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Strengthening Resilience, Equity and Integration in ASEAN Food and Agriculture Systems

Prepared by Dr. Cielito F. Habito
ARD2014 Technical Adviser and Coordinator
Established in 1966, the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) is one of the 21 regional centers of the Southeast Asian Ministers of Education Organization (SEAMEO), an intergovernment treaty organization that promotes regional cooperation in education, science, and culture.

The SEAMEO member countries are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Timor-Leste, and Vietnam. The associate member countries of SEAMEO are Australia, Canada, France, Germany, the Netherlands, New Zealand, Spain, and United Kingdom.

SEARCA's objectives are to:

1. Provide high-quality graduate education and training in agriculture;
2. Promote, undertake, and coordinate research addressing the development needs and problems in agriculture of the region; and
3. Disseminate the findings of agricultural research and experimentation.
The agricultural economy and the rural sector continue to loom large in the development agenda of South East Asian economies. For almost all of them1, agriculture remains a dominant economic sector in terms of contribution to total output, and for some, the most prominent based on contribution to overall employment. Furthermore, much of manufacturing and services industries in the countries of the region are closely linked to agriculture, making the total significance of the sector far greater than their direct output and employment shares would suggest.

But for all that importance of the agriculture sector and rural economy, it is also the sector wherein poverty tends to be most prevalent and persistent. Furthermore, it also tends to be most vulnerable to the damage caused by natural disasters, environmental degradation and climate change. Indeed, persistent poverty in the rural sector can partly be attributable to this. But persistent and prevalent rural poverty is also an outcome of technological, institutional, political and socio-economic forces that put agriculture and the rural economy, particularly the small players therein, at a relative disadvantage compared to the other sectors of the economy and society.

* Prepared by Dr. Cielito F. Habito, ARD 2014 Technical Adviser and Coordinator.
With the exception of the city-state of Singapore.
Multi-disciplinary, Multi-stakeholder Perspectives

The challenge of promoting agricultural and rural development (ARD) and reducing the incidence of poverty in the agriculture and rural sector is a complex one. Finding appropriate strategies and solutions requires an approach that recognizes the need to look at the sector as a complex system, whose full understanding requires perspectives from a wide range of disciplines and fields of study. Apart from the natural, physical and social sciences, solutions to problems must also draw on the liberal arts, cultural studies and other scholarly areas of inquiry. An effective pursuit of ARD would thus require a systems perspective of a multidisciplinary nature. It is also best approached from multiple perspectives representing various multi-stakeholders in the ARD community, which include farmers and landless farm workers and their families; academe comprising natural and social scientists and other relevant disciplines; civil society organizations including non-governmental organizations, sectoral associations and community groups; business entities representing input suppliers, farm output processors, financial institutions, logistics providers and traders; government policy makers, officials and workers at various levels of governance; and international development partners.

To be sure, there is great value in deepening the knowledge base within the various disciplines and fields of study involved in ARD through constant research and innovation, and periodic expert gatherings. But no single discipline or stakeholder group can claim to have all the answers. Unless new ideas and knowledge generated by such research pursuits and sector- or discipline-specific forums are placed within a more wholistic, systems-based perspective that encourages cross-fertilization in the multidisciplinary marketplace of knowledge and ideas, effective and lasting solutions are likely to remain elusive.

It is for this reason that SEARCA has set out to provide a regular forum for such a discussion of ARD challenges in South East Asia under a wholistic, systems-oriented, multi-disciplinary and multi-stakeholder perspective, starting with the 2nd International Conference on Agricultural and Rural Development in Southeast Asia (ARD 2014). The first such gathering spearheaded by SEARCA in 2005 (ARD 2005) addressed the subject primarily from the economic perspective and was participated in mostly by scholars in the fields of agricultural economics and development economics. Even so, it proved to be a most valuable forum that yielded the most authoritative compendium to date on the state of knowledge on ARD in South East Asia (see Balisacan and Fuwa 2007). With ARD 2014, SEARCA seeks to build on the 2005 conference with a more inclusive knowledge exchange benefiting from the participation of representatives from the various disciplines and various stakeholder groups listed above. In so doing, it is envisaged that apart from gaining expanded knowledge from attending the forum, participants would benefit from a broadened perspective from which they perceive and analyze the challenges of the ARD sector, and conceive the approaches to addressing them.
Objectives

ARD 2014 provides a venue for sharing the wide and diverse knowledge pool on ARD that exists within and beyond the Southeast Asian region. Through the conference, SEARCA aims to accomplish three objectives:

First, the forum aims to highlight creative and innovative technological and practical approaches in the various processes comprising the agricultural system. This system spans the entire agricultural value chain from production through to post-harvest, processing, marketing, transport and logistics.

Second, the conference seeks to showcase and derive useful lessons from institutional successes (as well as failures) in the management of the agricultural system and rural communities, including governance and value chain relationships.

Third, it is expected that participants would be able to draw evidence-based policy implications from the knowledge exchange, that could in turn help guide regional, national and sub-national policies and initiatives for ARD in the context of intensified regional cooperation and integration.
In keeping with the prominent development discourse, the title of this paper is the chosen theme for the conference: *Strengthening Resilience, Equity and Integration in South East Asian Food and Agriculture Systems*. **Resilience** connotes sustainability, a theme that has been prominent in the development discourse since the Brundtland Commission Report coined and defined the term “sustainable development” in 1987. As further articulated in Agenda 21 that came out of the 1992 Rio Earth Summit, it concerns the balanced pursuit of the social, environmental and economic dimensions of development; that is, the “triple bottom line” of people, planet and profit. Resilience of food and agricultural systems is currently being tested against the challenges of rapid urbanization and social transformation, resource and environmental degradation, and heightened regional and global competition with regional and global integration of markets.

**Equity** considerations are now commonly articulated in the phrase “inclusive growth” or “inclusive development,” reflecting recognition of the need for wide and even access to the opportunities to participate in and benefit from development. Equity thus pertains to the distribution of asset endowments, access to resources and technology, and opportunities for advancement and economic gain. From the perspective of South East Asia, equity is a goal that must be pursued at two levels: across countries and within countries in the region. This is particularly highlighted by the reality that disparities are wide across and within countries in the region. For example, the poverty situation varies widely across the region. In Cambodia and Lao PDR, more than 25% of the population lived on less than US$1.25 per day in 2008, in sharp contrast with Malaysia, Thailand, Singapore and Brunei, where absolute poverty was very slight or non-existent. And as is typical in the developing world, the agricultural and rural sector hosts the dominant part of that poverty.
Integration captures the essence of the trend toward borderless economies, manifested in globalization of markets and the rise of mechanisms for closer regional political and economic coordination and cooperation. In South East Asia, this is prominently being advanced through establishment of the much-anticipated ASEAN Economic Community (AEC) that will culminate in 2015. Integration is both a means and an outcome. As a means, it pertains to efforts to pursue borderless development via four main channels: (1) increased and more liberal trade flows, (2) expanded cross-border direct investments, (3) more active cross-border migration, and (4) greater financial and capital market unification. Analyses of impacts of closer global and regional economic integration particularly via trade and investment liberalization generally point to net benefits based on indicators such as aggregate welfare, poverty incidence, employment, and income distribution. Both earlier and more recent studies on the integration process among ASEAN member countries (e.g., Nakamura and Yap 1990, Imada et al. 1991 as cited in UNDP 2005, Ezaki and Tien 2008) have pointed to beneficial aggregate economic impacts in terms of expanded trade and faster economic growth. As an outcome, integration refers to unity, cohesion, and collective strong engagement with the world economy, as exemplified in the four defined pillars of the AEC: a single market and production base, a competitive economic region, equitable economic development, and integration into the global economy.
Productivity Improvement

Increased productivity has traditionally been approached through technological improvement at various components of the farm production system spanning seeds, soil and sustenance interventions, and through improved farm practices and organization. Research in traditional plant and animal breeding, as well as in more modern albeit sometimes controversial biotechnology techniques, have pushed the inherent fundamental productivity of agricultural production, whether in crops, livestock or aquaculture fisheries. More efficient and effective application of other inputs, such as mechanization, crop protection interventions, irrigation and other farm management practices have similarly been the subject of beneficial research and innovation over the years. Productivity improvement achieved through these means leads to lower costs per unit of product, hence greater competitiveness and resilience in the economic dimension. It also leads to higher returns to the factors of production including labor, hence raising incomes. In turn, farmers and their families are able to improve their capability to address their human development and social welfare needs, thereby bolstering social resilience.

It is in the environmental dimension of resilience that the impacts of interventions toward productivity improvement could be ambiguous, where effects could either be desirable or undesirable. In particular, the continuing debate on the safety of the outcomes of biotechnology research and development, particularly in genetic engineering, has raised the prospect of a tradeoff between higher productivity on one hand and resilience or sustainability on the other. Healthy and informed debate on these issues is a necessary part of moving toward achieving wide consensus, if such is at all feasible. In any case, the deliberately inclusive nature of participation in ARD 2014 is designed to provide opportunity for such debate and consensus-seeking on the more controversial issues attendant to productivity improvement in food and agriculture systems.

Meanwhile, the theme of equity would be served through productivity improvement to the extent that equal access to knowledge on improved technology and farm management practices can be fostered and assured across the region. Mechanisms for intra-regional knowledge exchange and technology transfer should therefore be deliberately pursued, such as fostered by SEARCA through its university consortium and regular knowledge forums on relevant topics and issues common to the region. Similarly, the theme of integration is served through closer partnership across countries and across educational and research institutions in the region towards wider access to knowledge for productivity improvement. At the same time, economic integration through liberalized movement of factors and products across countries of the region would provide the very impetus for the countries lagging in terms of productivity and cost competitiveness to “shape up” and undertake deliberate measures to catch up.
In the past, there was an observed tendency for inordinate focus on production systems and productivity improvement in the traditional orientation of policy research, discussions and operational frameworks of agriculture-focused institutions, including and especially agriculture ministries. There was a tendency to consider activities beyond the farm (or fisheries) toward end-consumers to be within the purview of industry ministries and industry analysts, and beyond the scope of the agricultural system. In recent years, this thinking has given way to a more systems view that recognizes the importance of considering the entire agricultural value chain spanning the range from farm finance and provision of farm inputs, through logistics and value adding/processing activities, on to getting the products to the final consumers.

The shift in focus from the production system alone to the entire value chain has helped research and policy making to be more responsive to actual and long-standing needs of rural dwellers. Operationally, this shift in focus to a wider value chain perspective forces governments to either establish strong inter-agency coordination mechanisms (especially between agriculture and industry ministries), or to redefine ministries’ scope of authority altogether. Vietnam, for example, has a Ministry of Agriculture and Rural Development, and Malaysia has a Ministry of Rural and Regional Development, a departure from the traditional and more limited concept of a Ministry of Agriculture. Agricultural development could thus be addressed and managed more holistically in the wider context of managing the rural economy, rather than as a production system alone.

Looking at the links in the value chain, at one end is the provision of adequate access to credit to small farmers, which has been a traditional and persistent challenge in the developing countries of the region. The success of microfinance schemes and programs across Asia, which has originated and flourished primarily in the non-agricultural context, has inspired efforts to adapt the approach to the financing requirements of small farmers, although this is not without its difficulties. Some South East Asian countries have been more successful than others in small farm finance programs, and may have important lessons to share with those where small farm credit access remains an obstacle to uplifting the lives of farming communities.

Inclusive Value Chains

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Transport and logistics is another significant element in the agricultural value chains, and is a particular challenge in the archipelagic economies of the region such as Indonesia and the Philippines. Wider intra-ASEAN trade in agricultural products will also hinge on efficient logistics systems interconnecting the ASEAN economies. Following the success of the national roll on-roll off (Ro-Ro) nautical highway, the Philippines has been at the forefront of championing the establishment of an ASEAN Ro-Ro system especially across the Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA) subregion.

Where farmers are unable to obtain a more commensurate share of the final value of the product of their labor, a key factor is often a monopsonistic or single-buyer feature in the value chain. In the Philippines, for example, processing of major farm products such as rice, sugar or coconut is typically done by a single large processing firm (rice mill, sugar central or coconut oil mill) in a particular area. This gives them the market power to dictate lower buying prices for the product, which translates to lower farm gate prices than could have prevailed had there been more competition in the processing/value-adding sector. A more inclusive value chain would thus have more, smaller processors who could be alternative buyers of any particular farmer’s produce. Even less inclusive is a structure wherein a large food manufacturer or service company vertically integrates and goes into large-scale farming of its primary raw materials, thereby taking control of its entire value chain. Instead, companies like Nestle and Jollibee have opted to procure their raw materials (coffee beans and onions, respectively) from small farmers, thereby giving the latter a firm role in a more inclusive the value chain.

Efficient value chains foster resilience, especially in the economic dimension; inclusive value chains foster equity. When value chains transcend national boundaries, as has become common in certain manufacturing industries (e.g., electronics, motor vehicles) in ASEAN, these regional value chains or production networks foster stronger regional integration as well. Wider opportunities for regional value chains for agricultural products remain to be explored.
Resilience and equity are directly served by conscious efforts to ensure sustainability in agricultural production systems and to reduce rural poverty in its multiple dimensions. Sustainable agricultural practices, including organic farming, sloping agricultural land technologies, systems of rice intensification and others have found increasing albeit still limited following in countries in the region. Practitioners attest that sustainability need not imply lower productivity, even as certain “hard-core” scientists are prone to question the potential contribution (or lack thereof) to food security that sustainable agriculture, especially organic farming, could make. Meanwhile, population pressures in the lowlands have driven more and more agricultural activities to the uplands, whether subsistence or commercial, leading to serious questions regarding tradeoffs between production and environmental integrity. Sustainable upland agriculture is thus an important area of activity and body of knowledge, especially in places where the agricultural land frontier is closing up.

Poverty in its economic, social, environmental, cultural and political dimensions is rooted in lack of endowments in five forms of assets: financial, human, natural, physical and social capital. Interventions to reduce poverty fall under three modes: (1) those that expand the poor’s endowments of these various forms of capital, either by outright redistribution or by improving access to them, (2) those that increase the benefits (income or welfare) that they derive from these assets, and (3) those that enrich or protect these asset endowments. Included under the first mode are asset reform programs that address the poor’s access to natural capital such as farmlands (e.g., agrarian reform), fishery resources and ancestral domains. It also includes various initiatives to improve health and education (i.e., human capital); rural infrastructure such as energy, irrigation, farm to market roads, and communication facilities (physical capital); farm credit, microfinance and microenterprise initiatives (financial capital); and participatory mechanisms such as cooperatives and local development councils (social capital).
Under the second mode of increasing the benefits derived from the above assets are efforts to improve productivity through improved technology via expanded research and development (R&D) and extension efforts. Measures to assist farmers with improved access to inputs such as hybrid seeds, chemical or organic fertilizers, better pesticides and suitable farm machines likewise fulfill the same function. This may also be pursued through institutional interventions and market reforms to improve farm prices. These include fostering small and medium-scale processing of farm products, and measures to strengthen the various commodity value chains that link production to final consumption. Also contributing to this goal are macroeconomic measures that stabilize prices (i.e., reduce inflation), foreign exchange rates and interest rates.

Forward-looking measures characterize the third mode, of enriching and/or protecting endowments in the various forms of capital. Environmental protection measures such as forest and watershed protection and coastal resources management seek to enhance and preserve the natural capital. So do climate change adaptation measures, now a prominent concern at all levels of development planning, which would protect both natural and physical capital. Conditional cash transfer (CCT) programs induce the poor to invest in their human capital by rewarding them for keeping children in school and availing of health services, among others. Population management and disaster management efforts similarly pursue the same goal.
The goal of food security is a universally shared ideal within the South East Asian region and beyond, and is always identified as a key societal objective of agricultural development. In the definition of the Food and Agriculture Organization (FAO), food security “exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.” Thus, it comprises ensuring availability and accessibility of adequate and safe food to the entire population. It is also concerned with ensuring nutritious food, particularly to minimize incidence of deficiencies in key nutrients and minerals that leads to illness or poor health.

Threats to food security may be physical (lack of infrastructure to produce and distribute food at the right quantities and to the right places); natural (calamities and disasters that destroy food crops and curtail food supplies); political (mislaced priorities by political leaders that lead to inadequate food supplies, food embargos imposed by hostile nations); social/cultural (practices that lead to significant food losses and wastage, beliefs that limit the range of accessible food to the populace); and economic (high costs/prices that may be due to factors within or beyond control).

Approaches to food security may be undertaken at the local, national and regional levels, and hinges on appropriate governance mechanisms that lead to efficient, effective and timely provision of food to the populace. Resilience, whether in its social, economic or environmental dimensions, is the direct outcome of or is closely associated with food security. The equity ideal is fostered when food security measures do not unduly benefit some groups or put others at a disadvantage. For example, food subsidies need to be targeted to those in need. In the Philippine historical experience, there had been instances in the past when rice subsidies failed to discriminate between those who were truly in need and deserving and those who did not require food assistance. Finally, regional integration (through regional food security and food reserve schemes) could very well be the means to avoid inappropriate national policies that confuse food security goals with attaining food self-sufficiency. Such policies have often resulted in substantial market distortions and institutional inefficiencies that ultimately undermined food security itself.
Institutions and Governance

Agricultural production, productivity and incomes are as much the result of the nature of the policy, regulatory and institutional environment as that of the physical and natural environment. An inappropriate policy, regulatory and institutional environment that is not responsive to actual needs will fail to achieve desired outcomes. For example, overcentralized planning and management of the agricultural sector could lead government into pursuing one-size-fits-all strategies and interventions that fail to recognize peculiar circumstances in various areas and localities. Hence, solutions that may work in some areas may actually be counterproductive in others. Budgetary allocations must also be responsive to actual requirements. In the Philippines, it has been a traditional lament that the agriculture budget has been inordinately focused (60-70 percent) on rice even as it only accounts for less than one-fifth of total agricultural value-added. The segments of agriculture with the highest incidence of poverty (i.e., coconut and fisheries) are also the ones that receive the smallest budgetary allocations. It is likely that the same perverse budgetary allocations are observed in other countries in the region.

In a predominantly smallholder-based agricultural system, especially where prior land reform efforts had deliberately moved the sector in that direction, small producers need to achieve higher efficiencies with economies of scale through the ability to cluster together. The ability to collectively transact with the rest of the value chain is critical to gaining a greater share in the value generated by the sector, thus raising incomes and welfare of farmers and their families. Various models of clustering have been in existence, including traditional cooperativism, nucleus estates, and corporatization of collectives. Sharing of best practices and positive experiences in this area is a valuable tool towards achieving more inclusive growth in the sector, thereby serving the interest of equity.

The efficient operation of land markets is critical to attracting productive investments in the agriculture sector. Weak governance, political conflict and outright rebellion have also gotten in the way of security of land tenure in many parts of the region, posing further impediment to investment and increased productivity. The importance of well-functioning land markets and assured security of tenure thus cannot be over emphasized.

Another crucial challenge of an institutional nature is the research and innovation system that is critical to sustained productivity improvement in food and agriculture systems. Issues range from inadequate budgetary allocations to bureaucratic shortcomings that either stifle (rather than promote) innovation or lead to inefficient and non-responsive outcomes. Innovation systems must be guided by the actual demands of resilience, equity and integration, for the products of research and innovation to become truly instrumental to uplifting lives in rural communities.
Regional Cooperation and Integration

The impending culmination of the ASEAN Economic Community in 2015, and the recognized need to plan strategically well beyond, is calling attention to the various modes of regional coordination and cooperation that need to be pursued especially in the various aspects of the food and agriculture system in the region. For example, as indicated above, food security might very well be most efficiently approached through regional cooperation rather than primarily at the national or local levels. Knowledge building and sharing across the region is critical to stronger integration, while also building greater resilience and promoting wider equity especially where deliberate efforts toward inclusive access to knowledge are pursued. SEARCA’s role in regional cooperation and collaboration in higher education in agriculture and rural development is a unique and critical one.

Finally, the dynamics of intra- and extra-regional trade in agricultural commodities will inevitably and increasingly receive prominent attention, particularly because sensitive agricultural products have been among the longest holdouts to the full liberalization of trade in goods within the region, and indeed globally. Wide disparities across the region in factor endowments, technology access and institutional efficiencies have led to a situation where costs of production for the same crops (e.g., rice) vary widely across the region. Such disparities create comparative advantages that should ultimately define the appropriate trade patterns in agricultural products among countries in the region. However, policies that are often politically determined rather than grounded on sound economics have traditionally distorted the markets for farm and fishery products. This makes the necessary adjustments to a more open trading regime as propounded through the AEC especially complex and challenging.
Concluding Remarks

Indeed, knowledge gaps in the food and agriculture systems of South East Asia remain substantial. Working together towards greater resilience, equity and integration therein will require regular wide knowledge exchange across the region that ARD 2014 hopes to set in motion as a regular exercise in the years to come.
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Ismai
Mr. Piya Palapunya
Truong Huu Hung
Myo Min Kywe
Boby Satria
Santonius Silaban
Muh. Yusri
Jun Javier Garci
Fahmy Husain

Prasetyo Nurramdhlan
Fishes No Name
Ady Suryadi
Ady Agustian
I Gusti Made Ambara Jaya
Zulkarnaen Syri Lokesywara
Nikki Sandino M Victoriano
Gholib