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AGRICULTURAL TRADE in the GREATER MEKONG SUB-REGION: Synthesis of the Case Studies on Cassava and Rubber Production and Trade in GMS Countries

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AGRICULTURAL TRADE IN THE GREATER MEKONG SUB-REGION: SYNTHESIS OF THE CASE STUDIES ON CASSAVA AND RUBBER PRODUCTION AND TRADE IN GMS COUNTRIES*[1]

Like the river that links them, agriculture is a factor that creates a sense of commonality and connection among the countries of the Greater Mekong Sub-region (GMS). The contribution of the sector to the GMS economies actually varies, being huge in the case of Lao People's Democratic Republic (PDR) and Cambodia and much smaller in China, Thailand and Vietnam. However, there are notable commonalities in the characteristics of their agricultural sectors, namely:

- The sector is a major source of employment. It employs about 75 percent of Lao PDRs' labour force, 50 percent of Cambodia's and Vietnam's and 40 percent of Thailand's and China's.[2] Altogether, it employs about a third of the sub-regional population.

- Development of the agricultural sector has been a vital component of poverty reduction strategies given that poverty in the GMS countries has been more concentrated in largely agriculture-based rural areas.[3] Because most of the rural poor are farmers or primary producers (as opposed to other actors in the value chain), a pro-farmer agricultural development has been considered imperative.

- Growth of agriculture has been outstripped by growth in the industrial and service sectors. Despite the comparative advantage in agricultural production due to rich natural resource endowments and huge stock of cheap labour, the export potential of agricultural products has not been fully exploited and has generally lagged behind other major exports of the GMS countries, such as textiles for Cambodia, Lao PDR, Vietnam and China.

- Impediments and challenges to agricultural development now range from the traditional problems of yield gaps, below-potential productivity and lack of investment to non-traditional challenges such as animal disease epidemics and competition between food production and bio-fuel generation.

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* The synthesis which is based on individual country reports, is prepared by Glenda Reyes at CDRI.

1 Excluding Myanmar.

2 For the relevant data, see ADB (2008b) and IMF (2009).

3 Supporting statistics for identified survey years can be found in WB (2008).

In recognition of their commonalities and the benefits of adopting regional approach to national problems, the GMS countries in 1992 agreed to the GMS Economic Cooperation Programme initiated by the Asian Development Bank (GMS Programme). This purportedly paved the way for the formal acknowledgement of the sub-regional grouping. It essentially aims for the development of its individual members through deepening of their sub-regional economic ties. The achievement of this goal has been mainly driven by the strategy of putting in place the "hardware" of national and regional growth, namely infrastructure. Since the Programme's inception, it has been observed that the investments facilitated through it have been significantly influential in shaping the development of the Mekong region and that its decisions have had major impacts on the livelihood of farmers and fishers in the GMS countries.[4]

Agriculture has been identified as a priority under the GMS Programme. A ministerial conference coordinates regional policy cooperation on the matter, while a Working Group on Agriculture (WGA) proposes measures to address issues affecting agriculture. In their joint ministerial statement issued in 2007 and integrated into the Strategic Framework for Sub-regional Cooperation in Agriculture 2006–2010, the agriculture ministers of the GMS countries acknowledged the new challenges confronting agriculture and reaffirmed their commitment to strengthen sub-regional cooperation in such areas as cross-border agricultural trade and investment and exchange of agricultural information.[5] Echoing this, the WGA during its fifth meeting in September 2008 referred to the greater room for cooperation in light of the recent food and energy crises and the perennial challenge posed by climatic change. It stressed the increased importance of harmonising agricultural trade strategies and improve regional exchange and public dissemination of agricultural information.[6]

The five country case studies aim to help fill the gaps in the availability, quality and exchange of information on each of the GMS countries' agricultural production and trade, particularly in relation to cassava and rubber. In this sense, they complement the sub-regional group's vision of an enhanced agricultural information system that is crucial to cooperation in other areas.[7] Individually, the GMS governments are likewise in need of in-depth analyses to guide their trade strategies, and on this, the case studies should prove extremely valuable. Well-researched by respected institutions,[8] the studies constitute part of a research series on GMS housed under the Development Analysis Network and coordinated by the Cambodia Development Resource Institute. Research methodologies used were desk research and field surveys and interviews.

4 See the ADB webpage for the GMS Programme, http://www.adb.org/GMS/. See also Oxfam Australia (2008).

5 See ADB (2007).

6 See ADB (2008a).

7 Under the GMS Programme, the Agriculture Information Network Service was launched in 2007. It was noted however that several problems beset it, including a lack of stable support for the main site and lack of stable funding for information collection and analysis. For this, see ADB (2008a).

8 The case studies were conducted under or by the following: for China, the ASEAN Regional and Industrial Development Research Centre, Faculty of Management and Economics, Kunning University of Science and Technology; for Cambodia, Cambodia Development Resource Institute; for Lao PDR, Dr Linkham Douangsavanh, Dr Bounthong Bouahom and Mr Bounthieng Viravong; for Thailand, Thailand Development Research Institute Foundation; and for Vietnam, Nong Lam University.

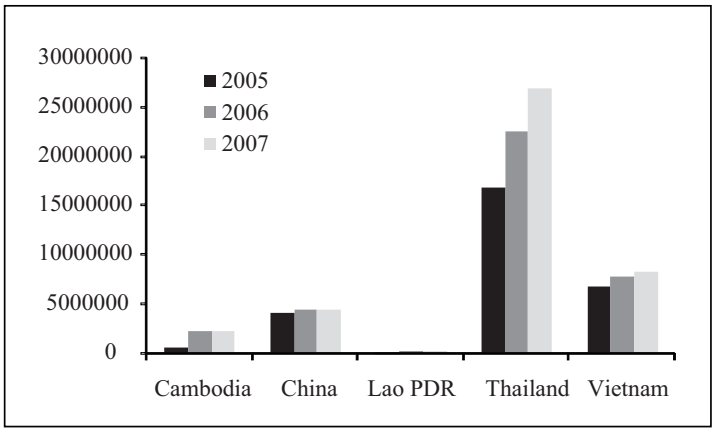
CASSAVA AND RUBBER: THE FUTURE OF AGRICULTURE?

As mentioned, cassava[9] and rubber were chosen as the focal areas of study. While there are country-specific reasons for the importance of these two products, there are also common reasons for the value of cassava and rubber to economies and the households dependent on them. For one, cassava is an important food crop, being a good substitute for rice, the main staple in most GMS countries, and feed for livestock. It has also become a profitable cash crop as the demand for it in such industries as bio-fuel, paper and food processing has expanded. Cassava is also a major "crisis crop", being a highly adaptable commodity that can easily be resorted to in the event of a food crisis. The attraction of rubber production, on the other hand, has increased immensely over time because of surging demand along the value chain and rising world prices (subject to the effects of the global economic crisis; see Box 1). Both commodities are central in employment creation and poverty reduction.

CASSAVA

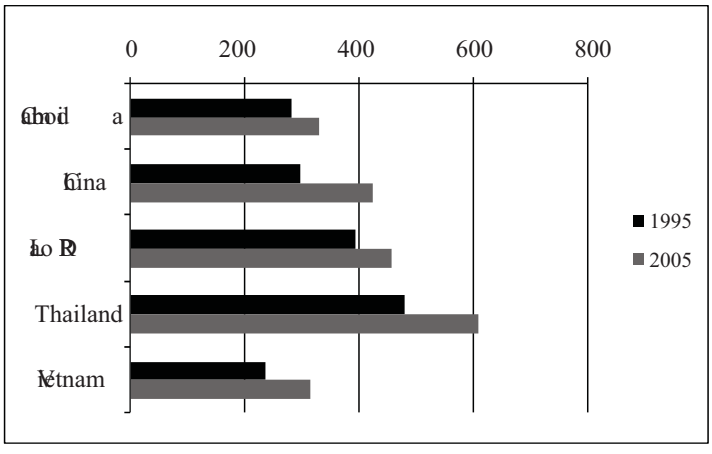
Notwithstanding some periods of decline, aggregate cassava production in Cambodia, China, Thailand and Vietnam (GMS-4) has been rising over time (see Figure 1 for pre-crisis levels). While an increase in cultivation areas accounts in part for this trend, a more notable cause was the improvement in yield. In China, for instance, cassava production increased over 1996–2007 while planting areas shrank. During that period the country posted an estimated 3 percent per year average growth in yield. Similarly, growth of cassava production in Thailand, the world's largest cassava producer, far surpassed the growth of its harvested areas. For 1999–2007, Thailand posted an average growth in yield of 5 percent per year. Another notable cause of

Figure 1: Cassava Production, tonnes



Source: FAOSTAT

Figure 2: Agriculture Value Added Per Worker, constant 2000 USD

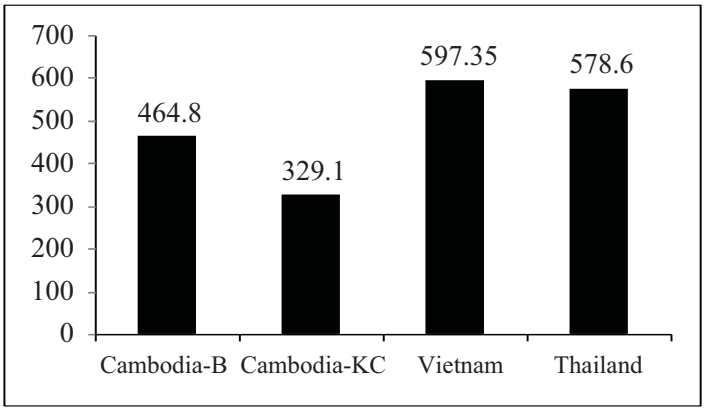


Source: WB (2008)

9 With the exception of the case study on Lao PDR.

the increase in GMS cassava production was an overall improvement in workers' productivity. The estimated increase in agricultural value added per worker between 1995 and 2005 was 28 percent for Thailand (coming from a relatively higher base), 33 percent for Vietnam and 42 percent for China (Figure 2). Thailand is presently the largest cassava exporter in the world, domestic demand for its cassava accounting for only about 25 percent of total production. China is a major net importer, its demand being especially driven by growth in its ethanol industry. Vietnam is similarly a major exporter while Cambodian exports unfortunately lag behind.[10]

Figure 3: Cassava Production Costs, USD/ha



Notes: Cambodia-B and Cambodia-KC stand for Cambodia's Battambang and Kompong Cham provinces respectively, as surveyed and for the period 2007. Production cost for Vietnam was the cost for average cassava production in Tay Ninh province in 2007; that for Thailand was for 2006–07. See the case studies for details.

Cassava is a highly adaptable crop. It is able to grow in diverse climates and soil with low fertility. It is normally planted during the rainy season and harvested 10–12 months after planting to optimise its starch content. Notwithstanding the case-to-case variations, the marketing and trading chains for this commodity generally involve a number of layers and such key players as farmers, collectors, factory agents, local traders, foreign traders, cross-border traders, local processing factories, foreign processing factories and exporters. Despite the relative ease of producing cassava, several constraints more or less common to the GMS-4 have been noted, namely:

- **Increasing production costs.** Agricultural production is labour-intensive, and for reasons such as labour migration, labour costs have shot up. Costs of other inputs such as chemical fertilisers have surged as well due to high inflation. Land rents too have become more expensive.

- Figure 3 compares the production costs in Vietnam, Thailand and Cambodia, as surveyed. Notably, the costs in the surveyed Cambodian provinces were significantly lower than the costs in Vietnam and Thailand.[11]

10 Official statistics on cassava trade may not completely reflect actual trade, as significant informal exchange happens at the borders of GMS countries.

11 This interpretation must be treated cautiously given the differences in reference scenarios (see notes for Figure 3) and possible factors affecting survey results. Refer to the individual case studies for clearer details and explanation of the costs.

- **High cost of credit.** To pay for higher production costs and finance agricultural investments, many cassava farmers have resorted to credit. In Thailand, an estimated 90 percent of cassava-growing households are in debt. However, the main source of their credit is the state-owned Bank for Agriculture and Agricultural Cooperatives, which offers loans at lower rates. By contrast, many Cambodian farmers turn to private moneylenders for loans that come at very high interest (although microfinance institutions have been assuming a greater role in agricultural lending).

- **Insufficient market information.** Information on price movements in regional and global markets has been generally scarce and inaccessible. Hence GMS farmers have been confined to their role as price takers, unable to negotiate the price of their produce, while traders and processors have become price setters and been reaping the better part of the margin. This predicament partly illuminates the imperative of a pro-farmer agricultural development that can bring big gains for poverty reduction.

- **Outmoded planting technology.** Traditional cassava varieties and cultivation methods are still being used by many farmers. There appears to be slow adoption in some cases of high-yielding varieties (which may have lower market prices but entail fewer production requirements) and new cultivation techniques.

- **Demand and supply mismatches.**[12] Supply is yet to catch up with domestic and external demand. In Vietnam a considerable gap exists between the supply of and demand for raw cassava. Of a different nature is the problem in Thailand, where lack of marketing and management planning results in oversupply of cassava around December and February, when most cassava is harvested. This oversupply forces down prices and profits.

- **Poor processing industry.** The value added of cassava remains low. This is one of the chief problems facing Cambodia, whose cassava is mostly exported to Thailand and Vietnam for further processing. High input costs, distance from the centre and lack of official trade support and priority attention are among the factors said to be inhibiting the development of Cambodia's processing industry. In China, although there are more than 300 cassava processing factories, few of them are capable of producing advanced products with higher value added.

- **Poor transport infrastructure and high trade facilitation costs.** Poor condition of the roads heading to processing factories, urban centres or borders pushes up the cost of transport. In Thailand, the underdeveloped state of the rail system poses a huge problem. Transporting cassava in this mode is less costly than the more popular road transport. Quality control and administrative procedures are cumbersome, and the exaction of informal payments at borders continues to be a highly frustrating practice.

On the bright side, there are many opportunities that, with prudent management and appropriate supporting resources, can bring huge gains for cassava production and trade while cushioning against the concomitant costs:

- **Growing demand for bio-fuels.** The shares of bio-fuels in global energy supply and consumption are currently small and appear likely to remain so in the decades immediately ahead. Bio-fuels presently account for a mere 1.9 percent of total bio-energy and 0.9 percent of transport energy consumption. By 2015 and 2030, their share in transport energy consumption is projected to increase only to 2.3 percent and 3.2 percent respectively. While minimal, this expansion nonetheless has significant implications for agriculture. Liquid bio-fuel production, particularly ethanol, uses agricultural commodities such as the

12 This is subject to the effects of the global economic downturn. See Box 1.

common sugar crops and the starchy crops, maize, wheat and cassava. Mounting demand for ethanol, expected to resume despite the global crisis, is expected to raise the prices of these products. One estimate is that the average price of cassava will increase by 11 percent by 2020 as a result of bio-fuel expansion. This impact can very well revive agricultural growth long depressed by low prices (temporarily halted during the food crisis) and encourage greater investment and aid in the sector. However, the opportunity comes with a threat against the food security of the world's poor and environmental sustainability, and it will take certain measures for bio-fuel expansion to coexist amiably with these other pillars of development.[13]

- **Rising Chinese demand.** China's industrial growth is inevitably accompanied by mounting demand for raw materials. Currently, China is the biggest importer of dried cassava in the world. More than 80 percent of the imported dried cassava is used in cassava-based ethanol production. The advantages of cassava are its higher ethanol productivity and higher revenue compared with maize. The gap between the demand for and supply of dried cassava in the country is projected to reach as much as 7–7.5 million tons by 2010. This certainly suggests greater imports. With their membership in the WTO, the ASEAN-China Free Trade Agreement (FTA) and the GMS Programme, the GMS countries stand to fill the supply gap, as they are already doing. The top dried cassava exporter to China is Thailand, followed by Vietnam.

- **Expansion of other forward linkages.** Apart from bio-fuel, expansion is also seen in other downstream industries. In Thailand, cassava demand is anticipated to increase in view of projected bigger orders for cassava chips and expansion in industries such as seasoning and textiles. In Vietnam, some cassava processing factories have been operating at only 60 percent of capacity due to lack of supply. Satisfying this shortage is a pressing need, so much so that some processing factories committed to offer a floor price for cassava.

- **Widening use of high yield varieties.** While many farmers stick with traditional varieties and methods, there has been a widening adoption of high yielding seed varieties in the GMS countries. This is expected to lead to better productivity and output.

One other opportunity relates to the price of cassava, which was growing at an average rate of 12 percent per year prior to the crisis. Greater demand is expected to sustain this trend. However, cassava prices have historically been volatile, and fluctuations have hurt the income of poor farmers the hardest.[14] The sharp drop in cassava prices following the global economic crisis exemplifies this risk (Box 1).

13 See FAO (2008a). As mentioned in this report, bio-fuels' estimated shares of 2.3 percent and 3.2 percent in total transport energy consumption by 2015 and 2030 respectively is by the International Energy Agency (IEA). Meanwhile, the 11 percent increase in cassava price on average by 2020 was an estimate by International Food Policy Research Institute (IFPRI) relative to a baseline scenario. See also Msangi (2008).

14 For discussion of the profit margins received by actors along the value chain, see the individual case studies. Note the differences in the underlying reference scenarios and data sources of the calculations.

Box 1: Impact of the Global Crisis

The commodities boom has ended as a result of the global economic downturn. Cassava and rubber were two commodities hard hit by the crisis, so much so that cassava farmers in Thailand at one point sealed off the country's Ministry of Commerce to demand price support, Cambodian authorities asked cassava farmers to delay harvest and Thailand, Malaysia and Indonesia banded together to seek a global solution to the rubber price crash. Due to sudden cutbacks in demand, prices nosedived and trade contracted, leaving ordinary farmers shocked at how record-high incomes from the previous year can be slashed by half or even more. The average price of cassava flour and starch, which peaked in March 2008, went down by 30 percent six months later, while rubber prices dropped by more than 50 percent in mid-March 2009 from pre-crisis levels. Protectionist policies in response to these developments have worsened the situation for some. Cambodia, for instance, has reportedly been affected by how the Thai government has allowed its businessmen to buy only from Thai farmers and blocked cassava supplies at the border.

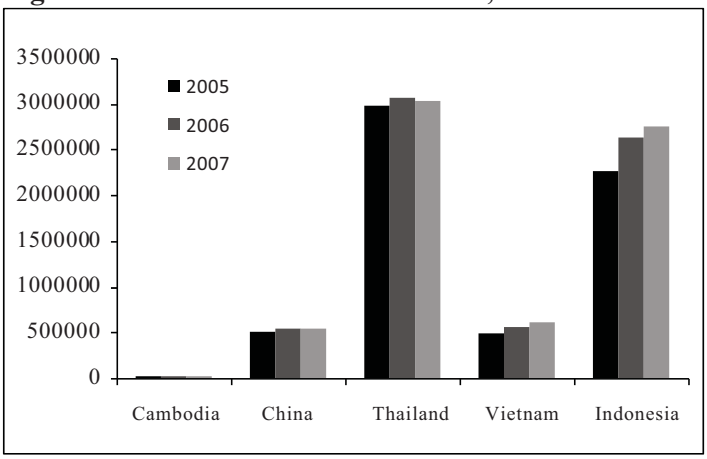
According to the World Bank, recent price trends for agricultural products need to be considered from a longer term perspective, and policy responses need to take into account the cyclical nature of commodity markets. While the 2009 outlook for rubber and cassava remains uncertain, from a longer term perspective there is a silver lining, as indicated by optimistic forecasts of Chinese expansion and demand for bio-energy. Forecasts indicate that China will continue to grow at a high though slower rate. Importantly, the case study on China also points out that the Chinese government has undertaken measures to counter the effects of the crisis, such as increasing the export tax rebate for rubber products. A continued rise in the demand for bio-fuels will also eventually shore up the production, trade and prices of cassava. Furthermore, it must be remembered that prices are driven not only by demand but also by supply constraints. Hence, in the scenario where declining prices depress production and there is no improvement in addressing the structural impediments to production growth, there will be upward pressure on prices, which can eventually prompt production and trade to pick up again.

RUBBER

Thailand, Vietnam and China are the leaders in global rubber production (Figure 4). Thailand has been the world's number one rubber producer since 1991, replacing Indonesia. It has also emerged as the world's largest rubber exporter. Around 90 percent of its rubber is exported; China, Japan, Malaysia and the US are its primary markets. China is among the top rubber producers in the world as well, but it also happens to be the world's number one consumer of rubber. Vietnam is both a major producer and exporter. While Cambodia and Lao PDR have very minimal shares in global rubber production and trade, this commodity is nevertheless a major commercial crop and export earner for Cambodia and holds great promise in the case of Lao PDR due to the interest of foreign investors.[15] Additionally, for all GMS countries,

15 Official statistics on rubber trade may not completely reflect actual trade because significant informal exchange happens at the borders of GMS countries.

Figure 4: Natural Rubber Production, tonnes



Source: FAOSTAT

the labour-intensive rubber sector is a vital source of employment. Growth in GMS rubber production has been attributed to an increase in cultivation areas, the use of high-yield varieties and foreign investment. However, progress in improving yield seems to be mixed and, at least in recent years, has not been as significant or pronounced as that for cassava.[16]

While Thailand has had a notable rise in yield in the past two decades, the growth in China's rubber production was a consequence more of the expansion in cultivation areas, since no significant improvement in yield was recorded over the same period. Rubber production growth in the GMS countries seems to have been largely government-led through such policies as distribution and privatisation of state-owned plantations to both big private companies and smallholders, as well as various forms of state support, including subsidies and credit. In Cambodia, the number of smallholder rubber plantations has soared following the decision of the government to offer parts of state plantations to rubber farmers employed in the government. In China, the private industry has been seen as a driving force in rubber sector development. Compared with state plantations, private rubber enterprises have had more room for development in technology, production and cultivation size. In Lao PDR, the government has identified rubber as a means of elevating the economic status of upland farmers and replacing opium cultivation. Chinese investment in the country's rubber industry has also increased. In Vietnam, about 70 percent of rubber production comes from state farms, or those supported by the government with land, credit and technology. In Thailand, rubber production is dominated by smallholdings that together account for 93 percent of the country's rubber plantations. Thailand's rubber production growth has been traced back to 1960, when the Rubber Replanting Aid Fund was created.

The economic life of a rubber tree can be divided into two: six to seven years in the immature stage and twenty to thirty years in the productive stage.[17] The production costs and profit margins are different for these two stages.[18] In Thailand, the average annual production cost for years one to six was estimated at USD432.60 per hectare and for years seven to twenty

16 See for instance the FAOSTAT data on yield for rubber of the GMS countries in recent years. The yield has significantly improved specifically for Thailand and Vietnam.

17 The length of each stage may vary with weather and soil conditions.

18 Until the rubber trees become productive and are tapped, financial returns mainly come from intercropping with other cash crops or renting the land to other farmers for that purpose.

five at USD797.30 per hectare. The estimated production cost at year seven in Cambodia, excluding land rent, is USD580 per hectare. In Vietnam, the surveyed total production cost (for the whole production cycle) reached USD321.31 per ton of latex. For Lao PDR, the surveyed total cost for year one reached kip 11,980,000 (around USD1,400); for years two to six, kip 16,350,000 (around USD2,000); and for years seven to twenty five, kip 143,610,000 (around USD17,200).[19] Although again with case-to-case variations,[20] the marketing and trading chains for rubber in GMS countries generally consist of farmers, cooperatives, collectors, wholesalers, local traders, foreign traders, processors and exporters.

Like cassava, rubber has its own appeal as agricultural commodity due to its fewer input requirements, long economic life and high market demand. However, also as with cassava, several major constraints and opportunities confront the rubber sector, the interplay of which is bound to shape its future. Among the key challenges more or less commonly identified in the case studies are:

- **Increased production costs.** Costs of inputs have swelled. Labour costs have gone up for reasons such as shortage of labour (because of competition from other agricultural and non-agricultural employments) and a higher cost of living. Together with farmland prices, labour cost in Cambodia has been increasing and is currently USD2–2.50 per day per worker. In Thailand, the prices of fertiliser, rubber varieties and chemicals have gone up as a result of inadequate supplies.

- **Underdeveloped scientific and technological capacity.** This problem was particularly emphasised in the case of China, where low-yield ageing rubber farms are said to account for a significant percentage of the aggregate. Underpinning the problem are outmoded rubber seeding and tapping techniques, lack of adoption of new varieties and insufficient knowledge of the optimum conditions for rubber planting.

- **Adverse weather.** From drought to typhoons, a host of weather conditions challenges rubber production in the Mekong region. China's natural environment is not really suitable for rubber production. The country's top provincial rubber producer, Hainan, is frequently hit by typhoons, while its second major producer, Yunnan, experiences frost during winter. Growth fluctuations in Cambodia's agriculture as a whole have occurred due to droughts, floods and attendant disease and pest outbreaks.

- **Insufficient market information.** Similar to the case of cassava, information on rubber price movements has been scarce. In Lao PDR, such information is said to be virtually non-existent; this makes farmers susceptible to misinformation from traders and unfairly pushes down the price. Again, a pro-farmer agricultural development has to tackle this problem.

- **High cost of logistics.** This problem forces up transaction and export costs along the value chain. Logistics costs in Vietnam account for almost 20 percent of GDP or 50 percent of total export value. In Thailand, these costs are driven up by the inefficiency and inadequacy of train transport and underutilisation of ports.

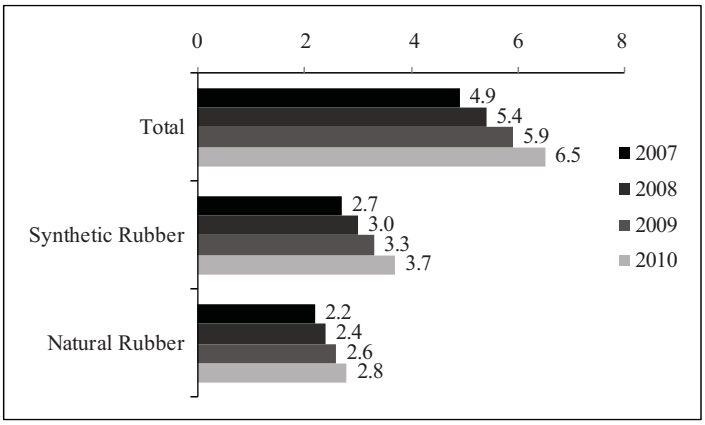
19 There are differences in the underlying reference scenarios and data sources of the calculations. The same is true for the calculations of profit margins. For details and explanations of the calculations and presentations, see the individual case studies.

20 Aside from the variation in the chains of net importers and exporters, there are also variations between Vietnam, whose rubber production is dominated by state farms, and Thailand, whose production is dominated by smallholdings (both noted in the main text). Lao PDR also does not have a processing industry.

Three other constraints, each specified in a particular case study, are also worth mentioning:

- **High informal cost of investment.** In Cambodia, some businesses have raised the problem of unfair competitors who engage in corruption or tax evasion or abuse the weak legal enforcement in the country.
- **Inefficiencies in state farms.** While state farms in Vietnam are superior in economies of scale, credit, technology and human resources, they have been found to suffer from management problems and limited work incentives. These result in inefficiencies and harm the competitiveness of the rubber sector.
- **Below-potential operations of rubber processing factories.** This is a key issue in China. Rubber processing factories in the state farms have an average processing capability of 1600 tons per year, well below the annual rubber production of 10 thousand tons for south-east Asia's main rubber producers.

Figure 5: Chinese Rubber Demand, million tons



Source: China Rubber Industry Association data as presented in the case study on China

Along with the constraints, opportunities exist for rubber production. One particular opportunity—probably the most important for the GMS countries—is the expected continued rise in Chinese demand (Figure 5) even though the global economic crisis may have slowed the pace of expansion. Much of the envisioned increase in world rubber consumption is due to China's economic growth. A strong positive correlation was discovered between China's GDP and natural rubber consumption; GDP growth of 1 percent coincided with a natural rubber consumption growth of 0.9 percent. The China Rubber Industry Association projected that Chinese natural rubber consumption will increase from 2.2 million tons in 2007 to 2.8 million tons by 2010, 3.5 million tons by 2015 and 4.5 million tons by 2020. Factors expected to drive this increase include the development of China's automobile industry, highway transportation and related industries (e.g. coal, electricity, construction) and increased investment in the tyre industry and expansion of rubber exports (subject to easing of trade frictions). Due to limitations in cultivation areas and scale of planting, domestic production will fall well short of meeting the country's rubber demand, so a sizeable opportunity exists for rubber exporters, especially in the GMS. Thailand is already China's top supplier, and Vietnam has some export share although it can potentially be more competitive than non-GMS exporters. Unfortunately, the exports of Cambodia and Lao PDR are negligible. The latter two countries will have to upgrade their rubber processing and seize the benefits available under the ASEAN-China FTA, the ASEAN protocol on rubber, WTO membership and the GMS Programme.

The expected upward pressure on rubber prices due to rising demand may be taken as an opportunity. However, like cassava prices, rubber prices have historically been very volatile, imposing a huge burden, especially on farmers, when they abruptly decline. The global financial crisis again demonstrated this volatility.

CONCLUSIONS AND POLICY RECOMMENDATIONS

All GMS governments have situated agriculture at the centre of their official strategies and plans because of the central role that this sector plays in employment and poverty reduction. While opportunities appear to remain despite the global economic downturn, existing and anticipated constraints on cassava and rubber production and trade have to be dealt with if these two commodities are to reach their maximum potential.

Given the variations in their cassava and rubber sectors, there is no one-size-fits-all solution for all GMS countries. It must also be kept in mind that the GMS countries are competitors in world rubber and cassava markets. However, it is also true that the countries are confronted with common problems and that the individual development of their cassava and rubber sectors relies on cross-border links, both regional infrastructure and information exchange. China is by itself a major force for GMS partnership and coordination. National and regional policies must complement one another to capture the available opportunities and remove the constraints.

The case studies have advanced insightful policy recommendations that take in the above goals. These proposals resonate with the GMS Programme on agriculture. Key among them are:

- **Knowledge, skills and technology transfer.** It has been pointed out that one factor underpinning the "productivity and profitability gap" is the "information and skills gap".[21] Technological gaps can be added to this, and there is a capacity gap that largely explains the divergence in agricultural performance in the GMS and the world. Several common problems mentioned in the previous discussion constitute this gap. Addressing it entails such measures as: improving agricultural extension services of training, technical advice and/or promotion of better varieties; improving the Agriculture Information Network Service and developing other information exchange systems; increasing R&D; and investing more in transfer of knowledge and technology pertaining to crop management, agricultural biotechnology and other innovations. Because of economies of scale, these measures can be more fruitfully undertaken in the framework of public-private partnerships or regional cooperation. Already, the GMS Programme under its Core Agricultural Support Programme 2006–10 has accommodated most of these measures in its strategies. Whether or not such frameworks exist, public investments must be made in support of such actions.

- **Improved infrastructure for improved trade.** Investments under the GMS Programme have chiefly been funnelled towards the improvement of physical infrastructure. Poor road conditions, underdeveloped rail transport and high logistics costs underscore the significance of this component. Greater public investment in infrastructure must remain a priority, as it already is in the GMS countries. Facilitating external investment through the GMS Programme for instance is undoubtedly productive because it distributes the financial and management burdens.

21 WB (2007).

- **Lower trade facilitation costs.** Probably the first step towards fulfilling this objective is greater harmonisation of quality control standards. This will reduce the cumbersomeness of inspection and clearance. In Vietnam, it was suggested that there should be a mutual recognition agreement on product standards. However, an equal if not greater challenge to lowering formal trade facilitation costs is lowering informal costs. The solution to this ranges from greater computerisation of systems to weeding out corrupt officials.

- **Increased value added.** This objective requires such measures as better promotion of industrial forward linkages. Farms will have to be better linked with firms in the value chain while they are simultaneously supported in becoming lucrative agribusinesses and downstream industries are made more competitive through such policies as consolidation. There are other specific means such as the proposed promotion of rubber wood in Thailand and China as a way of increasing value added.

- **Support for smallholders.** With globalisation and liberalisation dominating the workings of cassava and rubber markets, there is a real threat to the survival of smallholders. GMS governments need to make sure that their priority is attending to the needs of both big commercial producers and smallholders. Fortunately, GMS governments seem not to have lost sight of this, perhaps because in some cases smallholdings have a significant share in rubber or cassava production. The GMS Programme on agriculture also has acknowledged the imperative of greater engagement with smallholders. Beyond acknowledging and planning however, more action is needed to ensure state support. Assistance can range from securing land rights and promoting microfinance to improving rural infrastructure and enhancing seed and fertiliser market and distribution systems.

- **Diversification of markets.** Current production and export strategies appear to be directed mainly to expanding niches in China. While this is justifiable because of China's prospective demand for rubber and cassava, the potential in minor and new markets should not be discounted.

There are three caveats that must be kept in mind when considering the above recommendations. The first, earlier alluded to, is that there is no one-size-fits-all solution to the challenges faced by GMS countries. A "best fit" approach complemented by a regional approach is bound to result in bigger gains. It was also mentioned above that the GMS countries are competitors in the global cassava and rubber markets. This leads to the second caveat, which is the need to promote "complementary development" in the Mekong region. The GMS countries must exploit opportunities in the spheres where they have comparative advantage. The last caveat relates to the observation that agricultural development does not have an automatic effect on poverty reduction. In the case of the GMS countries, where the majority of the rural poor are farmers, it is crucial to raise the questions: "Is the envisioned agricultural development pro-poor, pro-farmer?", "Do national and regional policies take into account this important caveat?" A pro-farmer agricultural development would lead to policy choices that grant priority to smallholder engagement, rural infrastructure and grassroots dissemination of market information, among others. If cassava and rubber are to become the future of agricultural production and trade for GMS countries, the above policy recommendations and caveats must be taken to heart.

REFERENCES

Asian Development Bank (ADB) (2009), http://www.adb.org/GMS/ Last accessed 7 April

___ (2008a), *Summary of Proceedings of the Fifth Meeting of GMS Working Group on Agriculture,* held in Lao PDR, 22–24 September (Manila: ADB), http://www.adb.org/Documents/Events/2008/WGA5-Meeting/Summary-of-Proceedings.pdf Last accessed 7 April 2009

___ (2008b), *Key Indicators for Asia and the Pacific 2008* (Manila: ADB)

___ (2007), *Strategic Framework for Subregional Cooperation in Agriculture* (Manila: ADB), draft available at http://www.adb.org/Documents/Events/2007/14th-Ministerial-Conference/Strat-Framework-CASP-April07.pdf Last accessed 7 April 2009

Chun, S. (2009), "Falling Rubber Prices Hit Cambodian Plantations", *Phnom Penh Post*, 19 March, www.phnompenhpost.com/index.php/2009031924864/Business/Falling-rubber-prices-hit-Cambodian-plantations.html Last accessed 7 April 2009

Food and Agriculture Organisation (FAO), FAOSTAT, http://faostat.fao.org/site/567/default.aspx#ancor. Last accessed 7 April 2009

___(2008a), *The State of Food and Agriculture—Biofuels: Prospects, Risks and Opportunities* (Rome: FAO)

___ (2008b), *Food Outlook,* (Rome: FAO), ftp://ftp.fao.org/docrep/fao/011/ai474e/ai474e00.pdf Last accessed 7 April 2009

IMF (2009). *IMF Country Report No. 09/48 (Cambodia Statistical Appendix)* (Washington, DC: IMF)

___ (2009), "Indonesia, Malaysia, Thailand Seeking Solution to Global Rubber Price Drop", *Asia Daily News Online,* 19 February*,* http://english.siamdailynews.com/asia-news/southeastern-asia-news/malaysia-news/indonesia-malaysia-thailand-seeking-solution-to-global-rubber-price-drop.html Last accessed 7 April 2009

Khouth, S. (2.009), "Cassava Exports Increased This Year Despite Blockade",. *Phnom Penh Post,* 5 March, http://www.phnompenhpost.com/index.php/2009030524585/Business/Cassava-exports-increased-this-year-despite-blockade-official.html Last accessed 7 April 2009

Msangi, S. (2008). *Bio-fuels, Food Prices and Food Security*. Presentation at the Expert Meeting on Global Fuel and Food Security, FAO, Rome, 18-20 February 2008, http://www.fao.org/fileadmin/user_upload/foodclimate/presentations/EM56/Msangi.pdf Last accessed 7 April 2009

Oxfam Australia (2008), *A Citizen's Guide to the Greater Mekong Sub-region* (Melbourne: Oxfam Australia)

Pratruangkrai, P. (2009), "Cassava Farmers Besiege Commerce Ministry", *Nation,* 3 March, http://www.nationmultimedia.com/2009/03/03/business/business_30097037.php. Last accessed 7 April 2009

Thet S. & Nguon S. (2009), "Cassava Farmers Advised to Delay Harvest",. *Phnom Penh Post,* 3 March, http://www.phnompenhpost.com/index.php/2009030324520/Business/Cassava-farmers-advised-to-delay-harvest.html Last accessed 7 April 2009

World Bank (WB) (2007) *Agriculture for Development* (Washington, DC: World Bank)

___ (2008), *World Development Indicators CD-ROM* (Washington, DC: World Bank)

CDRI Working Papers

1) Kannan, K.P. (November 1995), *Construction of a Consumer Price Index for Cambodia: A Review of Current Practices and Suggestions for Improvement*.

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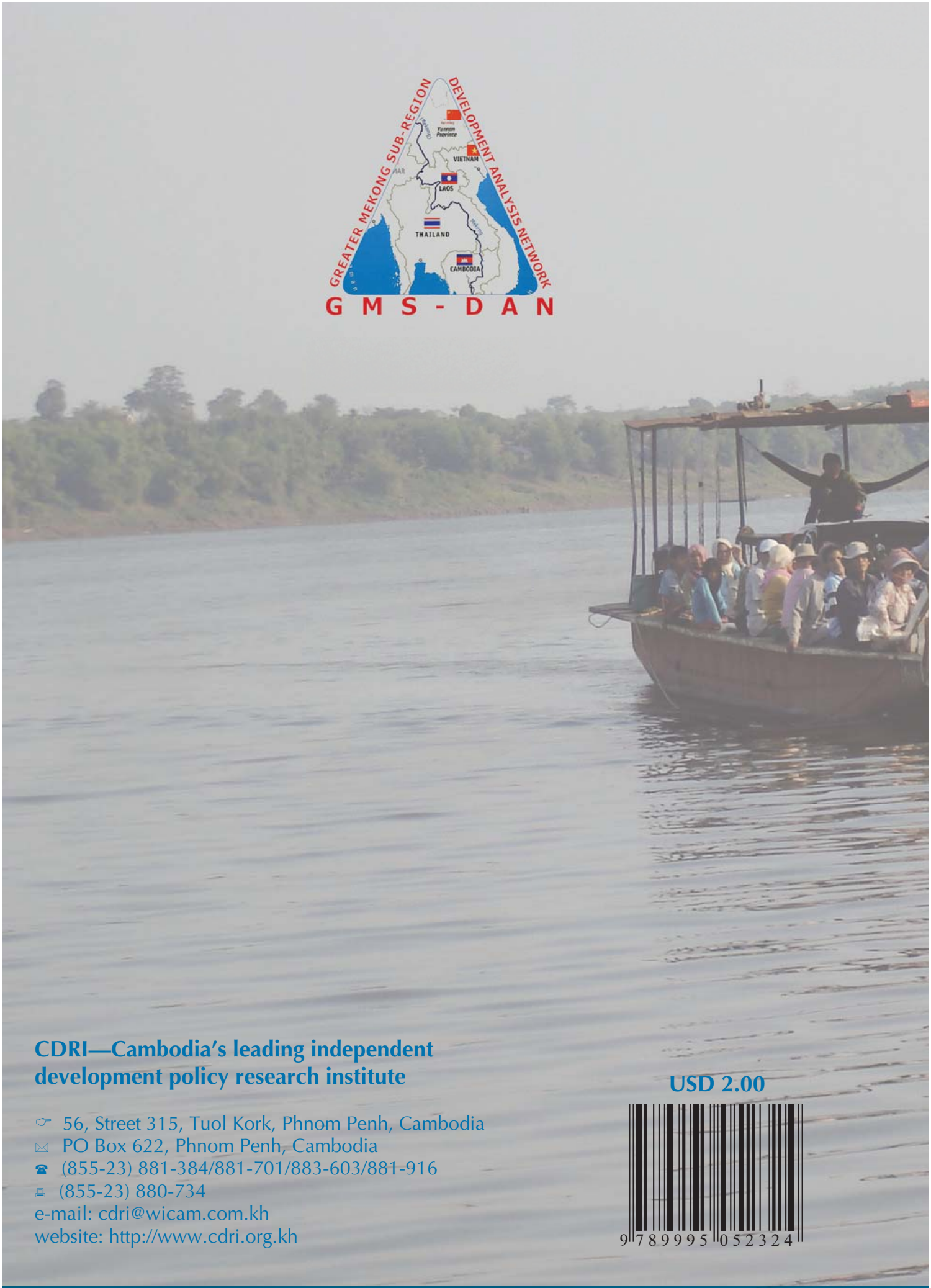

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