heidi. (2015). Comparing the development of agricultural technology and information technology in rural Vietnam, WIDER Working Paper, No. 2015/091, ISBN 978-92-9230-980-0, The United Nations University World Institute for Development Economics Research (UNU-WIDER), Helsinki

Keyser, J., Jaffee, S. and Nguyen, T. (2013). The Financial and Economic Competitiveness of Rice and Selected Feed Crops in Northern and Southern Vietnam, World Bank. Hanoi

Knudson, K. (2020). The heart of all strategic planning models. Accessed on 4 January 2021 at <https://envivio.com/blog/strategic-planning-models/>

Liu, Jianxu; Wang, Mengjiao; Yang, Li; Rahman, Sanzidur; Sriboonchitta, Songsak. (2020). Agricultural Productivity Growth and Its Determinants in South and Southeast Asian Countries. *Sustainability* 12: 4981. <https://doi.org/10.3390/su12124981>

Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance: 1969-1980. *Psychological Bulletin*, 90(1), 125-152.

Maruccie-Wellman, H., Learmon, T.B., Willetts, J.L., Binh, T.T.T., Diep, N.B., Wegman, D.H. and Kriebel, D. (2011), "Occupational injurie in a commune in rural Vietnam transitioning from agriculture to new industries", *American Journal of Public Health* 101(5): 854–860. Accessed on 17 March 2021 at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3076394/>

Ministry of Agriculture and Rural Development (2020), Plan for agricultural and rural development 5-year 2021 – 2025, Hanoi

Ministry of Agriculture and Rural Development (2017) Vietnam: CCAC Partner Since (2017), (Climate and Clean Air Coalition). Accessed on 15 March 2021 at <https://www.ccacoalition.org/en/partners/vietnam>

Ministry of Agriculture and Rural Development (2018), Thematic report on agricultural and rural development, Hanoi

Ministry of Agriculture of Indonesia. 2019. Strategic Plan of the Indonesian Ministry of Agriculture 2020-2024. Accessible on: <https://ap.fttc.org.tw/article/1842>

Ministry of Agriculture and Forestry, DPR Lao. 2015. Agriculture Development Strategy to 2025 and Vision to the year 2030. Accessible on: <https://maf.gov.la>

Ministry of Planning and Investment and the World Bank Group (2016), Vietnam 2035: Towards Prosperity, Innovation, Equity, and Democracy (full report)

Ministry of Planning and Investment (MPI). 2020. Report to the Prime Minister on Submitting the Drafted Law on Cooperatives. Hanoi

Mulia, R., Nguyen, D.D., Nguyen, M.P., Steward, P., Pham, V.T., Le, H.A., Rosenstock, T. and Simelton, E. (2020). Enhancing Vietnam's nationally determined contribution with mitigation targets for agroforestry: A technical and economic estimate. *Land* 9: 528-553. doi:10.3390/land9120528

National Academy of Science and Technology, Philippines. 2012. Philippines Agriculture 2020: A Strategy for Poverty reduction, Food security, Competitiveness, Sustainability, and Justice and Peace. Accessible on: <https://nast.ph/images/pdf%20files/Publications/Bulletins/NB%201%20PA%202020.pdf>

Nguyen, D., K., Ancev, T. and Randall, A. (2019). Evidence of climatic change in Vietnam: Some implications for agricultural production. *Journal of Environmental Management* 231:524-545

Nguyen, D., K. (2017). Farming in Changing Production Conditions: Agricultural Technology, Climate Change and Adaptation in Vietnam. PhD Dissertation. The University of Sydney.

Nguyen Thi Thuy (2019). Linking businesses and farmers to develop farming in Thai Binh province in the context of international integration, Unpublished PhD Thesis, Vietnam Academy of Social Sciences.

OECD (2015). Agriculture policies in Vietnam 2015

OECD (2016). Alternative Futures for Global Food and Agriculture, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264247826-en>

OECD (2020.), Agricultural Policy and Monitoring and Evaluation 2020: Vietnam, Chapter 29, OECD, Paris. Accessed on 16 March 2021 at <https://www.oecd-ilibrary.org/sites/789c718e-en/index.html?itemId=/content/component/789c718e-en>

Ontario's President's Council. 2013. An Ontario Agriculture and Food Strategy. Accessible on: http://www.ontariopresidentscouncil.com/uploads/2/7/9/6/27967763/ontario_food_strategy_-_economic_growth.pdf

Pongsrihadulchai, A. 2019. Thailand Agricultural Policies and Development Strategies. Accessible on: <https://ap.fttc.org.tw/article/1393>

Queensland Government (2018). Performance Management Framework: Strategic Planning Toolkit, Cabinet Services, Department of the Premier and Cabinet, Brisbane. Accessed on 31 December 2020 at <https://www.forgov.qld.gov.au/sites/default/files/pmf-strategic-planning-toolkit.pdf>

Quinn, J. B. (1981). Formulating strategy one step at a time. *Journal of Business Strategy* (Pre-1986); Boston, 1(000003), 42.

Quyen Dinh Ha (2017). Proposed policy and solutions to encourage deep processing of some key agricultural products of Vietnam (rice, rubber, pangasius) (Brief report on ministerial level project), Ministry of Agriculture and Rural Development

Siteware (2019). The importance of knowing how to evaluate a strategic plan. Accessed on 4 January 2021 at <https://www.siteware.co/en/strategic-management/how-to-evaluate-strategic-plan/>

Smith, K., & Locke, E. (1990). Goal setting, planning, and organizational performance: an experimental simulation. *Organizational Behavior and Human Decision Processes*, 46: 118-134.

To, Q., T. et al. (2016). Impacts of climate change, upstream development, internal development of the Cuu Long Delta, challenges and responding solutions. *Mekong River Delta Economic Forum - South West Steering Committee, Hau Giang -Volume: 2016. Project: KC08.13/11-15.*

United Nations Development Program (2019), Human Development Report 2019: Beyond income, beyond averages, beyond today: Inequalities in human development in the 21st century, UNDP Program, 1 UN Plaza, New York.

UNFPA (2020). Population matters. <https://vietnam.unfpa.org/en/node/15210>

USAID (2013). Vietnam – Property Rights and Resource Governance Profile. USAID Country Profile Series.

Vien, H.T. (2002). The linkage between land reform and land use changes: A case of Vietnam. *Journal of Soil Science and Environmental Management* 2(3): 88-96.

Vietnam Institute for Economic and Policy Research (VEPR) (2016), The Q4-2016 Vietnam Macroeconomics Report, Electronic Sources. Retrieved from: [http://vepr.org.vn/upload/533/20170210/\[VN\]%20VEPR%20BCQ4%20full%20text.pdf](http://vepr.org.vn/upload/533/20170210/[VN]%20VEPR%20BCQ4%20full%20text.pdf)

Victoria State Government (2020), “Introductory economic assessment definitions and concepts”. Accessed on 14 December 2020 at <https://djpr.vic.gov.au/about-us/overview/the-economic-assessment-information-portal/i-am-looking-for-introductory-economic-assessment-definitions-and-concepts>

World Bank Group (2016), Vietnam Development Report 2016: Transforming Vietnamese Agriculture: Gaining More from Less, International Bank for Reconstruction and Development, The World Bank, 1818 H Street NW, Washington, DC 20433. Accessed on 18 March 2021 at <https://openknowledge.worldbank.org/handle/10986/24375>

World Bank (2020), Vibrant Vietnam: Forging the Foundation of a High-Income Economy (Main Report), The World Bank, Washington. Accessed on 1 January 2021 at <http://documents1.worldbank.org/curated/en/745271590429811414/pdf/Main-Report.pdf>

World Bank (2018). Taking stock: An update on Vietnam’s recent economic developments – Special focus: Reform Priorities for reducing trade costs and enhancing competitiveness in Vietnam. World Bank, Washington, DC

8.2 List of publications produced by project

Not yet available

9 Appendixes

9.1 Appendix 1:

Goals as Specified by the Ministry of Planning and investment and the General Statistics Office

1. Economic Goals

Lists	Unit	2020 (Est)	Average 2016-2020	2021 (Est)	2025 (Est)	2030 (Est)
% growth per year of GDP for Agriculture	%	2.8	2.71	2.8	3.0	3.2
% growth per year in Value-Added in Agricultural Production;	%	2.94	2.72	2.90	3.1	3.2
The contribution of TFP to the GDP of Agriculture	%	33		33	40	45
% growth in business activity in rural area	%	2.94	2.72	2.90	3.1	3.2
Average income earned in agriculture	USD/year	1,300	1095	1,400	2,800	3,250
Public and private investment in Agriculture	billion USD	5.2	3.27	6.5	7.34	8.9
% growth in values of agricultural exporting products	%	10		15		20
Total area of paddy lands;	Million hectares	7		6.8	6.75	6.5
% growth area of land under fishery wetlands:	% per year	1.7	0.9	1.8	1.6	1.7

2. Health and safety goals

Lists	Unit	2020 (Est)	Average 2016-2020	2021 (Est)	2025 (Est)	2030 (Est)
% reduction in food related morbidity (e.g. food poisoning due to poor safety of agricultural produce)	%	20% (less than in 2010)	15	30	35% (less than in 2020)	40% (less than in 2020)
% rural population with access to safe drinking water and sanitation;	%	85	80	90	95	98
% reduction in the number of malnourished children in rural areas;	%	15	12	11	5	5
Improved access to health services for rural population	%	89.6	85	92	95	96
Life expectancy in the rural areas		73.6	70	75	76	78

3. Social goals

Lists	Unit	2020 (Est)	Average 2016-2020	2021 (Est)	2025 (Est)	2030 (Est)
Educational attainment in the rural areas	%	15	13.2	17	22	25
Percentage of rural communes nationwide with access to adequate physical and social infrastructure	%	80	80	85	90	95
Improvement in the cultural life of the rural areas	%	82	81	83	86	90 (compared to 2020)

4. Environmental goals

Lists	Unit	2020 (Est)	Average 2016-2020	2021 (Est)	2025 (Est)	2030 (Est)
% forest covered area (out of total area of Vietnam)	%	42	40	43	43	45
% land area under organic agriculture (out of total agricultural area)	%				1.5-2%	2-3%
% collected and treated wastewater satisfying standards and regulations	%	15-20			>50%	
Number of Ramsar certified and recognised zones	No of zones	10			13	15

9.2 Appendix 2:

Report on the Project Inception Workshop, 9 January 2020

The workshop was opened by Dr Nguyen Thanh Duong, the Director of the Department of Agricultural Economics in the Ministry of Planning and Investment.

Dr Tiho Ancev from the University of Sydney's acknowledged the hospitality of the Ministry of Planning and Investment and welcomed attendees. He noted the attendance of academics from VNUA and also staff from the Academy of Planning and Development. He also acknowledged the contribution of ACIAR in supporting policy research and the current project on strategic planning. He indicated that the key question for the group was what agriculture should look like in Vietnam in 5 to 10 years and what should be the strategic goals along with suggestions as to how to pursue these goals.

Professor Gordon MacAulay, University of Sydney, acknowledged the hospitality of Vietnamese colleagues and the Ministry of Planning and Investment.

It was noted that most of the current staff of the Ministry of Planning and Investment were not involved in earlier strategic plans.

Mr Luu Ngoc Luong, Department of Agricultural Economy, Ministry of Planning and Investment. Mr Luong presented some background details on the Strategic Agricultural Plan for 2021 to 2030.

Summary of Mr Luong's presentation:

The objectives for growth in agricultural production are about 2.5 to 3.0 per cent per year. There is an intention for flexible changes in land use, particularly with respect to rice production. Further, there are goals of adding value and sustainable development. From 2016 to 2020 agriculture was restructured and there was a focus on sustainable development. Labour in agriculture decreased and there was a priority on education. A total of 58 per cent of the communes were meeting the standards for socio-economic development. However, there were many shortcomings and remedies that were not timely and agricultural development was uneven. Often the growth rate was lower than planned and infrastructure does not meet requirements. Further, adaptability to climate change is weak, there is salination of the Mekong delta. Environmental pollution in industrial zones along with poor treatment of waste is a challenge. As a long-term objective there have been proposals for a modern agriculture that can adapt to climate change and is profitable with "civilised farms". By 2025 forest coverage is expected to be about 42 per cent and the aim is keeping it at 42-43 per cent. Further, the aim is to keep communes meeting 99 per cent of the socio-economic standards. Agricultural GDP growth is targeted to be 3.0 to 3.5 per cent and service growth to rise 1.5 times.

Some of the more specific solutions to go to the Ministry relate to cultivation, aquaculture, stable forest coverage, investment in forest development, enterprise development (Decrees 60, 41 and 55 relating to the low rate of enterprise development) and development of co-operatives. Further, the distribution of benefits is not harmonised.

The Ministry of Agriculture is proposing development of a high tech agriculture and high tech organic production systems. Agriculture tends to be cumbersome in relation to management of inputs and also food safety. There may be a need to double human resources in new areas and the budget might be twice the previous budget. Previously there was a lot of investment in poor areas.

In the Red River delta and the Mekong most collectives meet the standards. New areas may need lower standards. Ethnic and mountainous areas are a problem and there is a need to maintain cultural identity of these areas.

It was noted that the agricultural sector is particularly vulnerable to climate change.

Summary of Discussion Questions

1. Understanding of the current processes for strategic planning in agriculture in Vietnam
 - What have been the approaches to strategic planning in agriculture in the past?
 - Have they been adequate?
 - Which approaches worked and which did not work?
 - How can the process of strategic planning in agriculture be improved?
 - The process for strategic planning?
 - Who are involved and in which time?

Dr Son noted that the Ministry of Agriculture was not in attendance, but it was explained that it was not possible at this time. He indicated that the approach to planning in Vietnam was a “priority approach”. A list of issues that needed to be addressed from now and into the future was generally constructed. These were then ordered according to priority. Using the priority list there may then be intervention by public investment. Vietnamese people are accustomed to this approach. This is not an adequate approach as cannot forecast accurately.

Forecasting population may be okay but not for technological change, climate change, changes in trade, and the international environment. There is an expectation that University of Sydney experience in the market mechanism will assist with improving the process. Overall, Vietnam uses integrated economy-wide planning rather than sector planning. Within the MPI there is an editorial team designed to co-ordinate with other ministries and bring together material from other ministries. He noted that the Institute for Agriculture is scenario planning, and that the intention is for the Ministry of Agriculture to send material to the MPI to synthesize within the overall strategy. Each Department has to review their own situation.

The question of what the vision for agriculture is was raised and it was pointed out that typically Vietnam has goals. What does it look like? Is it structure? Is it a solution? What is the analytical framework?

There appears to be a fragmented approach to sectors of the economy and a needs approach used to connect the sectors. There is an interaction between researchers and leaders. Sector leaders have concerns about growth, exports and meeting standards. People in general have an interest in incomes, jobs, diseases and other human factors. The Ministry of Agriculture seems to care about production and growth.

2. What are the problems for Vietnamese agriculture?

Professor Duong of VNUA said there were many problems faced by Vietnamese agriculture such as:

- 1) effective access to the value chain
- 2) high quality human resources and education access by 15-year-olds
- 3) climate change
- 4) labour availability and age of workforce (young people go abroad or join the industrial workforce)

There was then a more general discussion:

- 5) problems of competitiveness
- 6) market information and stability of supply to markets is lacking
- 7) credit access (government credit is difficult to access) often use “black credit”

- 8) business development services not available
- 9) alliance of cooperatives is weak
- 10) inability to write applications, and
- 11) a need to support the value chain.

3. What is the current vision held by government for Vietnamese agriculture for the period up to 2030? What should Vietnamese agriculture look like in 2030, and what should its place be within the overall economy?

- a. What is the vision to 2025?
- b. What is the vision to 2030?

Mr Luong pointed out that the ministries may have different and independent views and that the term overall objective can be used as it is like a vision. There is currently 15 pages for the agricultural sector with various specific ideas for the different sectors of the economy. For example, clean water, plantation forestry, etc. with the Ministry of Agriculture asked for sub-strategies. However, want to get an overall strategy for the country.

Dr Ancev pointed out that a vision allows conversations to happen with various groups such as the United Nations, other international and domestic organizations and the people of Vietnam. It also needs to be a Vietnamese vision.

Dr Son indicated that we agree with each other and that in order to develop a vision he asked what the processes are and how to put the vision. There are trade-offs on choices and need to know the orientation of agriculture, the foundation for exports, and the advantages and disadvantages of each location. Vietnam needs help on how to choose. In the wish list would be a modern agricultural sector with 3.5 to 4.5 per cent growth when it is actually 2.5 per cent. There is a need for some sort of guide.

Dr Ancev commented that a vision is not a wish list. It is an attempt to be visionary in the context of world and domestic factors shaping the future and reflects what a nation might pursue within its context. Companies and corporations and their leaders will pursue a vision. A vision is in the context of the trends domestically and internationally—it is not a wish list.

Prof Duong suggested that in a Vietnamese context the idea of a vision is somewhat new as have previously had specific objectives. There were some sectoral or regional visions.

Mr Tho from CIEM suggested that the 2011-2020 strategy was only one page for agriculture. More was needed with a SWOT analysis so there is some possibility of predicting the future. By 2030 agricultural development will involve companies in a major way rather than households. Growth for companies has been about 13 per cent per year while the role of households has been decreasing. Aquaculture and fruit have been replacing rice production. Climate change has also been a motivation for change and there has been a shift from rice cultivation to saltwater cultivation. In 2030 there will be high tech agriculture and machinery replacing labour—mostly workers and old people. Agriculture may move from a horizontal approach to a vertical approach. The question is what does government need to do?

From 2011-2020 government intervention has been ineffective and not appropriate. Land planning has involved wasted land—rice paddies have been abandoned. Inputs are subsidized and the government pays rather than the user pays. Households need to compete, and the government provides a subsidy. What is needed is science and technology and government left out of the picture. Government intervention is not effective. Internationally, people don't know where to sell and the embassies are not able to help.

Dr Son commented that Mr Tho's story is a vision itself. What are the trade-offs? It is possible to develop an export agriculture versus social stability and security. May need to apply the market system but farmer's incomes are also important. There are 9 million households in

Vietnam and 8 per cent of companies. If Vietnam wants to transfer to co-operative companies, then the policies are not strong enough. Notice also that new rural areas may be taken by urbanization. A question remains as to what the role of government in is moving farm households to urban environments.

4. What should be the strategic goals for agricultural development in Vietnam over the coming period?

1. How are the strategic goals for the agricultural sector related to the national strategic socio-economics goals (agriculture's shares)?
2. What are the strategic goals for the small-holder farming sector (may not be relevant because the participants are not farmers, the answer might be different)?
3. How will the strategic goals for the agricultural sector be pursued and achieved? What are the mechanisms that will ensure meeting of the strategic goals?

The representative from the Government Statistical Office suggested that there needs to be measurable goals. For example, GDP growth but need a proportion for agriculture—it normally accounts for 30 per cent and is likely to decrease by about 3 per cent by 2030 implying that its share will be about 14 to 15 per cent of GDP. There is still a lot of potential for agriculture.

One issue is to increase the social productivity of farming. It is not easy to change households to companies but to raise productivity training of agricultural workers, so they have qualifications is important. There is also a need for sustainable development goals, which may be revised through time.

5. What are some key demographic and cultural trends that will shape Vietnamese society over the next 10 years, and how will those trends affect agricultural production and consumption of food in Vietnam?

1. How will changes in the demographics of the rural population affect the orientation of the agricultural sector (purely commercial orientation vs. food security) and how will it affect the scale of farming (will farms get bigger or smaller)? Any other issues (branding, tourism)
2. How will changes in the demographics of the urban population affect consumer preferences: consumption, purchasing and acquisition of food: processed vs primary-food consumption? Higher quality and sanitation? Social, environment, nutrition?

6. What are some key economic trends that will shape Vietnamese society over the next 10 years, and how will those trends affect agricultural production and consumption of food in Vietnam?

1. Changes in income and their effects of agricultural production (rich or poor farmers)?
2. Increased income for the urban population: increased and changing demand for food and the way food is distributed and consumed.
3. Changes in the way of purchases (technology, digital payment); changes in production (technology, automatic); changes in lifestyle (modern); changes in demographics (older, family size, internationalization).
4. In relation to questions 5 and 6 Dr Ancev noted that a vision can change over time as things like demographics, etc change over time.

Professor Duong noted that strategies need to be empirically tested.

7. What are some key international trends in food demand and supply, and how will those trends affect agricultural production in Vietnam?

1. high value specialty products vs high-volume low-value commodities
2. pursuit of nutrient rich foods
3. Frozen foods vs fresh food
4. Processed food vs fresh food
5. Supermarkets and traditional markets
6. Imported food

The relationship between fresh and frozen is that people prefer fresh, but it does not mean that frozen food disappears. Shifting trends is a long-term process.

In relation to land, there is a right of ownership of land and the contract with farmers means that investment only occurs for 10 to 20 years. There is difficulty in renting land and taking land back. Unused land is also an issue. Young people are not attracted to farming. When there is no use of land transfers to others it is not easy. There should be facilitation of land rental so that better scales of production can be achieved. It is worth noting that young people buy over the internet so there is a strong need for clearer information and door-to-door delivery.

8. What are some key challenges and opportunities in the domestic and international food markets?

- Issues of food safety, labelling, branding, brand establishment and protection
- Issues of institution: FDI and international companies' vs national companies
- Merchants/ retail/ agencies
- International commercial services (credit, insurance, technology)

Dr Ancev noted that there are increasing demands for imported foods

Mr Tho of CIEM noted that the demand for imported foods is increasing but that international food consumption will not be really significant in the next 10 years. Rising incomes may have some domestic impact but not direct competition.

Mr Luong noted that there has been change in the mindset along with changes in production methods that will have an impact. There are 9 land groups and there has been a shift to aquaculture and also a shift in food security levels. With greater flexibility in the use of rice land, farmers can now make more adjustments. There needs to be a greater understanding of technology trends.

Revision of the Land Law is being discussed and it may need a thorough discussion before the issue comes before government.

9. What are some key challenges and opportunities towards more sustainable and environmentally friendly agricultural production, and how can strategic planning help towards achieving realistic goals in this domain?

- Pollution due to agricultural production and economic development (industry, urban)
- Over exploitation of natural resources (forest, water)
- Unbalanced eco-systems
- Disasters and disease.

It was suggested that participants write down their answers to question 9.

10. What are some key socio-economic issues in the agricultural sector that need to be addressed in the next ten years?

- Gender empowerment and equality

- Issues around small holding agriculture and rural poverty
- The need for increasing farm productivity and farm income
- Occupations and income for rural labour
- Opportunities and urbanization in rural areas
- Linkage among industries and services with agricultural development

Dr Ancev commented that ACIAR has a focus on gender equality and across Asia is focussed on the lack of gender empowerment.

Mr Duc noted that in the mountainous areas' agriculture cannot provide enough jobs for the population and so there is a need to migrate to urban areas. This has changed the structure of society in these areas with women going to work off farm and leaving children. It has been found that some 30-40 per cent of families with working women actually break up. There is a need for a vision regarding the social and cultural areas.

Product quality and productivity is often seen as high but there is too much chemical pesticides and fertiliser used. There would seem to be a need not to teach about techniques but to orient the market demand with a shift from technical production issues to a market perspective. In some cases this will mean a move to other jobs.

Close of Workshop by Dr Duong

Thanks was expressed to the team working on the project and developing ideas for a 10-year strategy.

Dr Duong summarised the workshop and noted that an agricultural strategy needs to be in parallel with a socio-economic strategy. The focus is on agriculture, but it also needs to be on rural areas and their development. In the longer term, the position of agriculture will be about 10 per cent of GDP. This implies a re-calculation, not only for agriculture, but also the services that support agriculture. Income from agriculture is low and greatly supported by non-farm income. Supporting just agriculture may not be enough to support farmers and their livelihoods.

Dr Duong noted that the law on water resources may also need adjustment from a fee to a water price (implies a market). A "Road Map" and an understanding of behaviour is important in developing a strategy. What does a 10-year Road Map look like?

He suggested that in developing a vision there needs to be a method to answer the various questions to help get there. The problem is that everyone is different and will have different views on a vision. He suggested that the macro indicators be considered first. A team might prepare a draft initially and then it could go to scholars and others to make comments. After comments have been given then go in reverse.

Food security is seen as an issue and Vietnam has a few months' supply. As consumption preferences are changing this might need to be taken into account in calculating the level of food security. Consumption trends will need measurable indicators.

If the Mekong is flooded with seawater, then there will be a need for significant changes.

As an approach, each question discussed above needs a solution. It is clear that there are some bottlenecks in the economy.

The Land Law is being considered for revision but in the broad the North is not in favour of selling and the South is in favour of selling land. It depends on the culture. As yet there is no real method for buying and selling land.

The agricultural production system is "fragmented" and thus cannot control the system, but pressure is still put on government. In many ways farmers need to be responsible and some say government is irresponsible. Supermarkets need a better contracting system, but feasibility is important.

Dr Duong thanked the participants and said the Communist Party is working on coming up with a strategy to 2045. If a strategy for agriculture can be developed it will be very meaningful.

Workshop closed at about 12.30 pm

9.3 Appendix 3:

ACIAR PROJECT

TRAINING WORKSHOP ON STRATEGIC PLANNING FOR AGRICULTURE

8th January 2021

Venue: Academy of Policy and Development

9.00- 9.05 Welcome to the Academy of Policy and Development (Mr. Giang Thanh Tung) (5 minutes)

9.05- 9.10 Remarks from ACIAR (5 minutes)

9.10- 9.15 Introduction project (Dr.Tiho) (5 minutes)

9.15- 10.25 MPI roles in policy analysis (sample in Agricultural Strategy) (Mr. Luu Ngoc Luong) (10 minutes)

10.25-10.35 Break

10.35-10.55 Presentation of Dr. Tiho (20 minutes)

10.55-11.00 Q&A

11.00-11h20 Presentation of Dr. Gordon (20 minutes)

11h20-11h30 Conclusion

LIST OF SPEAKERS AND PARTICIPANT OF THE TRAINING WORKSHOP

Date: 08/01/2021

Venue: Academy of Policy and Development

No.	Họ và tên/Name	Chức vụ/Position	Đơn vị công tác/Địa chỉ/Institutions
I	Speakers (3)		
1	Dr Tiho Anve	Professor	University of Sydney
2	Dr Gordon Macaulay	Emeritus Professor	
3	Dr Giang Thanh Tung	Vice President	ADP
4	Mr. Luu Ngoc Luong	Official	MPI

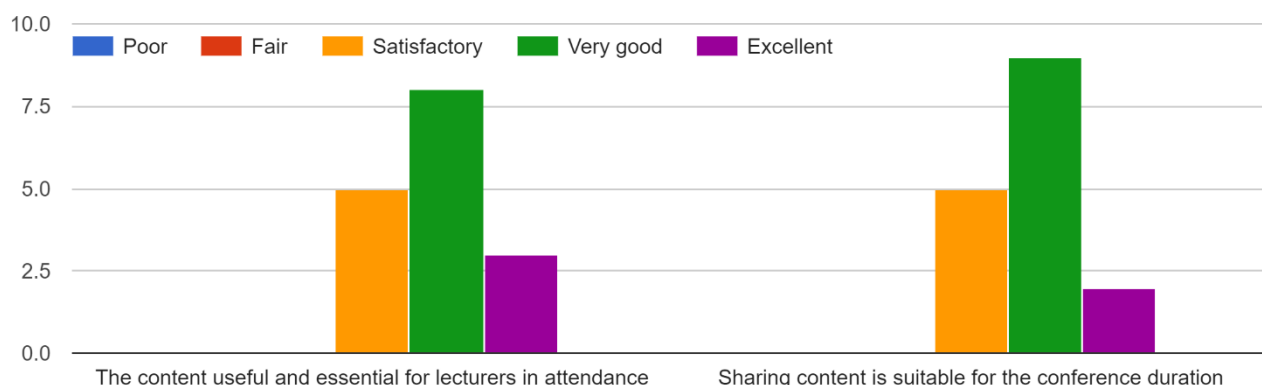
5	Mr Nguyen Nam Anh	Official	ACIAR
II	Participants		
1	Dr Đào Bích Hạnh	Lecture	ADP
2	Mrs Đỗ Thanh Hương	Lecture	ADP
3	ThS. Trần Hoàng Minh	Lecture	ADP
4	Nguyễn Thị Phương Thanh	Lecture	ADP
5	Professor. Ngô Phúc Hạnh	Lecture	ADP
6	Nguyễn Nam Hải	Lecture	ADP
7	.Nguyễn Thị Thu	Lecture	ADP
8	Vũ Thị Tâm	Lecture	ADP
9	Bùi Thị Hoàng Mai	Lecture	ADP
10	Dr.Tô Trọng Hùng	Lecture	ADP
11	Nguyễn Thị Bích Phương	Lecture	ADP

No.	Họ và tên/Name	Chức vụ/Position	Đơn vị công tác/Địa chỉ/Institutions
12	Nguyễn Thành Đô	Lecture	ADP
13	Dr. Phạm Ngọc Trụ	Lecture	ADP
14	Hoàng Kim Thu	Lecture	ADP
15	Phạm Thị Dinh	Lecture	ADP
16	Nguyễn Trần Khánh	Lecture	ADP
17	Nguyễn Thị Thùy Linh	Lecture	ADP
18	Nguyễn Văn Quân	Lecture	ADP
19	Trần Thị Trúc	Lecture	ADP
20	Nguyễn Văn Tuấn	Lecture	ADP
21	Trần Thị Hương Trà	Lecture	ADP
22	Nguyễn Việt Hưng	Lecture	ADP
23	Nguyễn Trần Phương	Lecture	ADP
24	Thái Thị Nhung	Lecture	ADP
25	Nguyễn Văn Phơ	Lecture	ADP
26	Đỗ Thị Diệp	Lecture	ADP
27	Nguyễn Thị Minh Thu	Lecture	ADP
28	Nguyễn Thị Diễm	Lecture	ADP
29	Đỗ Thị Thanh Huyền	Lecture	ADP
30	Lê Thị Thanh Loan	Lecture	ADP
31	Representatives from MPI		MPI
32	Representatives from VNUA	Lecture	VNUA

TRAINING WORKSHOP EVALUATION REPORT

The workshop "Policy analysis in agricultural strategy for 2021-2030 periods" was organized in January 8, 2021 at the Academy of Policy and Development (APD) with 25 participants from APD. This is the detailed feedback of 16/25 participants in APD about the workshop.

1. About the contents of workshop



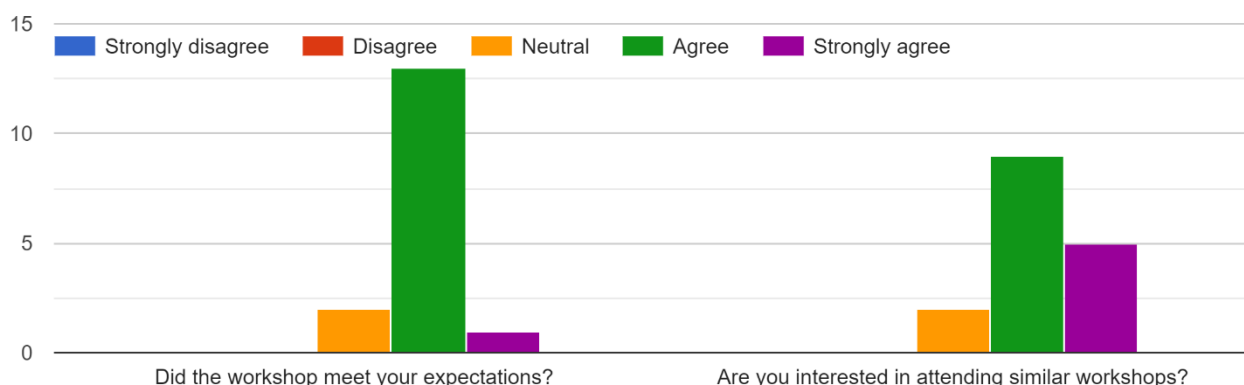
2. About the speakers in workshop



3. About the logistics of workshop



4. Other comment



Some participants commented that the workshop should be organized longer, more practising on building agricultural strategy base on actual performance in Vietnam, more share about experience of other countries on building agricultural strategy, more brain storming on how to harmonize agricultural strategy with overall socio-economic strategy in Vietnam.

9.4 Appendix 4:

See separate PDF document named (Appendix 4)

9.5 Appendix 5:

Report on the formation of the Agribusiness Reference Group in Vietnam

Background

For 27 years, ACIAR has collaborated with Vietnam to broker and fund research partnerships that are consistent with jointly agreed priorities. Since 1993, ACIAR has invested AUD 105 million in 175 projects across six key research areas: agribusiness, fisheries, forestry, livestock, soil and land management, and water and climate.

ACIAR in Vietnam has traditionally focused on working with government agencies and research institutions. Recent developments show that there is an increasing need for researchers to work more with private agribusiness companies that do business with farmers to achieve concrete and sustainable impacts. Without business insights and involvement research projects and participating farmers often have difficulty achieving consumer-focused and market-oriented production and supply. Strengthening linkages among researchers, policy makers, farmers and markets, and reflecting the needs of the private sector in policy and value chain research are among key priorities of ACIAR's Vietnam program in general and of specific research projects.

To pursue this, ACIAR is establishing the Agribusiness Reference Group (ARG). The ARG is a panel of willing representatives from the private sector who will regularly interact with researchers and policy makers to discuss emerging issues that can be addressed through research projects and to guide research, making sure the research is practical and useful for the private sector. The ARG is a way of connecting research teams with agribusiness companies, farmer organizations and policy makers. By participating in the ARG, its members will have the opportunity to engage in upcoming ACIAR-funded agricultural research projects in Vietnam that are designed to develop stronger and more

resilient agri-food chains. This will also help members to build their own agribusiness to be more competitive, efficient, inclusive and sustainable.

The work of establishing the ARG was carried out within the framework of the project ACIAR Project AGB/2019/185

Progress and results

With this intention, the project commissioned Ian Lewis, Principal Consultant, Lewis Agrifood Chain Solutions (LACS), Adelaide to prepare a desk top study on the key players in the agribusiness sector in Vietnam, by product type, and by region. **This study is available as a separate PDF file, named 'Appendix 5.1'**

Subsequently, a national consultant Lam Do Thanh was appointed, and he started scanning exercise to identify potential companies from key sectors. This was done by reviewing literature in addition to the prepared report by LACS (e.g., list of companies being members of Partnership for Sustainable Agriculture in Vietnam under Ministry of Agriculture and Rural Development), searching different websites and consulting experts from different networks and projects. As a result, a long list of about 100 companies operating in 11 agricultural subsectors (e.g. rice, coffee, rubber, tea, fishery, fruit and vegetable, pig, poultry, pepper and other spices, dairy, and cattle) were identified and documented in an excel file. The list was also reviewed by ACIAR, the project leader and the consultant. The team considered that the long list should cover both large companies and small and medium enterprises (SME) which play important roles in the sector. Eventually, a number of SME were added to the list.

Based on the long list, the consultant contacted companies by sending introduction letter and making appointment for discussion in order to define their interest in participating in the ARG. However, due to COVID pandemic outbreak, many companies could not meet the consultant. In addition, and with support from MPI, an invitation letter was sent to other companies on the long list. As a result, a short list of 19 companies confirmed their interest to be members of the ARG. This culminated in the inaugural event of the ACIAR Agribusiness Reference Group organized in November 2020 at the Australian Embassy in Hanoi, with participation of 49 prominent Vietnamese and Australian leaders from businesses, research communities and governments who joined hands to advance agricultural development in Vietnam. The group's inaugural meeting was organized in collaboration with Vietnam's Ministry of Planning and Investment and the University of Sydney. The initiative will help ACIAR-funded researchers in Vietnam to engage with private agribusiness firms who will help bring greater insights about the needs and issues of the market and of smallholder farmers.

Looking forward

The inaugural event was just an initial step of gathering the ARG members together. Many of them are still unfamiliar with ACIAR projects and activities. Therefore, it is expected that the ACIAR, with continued support from Australian and Vietnamese experts, will play leading role to create opportunities, especially more face-to-face interaction between the researchers and the ARG members in order to exchange their expert views on where ACIAR should invest in Vietnam. The Reference Group approach is a first for ACIAR, with future efforts looking to replicate the model throughout East and Southeast Asia.