

AGRIBUSINESS SOLUTIONS FOR RURAL DEVELOPMENT IN CAMBODIA

RESULTS FROM AN AGRICULTURAL SECTOR SURVEY

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For Build Cambodia | www.buildcambodia.org
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EXECUTIVE SUMMARY:

In May 2007, Build Cambodia commissioned a survey of Cambodia's agricultural sector to determine areas for investment that would benefit rural economic development. The research questions were: What is the state of agriculture in Cambodia and how will agriculture likely develop? What are the threats and constraints to growth? Do agro-entrepreneurs need support? If so, what are current developments in agribusiness and how do they help rural development? Which commodity value chains might promise future growth and positive development impacts in rural areas?

Interviews conducted between May 24 and July 12, 2007 with stakeholders in Cambodia's agricultural sector and a review of the literature reveal that the major threats to rural development in Cambodia are land speculation, widespread corruption, an uncertain legal environment, climatic conditions, pests and competition from exports. The main constraints are the limited knowledge of farmers and agro-entrepreneurs, the high cost of capital, poor or inexistent infrastructure, inadequate government intervention, highly fragmented supply chains and the absence of affordable energy. These constraints are behind the agricultural sector's lagging growth and the dearth of processing and value adding done domestically.

Regardless of the development path Cambodia will take, agriculture, which employs 60% of the population, will very likely become more business-oriented than it now is. Save for a handful with strong links to high-ranking government officials, most agro-entrepreneurs are currently struggling to establish themselves. This paper therefore argues for increased support to agro-entrepreneurs by government, banks, the business community and private individuals. The reasons are that (1) investing in agribusiness is a "safe bet", (2) providing affordable capital to agro-entrepreneurs overcomes current market failures, (3) agribusiness creates strongly needed employment opportunities, and (4) agro-industry is a natural progression from the current state of the economy and therefore requires few restructuring costs.

Promising current initiatives include organic rice production, the year-round production of fruits and vegetables for high end markets, organic cashew roasting and soymilk production. Future growth in agriculture will likely be driven by the development of local processing through the support of value chains in commodities for which there is a market domestically and internationally. Commodities that have the potential to create significant employment opportunities and positive rural development impacts include coconut, soybean, cattle, fruit trees, peanuts and the development of jatropha-based bio-diesel.

I. INTRODUCTION:¹

While Cambodia's economy has been growing at an impressive rate in recent years with 11% growth in GDP per capita in 2005, it remains one of the poorest countries in the world (ranked 133rd in 2006) with nominal per capita income at as low as \$472 US in 2006.² 35% of Cambodians live under the national poverty line - set at only 0.59\$ US for residents of Phnom Penh and even lower elsewhere.³

While approximately 80% of Cambodia's population is rural, this is starting to change as people are seeking a more prosperous livelihood. The manufacturing sector emerged at a propitious time in the mid-1990s, providing increased employment opportunities for Cambodia's growing population, struggling to find enough employment in rural areas to help pay for an increased standard of living. Since then, rural-to-urban migration has been on the rise. According to the National Institute of Statistics' census of 1998, 881,400 Cambodians (or 6.3% of the population) had moved from a rural area within the five years preceding the census. This was up from 634,600 in 1996.⁴ Youth, young adults and, most significantly women (who are coming to work in the garment manufacturing industry) are disproportionately represented among migrants, which come mainly from labor surplus provinces with low land-to-population ratios (such as Kompong Cham, Prey Veng, Kandal and Takeo), to resource rich areas to find employment (the top destination being Phnom Penh).⁵

The employment boom generated by the garment manufacturing sector has driven many workers away from farming. Indeed, the share of workers in agriculture has decreased dramatically, declining by 20 percentage points in the space of six years. From employing 78% of the total work force in 1998, agriculture employed only 70% in 2001 and only 60% in 2004.⁶ While data indicating that labor prices went up in rural areas is not available, farmers have indicated in interviews that this is the case. Whether these observations are true or not, it is widely known that wages in garment manufacturing are relatively high and attract workers from the countryside. The 2004 Cambodia Investment Climate study indicated that "in part due to international agreements designed to qualify Cambodia for import quotas in the US market, wage rates are artificially high in the garments sector."⁷ Meanwhile, the price of urea fertilizer almost tripled between 2000 and 2005 and fuel prices increased alongside world prices. According to World Bank figures, "average oil and diesel prices in Cambodia grew by 19.3 percent and 26.8 percent, respectively, in June 2005 as compared to June 2004."⁸ With diesel

¹ I would like to thank Tim Purcell and John H. Young for their valuable comments on an earlier draft of this report. All tables and graphs, unless otherwise indicated, have been constructed using data from the World Development Indicators 2007 database.

² The Economist Intelligence Unit, 2007.

³ World Bank 2006 poverty assessment of Cambodia

⁴ Cited in Sarthi Acharya, "Labour Migration in the Transitional Economies of South-East Asia", Working Paper published by United Nations Economic and Social Commission for Asia and the Pacific, available online <<http://www.unescap.org/esid/psis/population/workingpapers/LabourMigration/index.asp>>, accessed July 1, 2007

⁵ Ibid.

⁶ WDI Online, World Bank Group, 2007.

⁷ "Seizing the Global Opportunity: Investment Climate Assessment and Reform Strategy for Cambodia", Prepared for the Royal Cambodian Government by the World Bank Group, Phnom Penh: June 2004. p. 103.

⁸ "East Asia Update - Cambodia Overview", The World Bank: November 2005, available on-line at <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/EXTEAPHALFYE>

being widely used in agriculture, for land preparation and transportation, this represented a significant rise in costs for farmers.

Suddenly, the average Cambodian family's cost of farming increased while revenues more-or-less remained the same. Meanwhile, land speculation drove property values up, helping drive the impoverished farmer away from their traditional farmlands in search for other land⁹ or work in the cities. These are telltale signs of an economy progressing along the path of development. Assuming that agriculture will remain an important sector of the economy, there are two major ways in which rural development can be played out. The first is a move to large-scale, commercial farming where the average farm has thousands of hectares of land. The second is agricultural growth fuelled by development based on economically efficient small farms. Naturally, there can be combinations of the two forms of agricultural development in non-competing commodities. David Dapice, Thomas J. Vallely, and Ben Wilkinson argue that the degree to which large-scale farming will characterize the Cambodian rural landscape will depend largely on what happens to oil exploration and extraction activities and how the revenue of these efforts will be used:

“Cambodia is poised to earn significant revenue from oil and natural gas. (...) Natural resource revenue will make it possible to provide better infrastructure, education, and services. There will also be many temptations to use the windfall for personal gain. If the latter tendency were to predominate, it is likely that land speculation would increase and more farmers would lose their land. High costs would depress many kinds of local production and the society would then grow more unequal and unstable.”¹⁰

Regardless of the course development will take, the Cambodian farmer needs to adapt to the changing economic environment. Among the different possibilities for adapting, the farmer can increase the size of land under cultivation, move into higher value commodity or livestock production, add value through processing, or engage in more lucrative non-agricultural activities.¹¹ Cambodia's farmers are therefore best served if they are encouraged and assisted (where there are market and/or government failures) to make these adjustments.

ARLYUPDATE/0,,contentMDK:20708459~menuPK:550232~pagePK:64168445~piPK:64168309~theSitePK:550226,00.html, accessed July 15, 2007.

⁹ According to informants, farmers who have sold their land and who often do not know how to do anything else other than farming, cut down trees in remote areas to start new farms on previously unfarmed land. As a result, land speculation and de-forestation are linked.

¹⁰ By David Dapice, Thomas J. Vallely, and Ben Wilkinson, “Raising Rural Incomes in Cambodia: Beyond Sectoral Policy, Towards a Framework for Growth,” paper prepared for the 2007 Cambodia Economic Forum, February 2007, p. 19.

¹¹ Peter B. R. Hazell, “Is there a future for small farms?”, *Agricultural Economics*, Volume 32, Issue 1, 2005, p. 95.

I.I. Purpose of Research

Build Cambodia is a “U.S.-based nonprofit and nonpartisan organization dedicated to building the capacity of Cambodian society by expanding awareness, exposure and commitment to Cambodia.”¹² Build Cambodia currently supports initiatives related to improving health and education in Cambodia. In January 2007, Build Cambodia wished to expand the scope of its activities to support agricultural development in Cambodia. In May it therefore commissioned a study of the sector. The main research questions were:

- What is the state of agriculture in Cambodia and how will agriculture likely develop?
- What are the threats and constraints to growth?
- Do agro-entrepreneurs need support?
- If so, what are current developments in agribusiness¹³ and how do they help rural development?
- Which commodity value chains might promise future growth and positive development impacts in rural areas?

I.II. Methodology

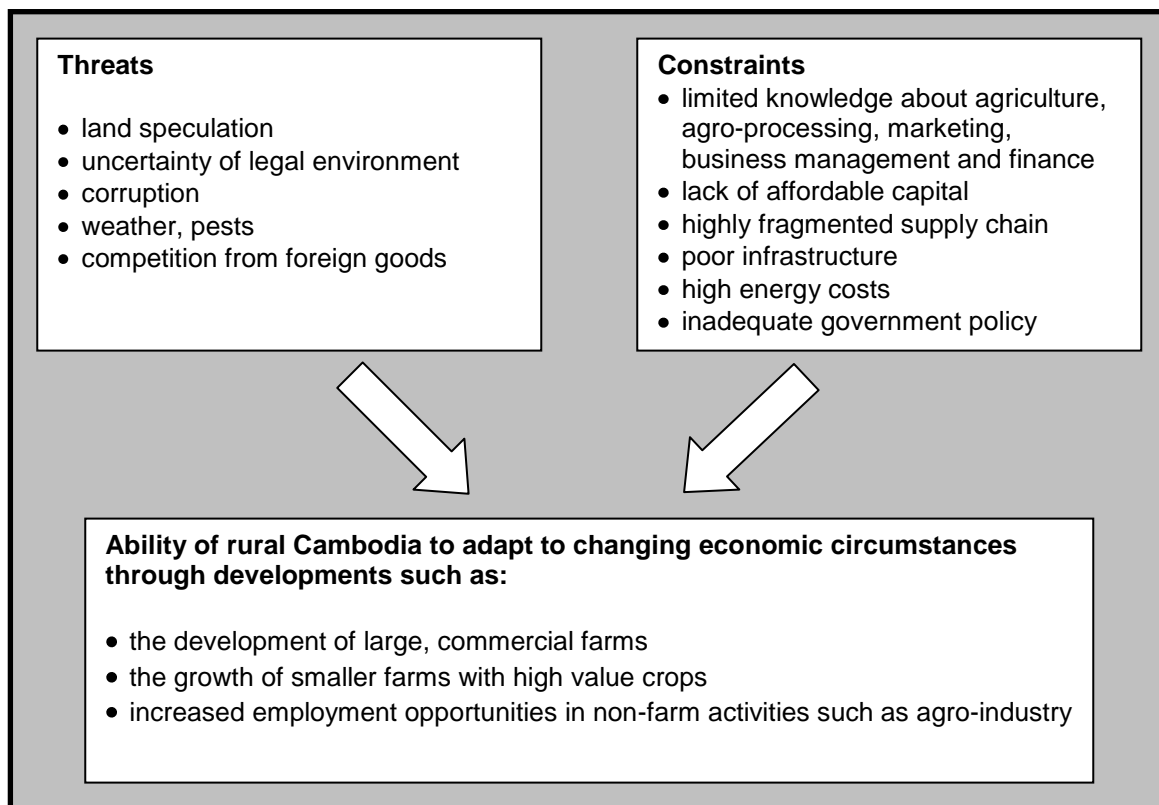
In May 2007, a macro-level analysis of the agricultural sector was conducted prior to field work in Cambodia. The field work period lasted from May 24 to July 12, 2007, with more than 50 interviews held with informants from across the sector and 9 case studies conducted in an attempt to answer the abovementioned questions. The list of interviews and case studies is available in Appendix I and II at the end of this report. Secondary research was conducted in parallel to supplement and confirm the fieldwork’s findings.

I.III. Main Findings

Primary and secondary sources confirmed that the exact direction for agricultural development is still unknown but the most likely scenarios include (1) the development of large commercial farms, (2) the growth of smaller farms with high value crops and (3) a rising number of farmers and people in rural areas seeking employment to supplement their farm income. The main threats to rural development and the average Cambodian family’s prosperity are land speculation, high levels of corruption, an uncertain legal and climactic environment and competition from foreign goods (the latter being more of a challenge than a threat). The most important constraints that are currently impeding the adjustment of farmers to the changing environment are limited knowledge, a lack of affordable capital, poor infrastructure, a highly fragmented supply chain, high energy costs and inadequate government intervention. The following diagram presents this relationship:

¹² From www.buildcambodia.org.

¹³ According to *Wikipedia*, “Agribusiness is a generic term that refers to the various businesses involved in food production, including farming, seed supply, agrichemicals, farm machinery, wholesale and distribution, processing, marketing, and retail sales.” With respect to farming, agribusiness in this report is used to refer to small- and large-scale farms that are run as businesses.



This paper argues that by overcoming these constraints and threats through active government intervention and NGO and private sector support, Cambodia’s rural population will be better prepared to undergo the economic transition. Through such efforts, growth in the agricultural sector, which has been lagging behind GDP growth, can be stimulated. In addition, such intervention can be conducive to the establishment of increased agribusiness activities, which can create significant employment opportunities and be drivers for economic prosperity in rural areas.

This paper makes the case for increased support to agro-entrepreneurs through the form of affordable capital. These entrepreneurs currently face high costs for borrowing, the lowest rates being at around 10% per year, and are underserved by current development efforts. These focus mainly, and rightly so, on the poorest elements of society and on providing technical assistance.¹⁴ Regardless of the development path Cambodia will take, agriculture, which employs 60% of the population, will very likely become more business-oriented than it now is. Save for a handful with strong links to high-ranking government officials, most agro-entrepreneurs are currently struggling to establish themselves. This paper therefore argues for increased support to agro-entrepreneurs by government, banks, the business community and private individuals. The reasons are that (1) investing in agribusiness is a “safe bet”, (2) providing affordable capital to agro-entrepreneurs overcomes current market failures, (3) agribusiness creates strongly needed employment opportunities, and (4) agro-industry is a natural progression from the current state of the economy and therefore requires few restructuring costs.

¹⁴ It should be noted that AUSAID, CIDA, GTZ, NZAID and USAID are all starting to support efforts to encourage small business development and entrepreneurship in agriculture but are limited to providing technical assistance. Only one NGO appears to be working with entrepreneurs (IDE).

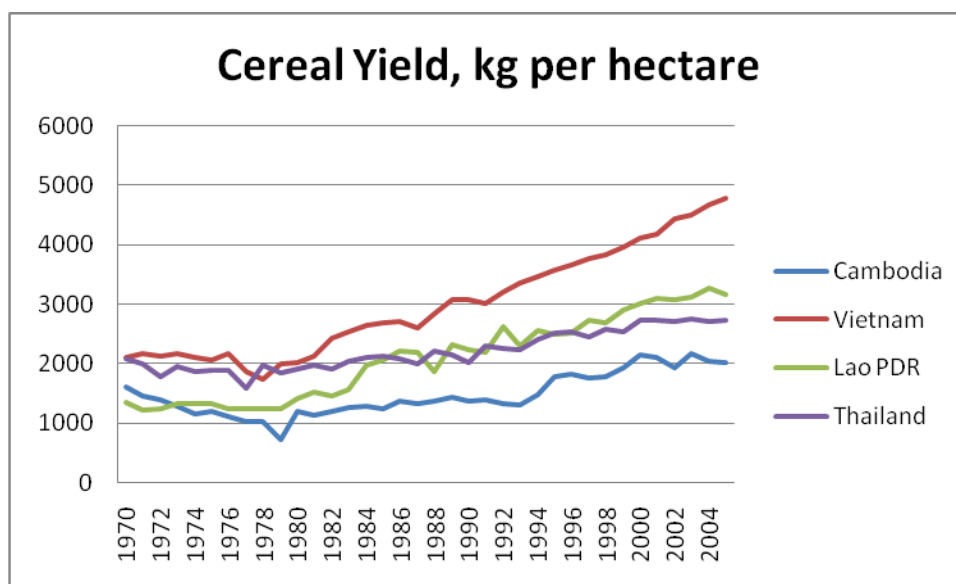
Promising current initiatives include organic rice production, the year-round production of fruits and vegetables for high end markets, organic cashew roasting and soymilk production. Future growth in agriculture will likely be driven by the development of local processing through the support of value chains in commodities for which there is a market domestically and internationally. Commodities that have the potential to create significant employment opportunities and positive rural development impacts include coconut, soybean, cattle, fruit trees, peanuts and the development of jatropha-based bio-diesel.

This paper will first outline the threats and constraints in the agricultural sector and provide recommendations to overcome them, proposing NGO, private sector and government interventions. The second section describes the current state of agribusiness in Cambodia, which is in its infant stages. This section makes the case for investing in agri-business since doing so can have positive rural development outcomes. The final section of the paper provides a laundry list of promising agribusiness initiatives that are either currently underway or can be future endeavors. These agribusiness developments should be driven through the provision of affordable capital and efforts directed along the entire supply chain of a specific commodity, since this will help overcome the adverse effects of the high degree of fragmentation in the sector.

II. OVERCOMING THREATS AND CONSTRAINTS TO AGRICULTURAL DEVELOPMENT

II.I. Knowledge

Despite being a largely agricultural-based economy, lack of cropping know-how is still common in Cambodia. Field interviews revealed that farmers who had learned about proper seedbed preparation, growing techniques as well as better seed varieties were getting yields as high as 7 kg per hectare whereas others who were using their own seed from year to year and were only broadcasting it¹⁵ were getting yields of around 1.2 kg per hectare. The lack of knowledge is also contributing to the gradual depletion of soil nutrients as generations of farmers failed to replenish them with fertilizers or compost. As a result, cereal (rice) yields are well below the regional level, as depicted by the following graph:

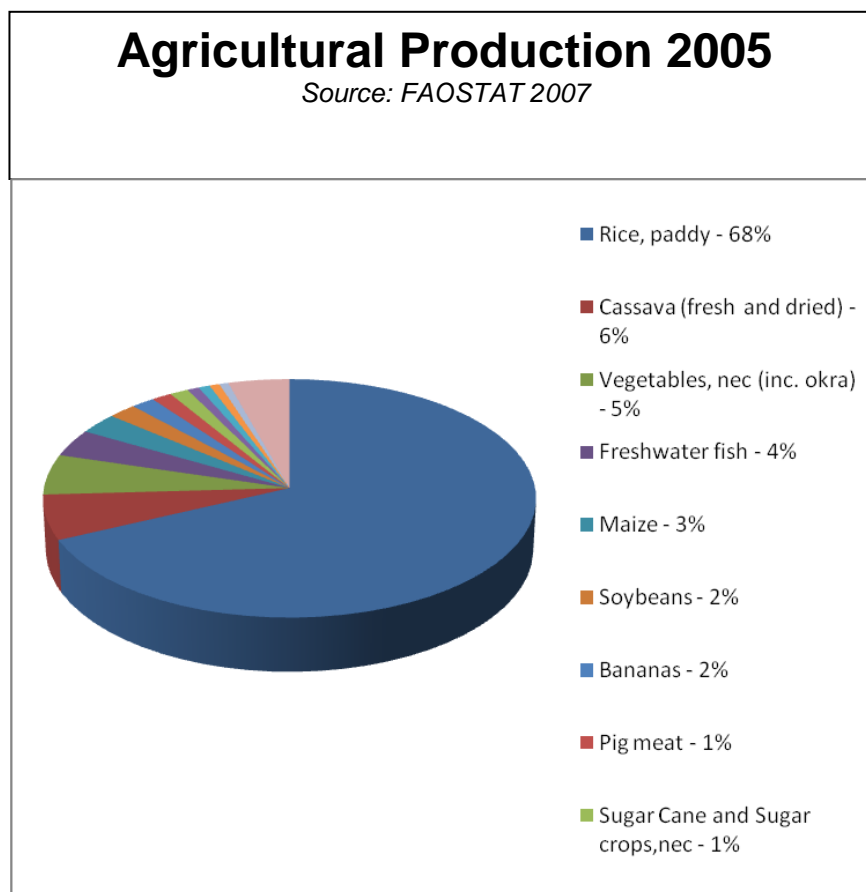


Insufficient knowledge is also a major contributor to the rigidity in crop selection in Cambodia and rice still being the main crop despite erratic rainfall.¹⁶ When examining total agricultural production in Cambodia in 2005, which was at 8,800 thousand tons, rice made up 68% of production, with cassava in second place at 6%. One would think that the importance of rice cultivation in Cambodia would be a testament to the crop’s high earning potential. However, a study of the rice value chain conducted in 2002 found that “[g]ross [m]argins for rice production are around US\$50 per hectare when the opportunity cost of family labor is taken into consideration and around \$150 per hectare when family labor cost is ignored.”¹⁷ With the average farm size being 1 ha in Cambodia, this indeed represents very little income.

¹⁵ As opposed to transplanting it, which can ensure higher yields.

¹⁶ Lim Visal, Cambodia Agriculture Development Report, Economic Institute of Cambodia, Phnom Penh: June 2006, p. 9.

¹⁷ Agrifood Consulting International, “Rice Value Chain Study: Cambodia”, A report prepared for the World Bank, Phnom Penh: September 2002, p.45.



Lack of diversification in agricultural production in items other than rice is also contributing to inadequate supply of other agricultural products. Most strikingly, the vegetable and fruit supply is having trouble meeting demand, with as many as 48% of Cambodia’s fruits and vegetables being imported.¹⁸ Encouraging diversification into income sources other than rice production is therefore a first step to helping increase rural incomes.

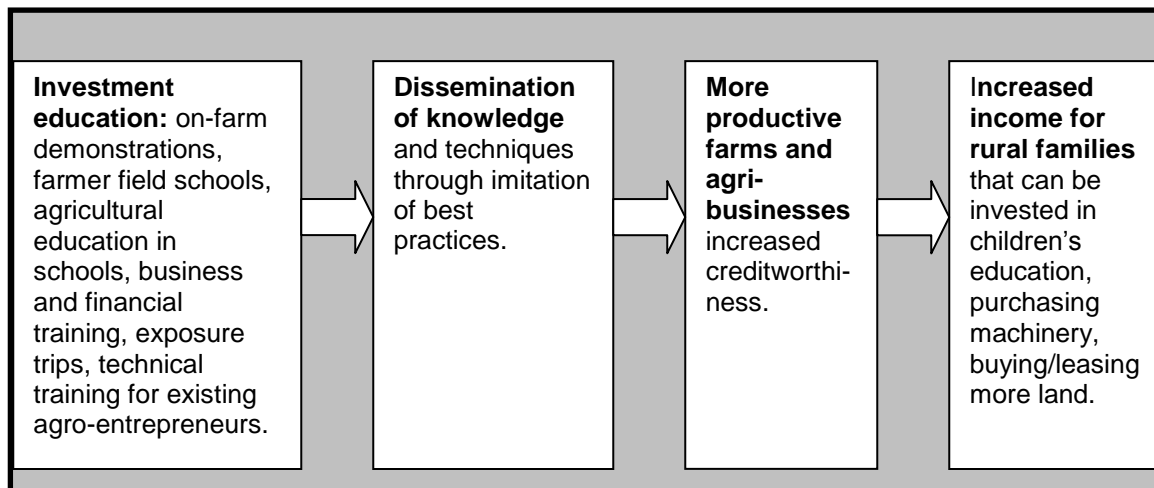
Recommendation 1: Encouraging crop diversification and dissemination of agricultural know-how through demonstrations

It is critical that Cambodia’s farmers and their children learn about agricultural techniques that can yield a higher income on existing plots of land. Farmers interviewed over the course of this fieldwork all commented that they wanted to receive more knowledge about agricultural techniques (particularly those who had not yet been targeted by any NGO). While anecdotal information showed that some schools are beginning to offer basic agricultural knowledge in schools, a survey of current university students revealed that most Cambodian children are not provided with any knowledge about agricultural techniques and agro-science in primary school.¹⁹

The potential impact of knowledge dissemination, acquisition and implementation is described in the following diagram:

¹⁸ Ibid., p. 18.

¹⁹ Informal survey of 35 university students living at The Harpswell Foundation dormitory in Phnom Penh, coming from provinces across Cambodia.



According to several experts on training farmers²⁰, one of the best ways to disseminate knowledge to have an impact on farming activities is through demonstrations plots, model storage facilities and livestock growing on existing farmers' land. Knowledge dissemination should include information on moisture conservation,²¹ managing the soil's nutrients, land preparation, agricultural production possibilities, harvesting techniques, storage techniques, livestock health and nutrition and fisheries (fish ponds). Attention and care must be given to proper delivery of demonstrations.

Farmers would be best served by demonstration plots that show them how to (1) improve existing crop productivity (mainly rice) and (2) diversify into higher value agricultural activities. A list of higher value activities to provide demonstrations on is provided in the opportunities section below. Anecdotal information has also suggested that poor growing techniques used by farmers with lots of land have been creating misleading examples for smallholder farmers. As a result, demonstrations should not only be aimed at small farmers but also at large farmers.

Most agricultural NGOs interviewed were engaged in cultivating demonstration plots²². Such efforts are essential to helping the average farmer gradually increase family income and should be supported. Interviews conducted with farmers who have *not* been subject to any NGO intervention efforts revealed they had lower yields than farmers who had been trained by NGOs. Clearly, knowledge dissemination through demonstration plots has an impact on farm productivity and income.

Government efforts in this area especially need to be stepped up. While extension officers hold farmer field schools, whereby a "model farmer" shows his plot and growing techniques to farmers in surrounding areas, more extension efforts and in particular the hiring and training of more extension officers is required. Currently, government-provided agricultural extension services are not widely available to help farmers improve crop production and yields. There are only 500 agricultural extension officers to help more than two million rural households in

²⁰ Officials from AUSAID, CEDAC and CARDI.

²¹ Moisture conservation education is *essential* in Cambodia where rainfall is erratic and there is limited irrigation.

²² CEDAC, CRDT, ADA, ADRA, Partners for Development, Buddhism for Development.

Cambodia resulting in only one extension officer for every 4,000 households in comparison to one for every 1,340 in Vietnam.²³ In a recent interview, an official from the Ministry of Rural Development also stated that only 50% of districts in Cambodia had agricultural extension officers. The government plays an instrumental role in expanding the network of extension officers in Cambodia and should be encouraged to do so.

Recommendation 2: Offering business management & financial training for farmers for a small fee

Currently, most farmers run their farms not as businesses but as operations to fulfill household food consumption needs. If Cambodians wish to increase their wealth on their farms, they will need to begin running the farm more as a business. This involves learning about accounting for all the costs of inputs, the hours of labor used, the value of the output generated to see how better to utilize their mix of inputs to generate higher income. High wages that lured ethnic Cambodians to professions such as teaching and medicine throughout the 1950s, 60s and early 70s made it such that business knowledge in Cambodia is mainly concentrated among minority Chinese and Vietnamese populations. The relative success of these “ethnic” entrepreneurs helps deepen social divisions between the ethnic Khmer population and these minorities.

It is often said that if you charge a price for something, people will begin thinking the item has some intrinsic value and will be compelled to acquire it. The condom campaign in Cambodia by PSI is a case in point: condoms were first distributed free-of-charge but were hardly being demanded. Once a small fee was charged for them, condoms then bore an intrinsic value and all of a sudden demand for them increased. With business training for farmers, a similar scheme can be adopted. One USAID-funded project²⁴ is currently designing simple business training modules that will be given through Maharishi Vedic University (MVU) for a small fee.

Marketing training for food processors is also needed. A survey of Cambodia manufactured agricultural products conducted throughout this study revealed that packaging designs are of poor quality, making the product less appealing to consumers. One way to deliver such business and marketing training is to involve university graduates from economics and business to come and do internships.²⁵ Such training programs should also be directed towards farmers who need help with budgeting and drawing up business plans for their stores.

Family book-keeping should also be encouraged as planning for the future is not yet a pervasive practice in Cambodia. History is much to blame for this with years of changing regimes and repressive practices that impoverished the nation, forcing a population to be concerned about fulfilling immediate needs. A survey of university students revealed that no such training is currently provided in schools.

Recommendation 3: Public information campaigns and introduction of agricultural curriculum in schools.

²³ Lim Visal, Cambodia Agriculture Development Report, Economic Institute of Cambodia, Phnom Penh: June 2006, p. ix.

²⁴ Implemented by Development Alternatives Inc.

²⁵ Buddhism for Development is currently exploring this idea.

Knowledge dissemination is a slow and gradual process. However, if messages are reinforced at many levels by many different people, there is a greater chance of them being adopted by the population. An aggressive public education campaign with simple messages on improved farming techniques can help complement individual NGO, aid agencies, university and government extension efforts. While a CIDA-funded project is currently being planned with the Ministry of Agriculture, Forestry and Fisheries (MAFF) to disseminate price information on the radio, through leaflets and via SMS to farmers, it is not yet known whether the initiative would also include the broadcasting of information on crop selection, growing techniques and other best practices.

The Ministry of Education should also work with the MAFF and the Ministry of Rural Development to design and implement school curriculum changes to include courses on budgeting and agricultural know-how.

Recommendation 4: Increased entrepreneurship should be encouraged through exposure trips

Due to their additional disposable income to invest in such activities, commercially-oriented farmers and millers - essentially agro-entrepreneurs - should be encouraged to engage in agribusiness since they have the added benefit of generating employment in rural areas. Exposure trips to agribusiness operations in other countries can help Cambodian agro-entrepreneurs learn about alternative practices, can give them ideas and also provides them the chance to link up with potential investors to create joint ventures. Besides exposure trips, technical training to existing agribusinesses and agro-processing operations is another way to encourage growth in the sector since the success of one agro-entrepreneur may compel another one to take on the risk.

Challenges

The three major challenges facing the above training initiatives are (1) the willingness of farmers to participate, (2) insufficient qualified local extension officers and educators to deliver training and (3) a lack of trust among people to work together and share information. Willingness to learn can be overcome when there are well-to-do farmers that provide an example for others to follow. Experience in the field has shown that there will always be a few willing farmers ready to embark on participating in demonstration plots and in new farming methods. These are the ones that will show the way for others.

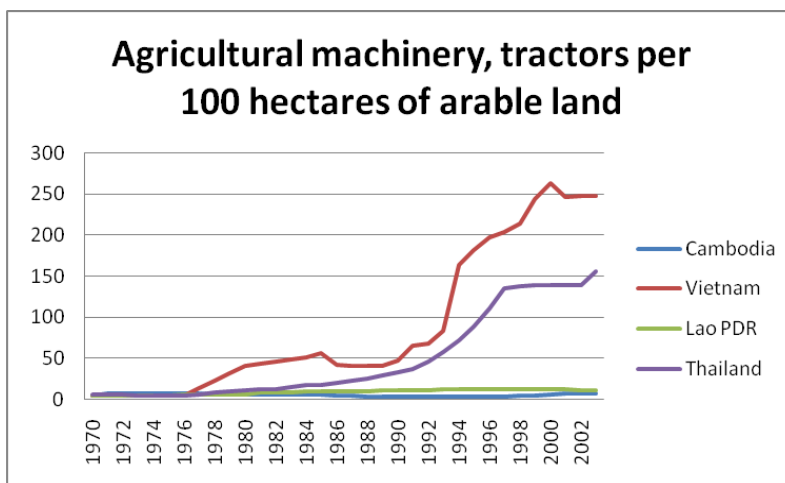
Trust is a harder issue to deal with but can be generated if everybody feels there is something to gain by working together. One member of a rice miller association in Battambang spoke of the benefits of being in the association, with better prices and opportunities received from traders. Experience has also shown that the leadership of these associations is sometimes the key element to their success so that when the leader leaves, the association slowly disintegrates. Forging lasting relationships is therefore a very challenging task in Cambodia. Where possible and effective, associations should build on existing networks in order to be sustainable.

Despite these challenges, the knowledge acquisition that is promoted through the methods above can help the average family increase its income. More knowledge can also help the Cambodian family make better choices among economic activities it can engage in. The current

generation of parents is already starting to have to make important decisions on how best to use the family’s land. The families can choose to stay in agriculture and will know what will be required to be competitive. At the same time, they can choose to move into other activities and either lease their land or even sell it. Increased knowledge of agricultural possibilities, market forces, finance and business will better equip this generation to make this decision wisely.

II.II. Lack of affordable capital

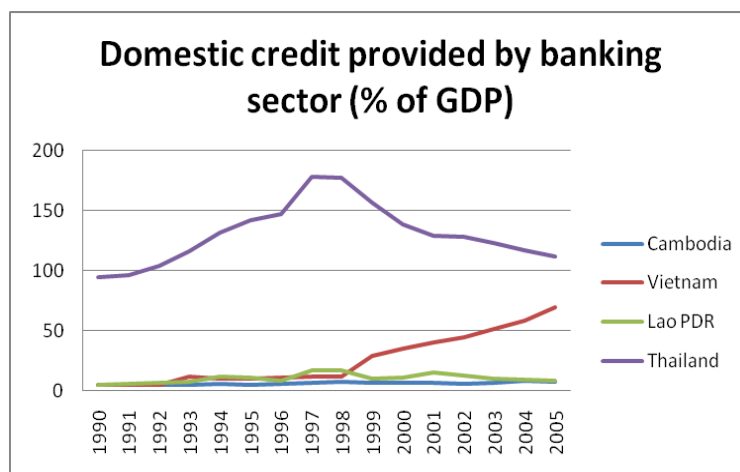
While the first major constraint is the lack of knowledge, the second is the lack of affordable capital. Whereas Cambodian agriculture is beginning to employ hand tractors, the use of tractors in agriculture has remained very limited, increasing only from about 4.6 tractors per 100 hectares of land in 1970 to 7.1 tractors in 2002 for the same surface area. In neighboring Thailand and Vietnam, with similar agricultural crops, the mechanization of agriculture proceeded much more intensively over the past few decades, with the number of tractors per 100 hectares growing almost exponentially. While limited mechanization of agriculture in Cambodia may be due to the relatively small size of land plots under cultivation, it is probably more a result of limited access to affordable capital (which is also partially responsible for small land size).



The up-front capital required for some activities is often not available at an affordable price. Up-front capital may be needed for purchasing or leasing land, large seed purchases when seed stock needs to be replenished, hand tractors and other agricultural machinery, university education for children²⁶, processing machinery and facility, fertilizer, animal feed, labor, livestock, vehicles. Capital can be obtained from a variety of sources – the formal banking sector, non-bank micro-finance institutions, self-help groups, local moneylenders and family members. In Cambodia, the formal banking sector is not very developed. To this date it only supplies a very small amount of credit, valued at below 8% of GDP. Non-bank microfinance institutions (MFIs), informal moneylenders and family provide the bulk of domestic credit in Cambodia.

²⁶ About \$400US per year according to informal surveys conducted over the course of this sectoral study.

The formal banking sector in Cambodia is currently characterized by very high interest rates on loans. The lending rate²⁷ in 2005 in Cambodia was at 17.33% per year. In Thailand, by comparison it was only at 5.79%.²⁸ The cost of borrowing is therefore very high in Cambodia and limits business investment in new activities. The main reason for the high lending rate in Cambodia where the rate is set by market forces is that financial institutions have insufficient deposits from creditors (for which large offshore savings by government officials are partially to blame)²⁹, making them rely on overseas borrowing (at interest) to have sufficient reserves. Since corruption and uncertainty of the law are relatively high, Cambodian banks get charged a premium interest rate. The banks need to recover this fee through the interest they charge their customers. As a result, even the lowest rates charged by banks are at around 10-12% per year.



Similarly to the formal banking sector, MFIs have only limited reach in Cambodia. A survey conducted by the Economic Institute of Cambodia found that as many as 38% of respondents had never taken out a loan from a microfinance institution. High interest rates at 3-3.5% per month on loans issued by MFIs are cited as a reason behind this. These are however beginning to decrease as the leading MFI, ACLEDA Bank, has now started to attract higher savings and charge lower interest rates. Another reason for the low recourse to MFIs is the limited availability of seasonal loans, which are more suited to poor households who only earn money after the harvest. (Once again, financial education and increased income through the activities described earlier in this report are a way for households to earn a more steady flow of income throughout the year.) According to the The Mix Market, approximately 600,000 individuals, representing only 4.3% of Cambodia’s population, were borrowing from registered MFIs in 2005.³⁰ While MFIs have started to gain ground in Cambodia, their reach does not yet extend to many rural areas³¹. The majority of farmers are therefore left to borrow from local moneylenders if they cannot borrow from family members.

²⁷ Lending Rate is the bank rate that usually meets the short and medium term financing needs of the private sector. This rate is normally differentiated according to creditworthiness of borrowers and objectives of financing.

²⁸ IMF/IFS (International Financial Statistics), 2006.

²⁹ One bank noted this.

³⁰ The Mix Market, public online database, data accessed on July 2nd, 2007 at <http://www.mixmarket.org/en/demand/demand.global.results.asp?token=&refreshSearch=demand&s0wrc=KH&sInst=&sNetw=&seDisc=all>

³¹ Some sources have stated that MFI’s have now conquered the Cambodian market. However, I will use the example of one of my field trips around Siem Reap to show that this cannot yet be the case. The sub-

The low level of trust between individuals in Cambodia has meant that the self-help group movement is also very limited. The average farmer is therefore left with two sources for borrowing capital: the local moneylender and the family. As a result, the current system advantages families that are already well-off since they can access their family's capital, whereas aspiring families are disadvantaged by high interest rates.

Sources of Capital for the farmer in Cambodia	Features
Family	<ul style="list-style-type: none"> • no interest • amount of funds available depends on family's wealth
Moneylender (Rice Miller)	<ul style="list-style-type: none"> • high interest • offer seasonal loans which enable farmers to pay back at time of harvest • allow payback in rice
Self-Help Groups	<ul style="list-style-type: none"> • require close cooperation among members • not widespread.
Microfinance Institution	<ul style="list-style-type: none"> • low interest for individual loans (on average between 2 and 3% per month) • require monthly payments • high interest for small business loans • require land as collateral
Commercial Bank	<ul style="list-style-type: none"> • average farmer does not have access to loan • larger longer-term loans available to small businesses but smaller loans have high interest rate (lowest rate is at around 10% annually)³²

Recommendation 5: Government should build up domestic savings reserves to lower cost of borrowing.

The government must play a role in providing increased access to capital and carries the primary responsibility towards the country's entrepreneurs to facilitate their ability to set up new businesses. Large sums of government officials' funds are reportedly in foreign bank accounts, decreasing the reserves available to local banks and driving interest rates up. By government officials being encouraged or perhaps even required to deposit these funds into Cambodian banks, these banks will be able to offer loans with lower interest rates to farmers since their own cost of capital has decreased.

In addition to encouraging saving in domestic banks, the government should also offer loans or increased grants for higher education and the starting up of enterprises that will provide increased employment opportunities for rural Cambodians. Interviews with government officials and stakeholders confirmed that the government neither encourages banks to offer affordable

branch office of this MFI was located in the district town. Most clients had to travel to the district branch to make their monthly payments. Given the bad state of the roads and the high cost of fuel, this is adding monthly cost to the loan (a hidden interest rate). In addition, one loan officer would be responsible not only for promotion and recruitment in one sub-area but also for hundreds of clients. It is therefore unrealistic to state that affordable credit provided by microfinance institutions has reached all of rural Cambodia.

³² Data obtained from ACLEDA bank, July 2, 2007.

loans nor does it provide its own affordable loan programs through the National Bank for purposes such as those mentioned previously. Despite farming being the primary economic activity for the country's population and lagging behind its neighbors in a whole array of indicators, the government is offering little incentive in the form of financial facilitation³³ for agro-enterprises to develop.

Recommendation 6: Banks and MFIs should be encouraged to offer low-interest loan programs to agro-entrepreneurs

Agro-entrepreneurs needing loans in excess of US\$10,000 to purchase machinery are especially hard-hit by the high cost of borrowing. Every interview held with food processors and larger landholders revealed that their main constraint was the high cost of borrowing. Since many purchases in the agricultural supply chain are done on credit, suppliers need a financial cushion. As a result of the high cost of borrowing, business activities are very limited in the agricultural sector. Banks and MFIs should share some of the risks that agro-entrepreneurs are taking by charging lower interest rates. In return, these institutions can benefit from potential future savings' deposits from these same individuals.

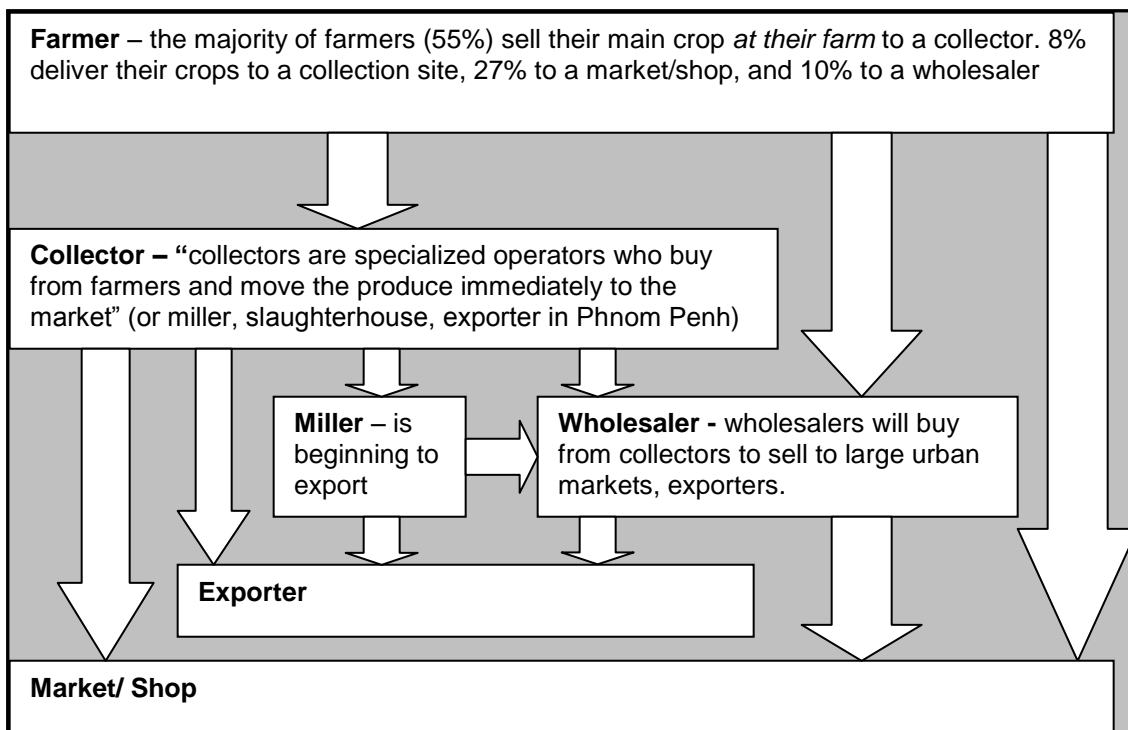
II.III. Highly fragmented supply chains

Like in many countries, the supply chain for most agricultural goods in Cambodia is highly fragmented, with many players are involved in getting a commodity to the end user. To provide a visual example, a *simplified*³⁴ version of the rice value chain essentially works as follows (for different commodities there are slight variations, depending on whether there is processing or not)³⁵:

³³ Currently only \$500US is provided to some farmers' cooperatives by the government.

³⁴ For a complete mapping of the rice value chain see ³⁴ Agrifood Consulting International, "Rice Value Chain Study: Cambodia", A report prepared for the World Bank, Phnom Penh: September 2002, p.232.

³⁵ Data for construction of diagram taken from Agricultural Marketing Office, "Report of Agricultural Marketing in Cambodia," TCP/CMB/6611-Agricultural Market Information Improvement, Ministry of Agriculture, Forestry and Fisheries, July 1997, pp. 25-29.



Currently, little information flows between the levels of the supply chain, leading to inadequate quality or quantity of supply and market inefficiencies. In order to overcome the challenges of a high fragmentation, associations or relationships running vertically across the supply chain are essential. These can also help farmers (small and large) and millers link into the market by virtue of being in the same association.

Recommendation 7: Encouraging the setting up of associations running vertically along the supply chain

While Farmers’ associations in industrialized countries play a key role in negotiating fair prices with traders and in disseminating information to their members on quality standards and quantity demanded, they can also create powerful bargaining blocks that distort prices and lead to market inefficiencies. As a result, associations among elements of the supply chain can actually worsen the effects of fragmentation since they focus on consolidating the position of one element of the chain to the possible detriment of the others.

Taking a long-term approach, a more useful way to improve on the current state of affairs is to encourage the setting up of commodity-based associations. For example, farmers, collectors, traders and processors in corn could get together to form, say, The Corn Group, which would act as a block to try to secure capital, higher standards for production, international quality certification, seek technical assistance, and much more. The benefit of associations running vertically along the supply chain is that they help mitigate the negative effects of fragmentation and also help with issues of traceability and food safety in the long run.

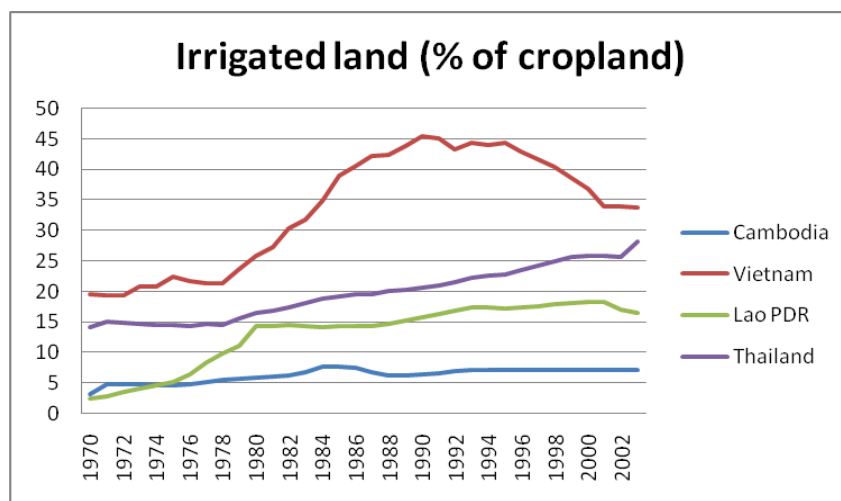
While several NGOs in Cambodia³⁶ are working on setting up village and farmers’ associations, the only example of a more vertically-based association is the Cambodia Organic Agriculture Association, which has farmers, millers and processors involved in organics as members. The association helps secure export contracts (namely for organic rice), which help the different members along the supply chain.

The government also has a role to play in this area given that the potential negative health impacts due to poor quality food as a result of this fragmentation are an issue of public concern.

II.IV. Infrastructure

Poor infrastructure in the countryside, including the lack of paved roads, impedes the transportation of agricultural inputs (such as fertilizer) and outputs (such as rice). According to the 2007 World Development Indicators, only 6.3% of Cambodia’s roads are paved, much less than any of its neighbors. Government officials who were interviewed stated that the government was not planning on building many new roads at this point in time but rather wanted to concentrate its efforts on maintaining existing roads. While this information may not be entirely accurate, it does point to a lack of awareness that the dearth of paved roads presents a major barrier to accessing the market for the majority of Cambodia’s farmers. Indeed, one agricultural extension officer in Kampong Thmor district stated that one of the main reasons (along with high fuel costs) why the more remote communes were worse off than others was that the roads were not paved, which prevented them from bringing their goods to the market in the rainy season and earn additional income from sales.

PAVED ROADS	% OF TOTAL ROADS
Cambodia	6.3
Vietnam	25.1
Lao PDR	14.4
Thailand	98.5



Only 7% of cropland in Cambodia is irrigated and this proportion has remained the same since the 1980s. The rest of Cambodia’s cropland is therefore rain fed. Cambodia’s underdeveloped irrigation network is cited as “the main reason behind yearly fluctuation in total crop production,”³⁷ which is due to agriculture’s overwhelming dependence on weather conditions,

³⁶ NGOs include CEDAC, Buddhism for Development, ADRA.

³⁷ Lim Visal, p. 5.

which fluctuate from year to year. While dams are being built in some areas (such as in Kampong Thom), Farmers in regions with no irrigation have noted that their primary constraint is water. In contrast, farmers in areas with newly built irrigation networks³⁸ said they were now able to plant two crops per year and virtually double their family income as a result.

The lack of water to irrigate farmland is cited as the most binding constraint faced by farmers by the Economic Institute of Cambodia. Lack of proper land governance has also turned some dams into farmland. “Drought, coupled with a shortage of funds, has forced many farmers to become indebted, thus, selling their land and becoming landless.”³⁹ Indeed, 20% of Cambodia’s rural population is landless. The Cambodian government is starting to show a renewed commitment to helping solve the water shortage faced by farmers. However, limited funds result in efforts mainly being directed towards maintaining existing irrigation networks rather than expanding them.⁴⁰

Access to improved water and sanitation facilities can have positive health and productivity impacts on a population. Cambodia’s rural population is however worst off in the region in terms of water and sanitation with only 8% having access to improved sanitation facilities and only 35% with access to an improved water source.

IMPROVED SANITATION FACILITIES	TOTAL POPULATION WITH ACCESS (2004)	RURAL POPULATION WITH ACCESS (2004)	IMPROVED WATER SOURCE	TOTAL POPULATION WITH ACCESS (2004)	RURAL POPULATION WITH ACCESS (2004)
Cambodia	17%	8%	Cambodia	41%	35%
Vietnam	61%	50%	Vietnam	85%	80%
Lao PDR	30%	20%	Lao PDR	51%	43%
Thailand	99%	99%	Thailand	99%	100%

Recommendation 8: The Government must make investment in infrastructure in rural areas a top priority.

The above charts and tables explain very clearly the rationale behind this recommendation. Cambodia is in last place in the region for many infrastructure indicators.

II.V. High energy costs

Currently, EDC Electricite du Cambodge (EDC) supplies power to Phnom Penh and 24 major centers, in some areas using Independent Power Producers (IPPs). However, 85% of Cambodia has no access to this grid power. Some rural areas overcome this constraint through Rural Electricity Enterprises (REE) and Battery Charging services. As a result, almost all electricity in Cambodia is generated using fully imported fossil fuels (diesel oil and heavy fuel oil).

³⁸ This testimony comes from farmers in Battambang district.

³⁹ Lim Visal, p. 7.

⁴⁰ Ibid., p. 8.

While Cambodia currently has the lowest rural electrification rate in South-East Asia, Cambodia’s power plans include extra generation in Phnom Penh, Siem Reap and new diesel generation in 8 regional centers. Power is also to be imported from Vietnam, Thailand and other ASEAN members. Gas generation is planned at Kompong Soam and 5 large Hydro projects have been planned.⁴¹ Given that very little power is produced domestically and that subsidies do not exist, prices in Cambodia for fuel are much higher than in neighboring countries, with areas outside of Phnom Penh paying much more. As a result, not only do rural families earn less than families in Phnom Penh, power is more expensive too.

Location	\$ per kWh
Phnom Penh	0.16 - 0.20
Rural mini-grid	0.30 - 0.90
Rural battery power	0.30 - >1.00
Lao PDR	0.05 – 0.10
Thailand	0.06
Vietnam	0.005 – 0.03

Source: World Bank, ECA/MdE, October 2002⁴²

Recommendation 9: Supporting research and development of alternative, low-cost fuels.

By expanding the range of energy sources available, costs will decrease and agricultural production and transportation costs can be significantly reduced. Even though offshore oil reserves may be extracted and refined domestically, additional supply will not be available domestically until at least a few years and even this is uncertain. Initiatives to develop locally-produced bio-fuels, in particular through the cultivation and extraction of bio-diesel from jatropha, appear promising in this regard. Section IV discusses bio-diesel production in more detail.

II.VI. Inadequate government policy, weakness of the court system, unchecked land speculation and corruption

In addition to improving infrastructure, the government needs to improve on a host of different issues and mitigate the threats of corruption, land speculation and weakness of the court system. On some issues, the government has even performed worse in recent years than in the past. For example, a World Bank report on governance released July 10, 2007 revealed that in terms of regulating business and industry, the government was actually doing worse than in 1996. Indeed, the government is largely seen as ineffective by ordinary Cambodians.⁴³ An article in the *Cambodia Daily* from July 12, 2007 reported that the World Bank found that “Cambodia [is] amongst the most poorly rated countries in ASEAN, with only Burma trailing it in three of the six indicators – rule of law, corruption and government effectiveness.

⁴¹Data compiled by Andrew Williamson, visiting researcher at The Cambodian Research Centre for Development and available on-line at www.camdev.org, accessed July 10, 2007.

⁴² Ibid.

⁴³ Interviews with officials seemed to confirm some of the truth behind this view. For example, MAFF officials interviewed for this study displayed “silo” thinking, whereby an education or irrigation matter related to agriculture was simply dismissed as being the responsibility of the other Ministry.

The massive inflow of aid money that began in the 1990s and represented about \$38 US per capita in 2005, left Cambodia's weak court system unable to properly monitor and sanction diversions of funds, leaving the door wide open for corrupt practices to thrive. To make matters worse, donor funds continue to flow despite evidence of it being mishandled. As many as 55% of managers operating in Cambodia state that corruption is a major business constraint in comparison to 18% and 11% in Thailand and Vietnam respectively.⁴⁴ One example of corruption that is distorting the market is the process to obtain an official land title⁴⁵, which officially costs between \$5 and \$20 to acquire. Corruption in the form of extra "fees" increases the cost to \$500 – \$2,500⁴⁶. Since land titles are often required as collaterals for loans, this adds another cost to the already high cost of borrowing capital.

Not only does the government make registering land expensive, it is also contributing to the rise in land prices through land speculation efforts. An independent forest sector review in 2005 found:

"Along the main roads in the majority of Provinces land speculation is rife. There is the anticipation that illegal occupation will ultimately result in legal ownership. In many cases powerful individuals, sometimes with the tacit or positive approval of Provincial Government, have physically occupied land (or sold the 'right' to occupy state land to others). This type of land speculation or 'land grab' has principally taken place along the margins of the main highways. In these locations, where forest formerly grew up to the roadside, house plots measuring 80m x 40m have been demarcated. In some cases plantations have been established on the cleared land. Again it is the 'powerful' people that largely control this category of alienation."⁴⁷

In remote areas such as Ratanakiri, large areas of land are being "grabbed":

"That it is rich and powerful people who are speculating is beyond doubt. The sizes of the plots that are being acquired require considerable investment if they are to be productive. Two hundred hectare plots are not unusual. This is in fact agribusiness and generally the crops are for export much of it technically illegal. To get this land they use fair means and foul, in some cases duping the indigenous people by stating that it is for government development or that they have acquired a land title in Phnom Penh. In other cases some indigenous people are bribed to sell portions of land to the speculators and mark a paper that they have done so. The purchasers then put up fences around their "land" and when challenged demand that villagers show them their land titles which of course they do not have."⁴⁸

Whether or not linked to corruption or other impediments, Cambodia's level of enterprise investment into the domestic economy is very low relative to the region, at less than 20% of GDP in 2005. This means that there is less money as a percent of total income flowing into each sector of the Cambodian economy to boost economic growth than elsewhere in the region. Government policies such as tax breaks and rebates can help stimulate investment by enterprises.

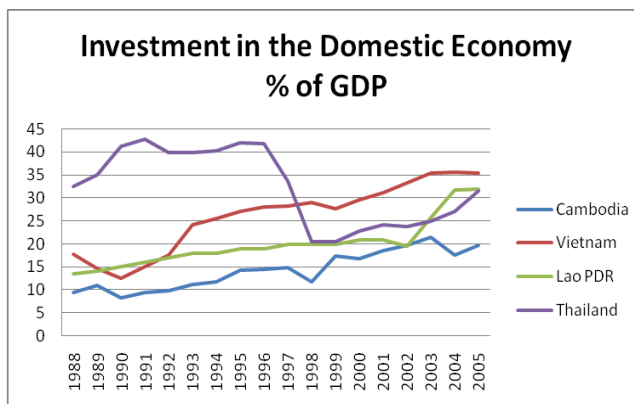
⁴⁴ WDI 2007.

⁴⁵ Cambodians often do not have official papers for the land they live on. In order to get a loan from a bank or and MFI, frequently the land title will be requested to be presented as collateral.

⁴⁶ Anecdotal information obtained from several interviews.

⁴⁷ Frank Miller, et. al, "Independent Forest Sector Review," commissioned by the Joint Coordinating Committee of Government and donors, April 2004, p. 36.

⁴⁸ Ibid., ch. 8, p. 18.



While barriers and costs for Cambodians doing farming and business activities are important, non-tariff barriers for imports destined to Cambodia are the lowest among ASEAN countries. Imports are therefore relatively cheap, leaving little incentives for poorly skilled and cash strapped Cambodian farmers to begin experimenting in the production of other goods than what they are used to growing. While this report does not advocate raising non-tariff barriers, it notes that it is surprising that an agricultural country such as Cambodia imports as much as 48% of its total fruit and vegetable consumption when research has shown that Cambodia’s soils and climate could easily grow a substantial proportion of these imports.⁴⁹

Recommendation 10: Increased government effectiveness in areas of finance, agricultural education, business, land values and registration, international trade, supply chain integration, and controlling fertilizers and pesticides imported into the country

The government bears a major responsibility towards meeting Cambodian families’ needs. The government also needs to think horizontally on these issues and cooperation among government Ministries must begin in a major way. The following table summarizes a set of issues along with recommendations for government action along with the current state of affairs.

⁴⁹ Ibid., p. 18.

Area	Current Status
<p>Access to affordable capital Recommendations:</p> <ul style="list-style-type: none"> - Low-interest university loans - Low-interest agricultural loans 	<ul style="list-style-type: none"> - Scholarships and loans only provided for outstanding students and children of government employees
<p>Education Recommendations:</p> <ul style="list-style-type: none"> - Provision of agricultural training in schools - Public awareness campaigns and radio broadcasts on farming methods - Increased agricultural extension efforts 	<ul style="list-style-type: none"> - Only limited agricultural training provided – 50% of districts have no extension officer. - No public awareness campaigns, although CIDA-funded market information broadcasting initiative will provide price information. - No agricultural education in schools.
<p>Facilitating a favorable agri-business climate Recommendations:</p> <ul style="list-style-type: none"> - Encouraging transparent business practices by sanctioning offenders - Fighting corruption by example: reprimanding corrupt government officials 	<ul style="list-style-type: none"> - No evidence in support of progress in this area. - Only 12 agri-business projects invested in locally in 2000 in comparison to 256 agribusiness projects.⁵⁰
<p>Controlling Land Speculation</p> <ul style="list-style-type: none"> - Sanctioning land speculation efforts by government officials 	<ul style="list-style-type: none"> - No evidence of any efforts in this regard. - Government continues to be a major culprit behind rising property prices.
<p>International Trade Recommendation:</p> <ul style="list-style-type: none"> - Facilitation of legal trade in agricultural commodities. 	<ul style="list-style-type: none"> - Government facilitates foreign companies' purchases of raw agricultural goods.
<p>Land Registration Recommendation:</p> <ul style="list-style-type: none"> - Reducing corruption to provide access to land titles at reasonable cost to farmers 	<ul style="list-style-type: none"> - Land titles officially cost between \$5 and \$20 to acquire but corruption increases the cost to \$500 – \$2,500⁵¹.
<p>Supply Chain Integration Recommendation:</p> <ul style="list-style-type: none"> - Promoting the creation of associations in agriculture. 	<ul style="list-style-type: none"> - Government source cited that \$500 in credit is provided to farmers' associations that have been registered with the MAFF.
<p>Regulating and Monitoring fertilizers & pesticides</p> <ul style="list-style-type: none"> - Strengthening government inspection of imported fertilizers and pesticides 	<ul style="list-style-type: none"> - All pesticides are imported, 95% of which are not labeled in Khmer, despite being required by regulations. - Only 164 named pesticides are registered by MAFF for trade in Cambodia, yet market surveys have identified as many as 420 of which 136 are banned in Cambodia.⁵²

⁵⁰ Lim Visal, p. xi.

⁵¹ Anecdotal information obtained from interviews and confirmed by ACLEDA bank official.

⁵² "Recommendations for an Effective Management and Inspection System for Agrochemicals Traded in Cambodia", Prepared by: Working Group on an Effective Inspection System to Ensure the Quality of Agrochemicals Traded in the Market, Phnom Penh: June 2006, p. 11.

III. THE STATE OF AGRIBUSINESS IN CAMBODIA: THE CASE FOR MORE INVESTMENT

III.I Overview of the sector

Cambodia enjoys abundant supplies of agricultural products as well as access to world markets. It therefore has great potential in developing agro-processing. In Cambodia, however, the agro-processing sector is still dominated by small and medium enterprises and economies of scale have still not developed. The main reason cited behind the lack of development of this sector is the lack of investment capital. In 2000, for example, only 12 agribusiness projects were invested in locally in comparison to 256 projects in the garment industry.⁵³ The lack of government support to navigate the regulations surrounding food safety and quality requirements is another reason making the large-scale development of agro-industrial projects risky. Government should seriously take this matter if it wishes its economy to prosper beside competitive Thailand and Vietnam.

Agribusiness is still in its infant stages in Cambodia. At present, wealthier landholders engage in forms of plantation (hiring laborers to work on their fields) and contract (hiring existing farmers to produce a certain crop) farming. Large-scale plantations currently exist in rubber trees,⁵⁴ sugar palm and rice. For example, dry season rice cultivation is being conducted on the uplands of the East side of Lake Tonle Sap by some large landholders on plots ranging from 300 – 1,000 hectares.⁵⁵ Contract farming has been commissioned by Confirel (sugar palm), Angkor Kassikom Rum Roem (rice contract farming in Kandal province), CP Group (Thai animal feed), Midas agronomics (Thai company). Informal contract farming also exists in Cassava.⁵⁶ While these are positive signs that large-scale agriculture is emerging, there have recently been complaints of mistreatment of plantation workers.⁵⁷ Workers' rights in large farming operations will need to be monitored closely by human rights advocates as well as the government as their number increases.

On the processing side, a product survey conducted in Phnom Penh shops in June 2007 revealed that only limited food processing and packaging is being done. Besides So! Soya, So! Green Tea, KMF juices, Khmer Mekong Whiskey and Confirel Palm Liquor, no beverages are industrially processed and manufactured in Cambodia. Packaged foods are also very limited. Lucky Market and You Nam Supermarket brand packages of rice, watermelon seeds, dried fish and a few other local products that are sold in supermarkets. Cashews and black pepper are packaged with slightly more sophistication by Cambodia Biologicals, using vacuum packing. In the processed foods, locally produced goods include only LYLY corn snacks, Protein Foods' dried meat, fish and fruit, RTC's fruit confit (candied fruit) and jam, Angkor Coffee and Healthland Foods' peanut butter, salsa and jam. Some processing is also done on a small, informal local scale, such as for roasted peanuts, sugar cane, fruit juice, and fresh soy milk. All other processed and packaged food is imported. No animal feed or fertilizer is commercially produced in Cambodia.

⁵³ Lim Visal, p. xi.

⁵⁴ In 2002 there are 7 state-owned rubber plantations in Cambodia according to the Ministry of Agriculture, Forestry and Fisheries, source: <http://www.maff.gov.kh/en/rubber/drd.html#a1>, accessed July 2, 2007.

⁵⁵ Anecdotal information provided by interviewee from AQIP.

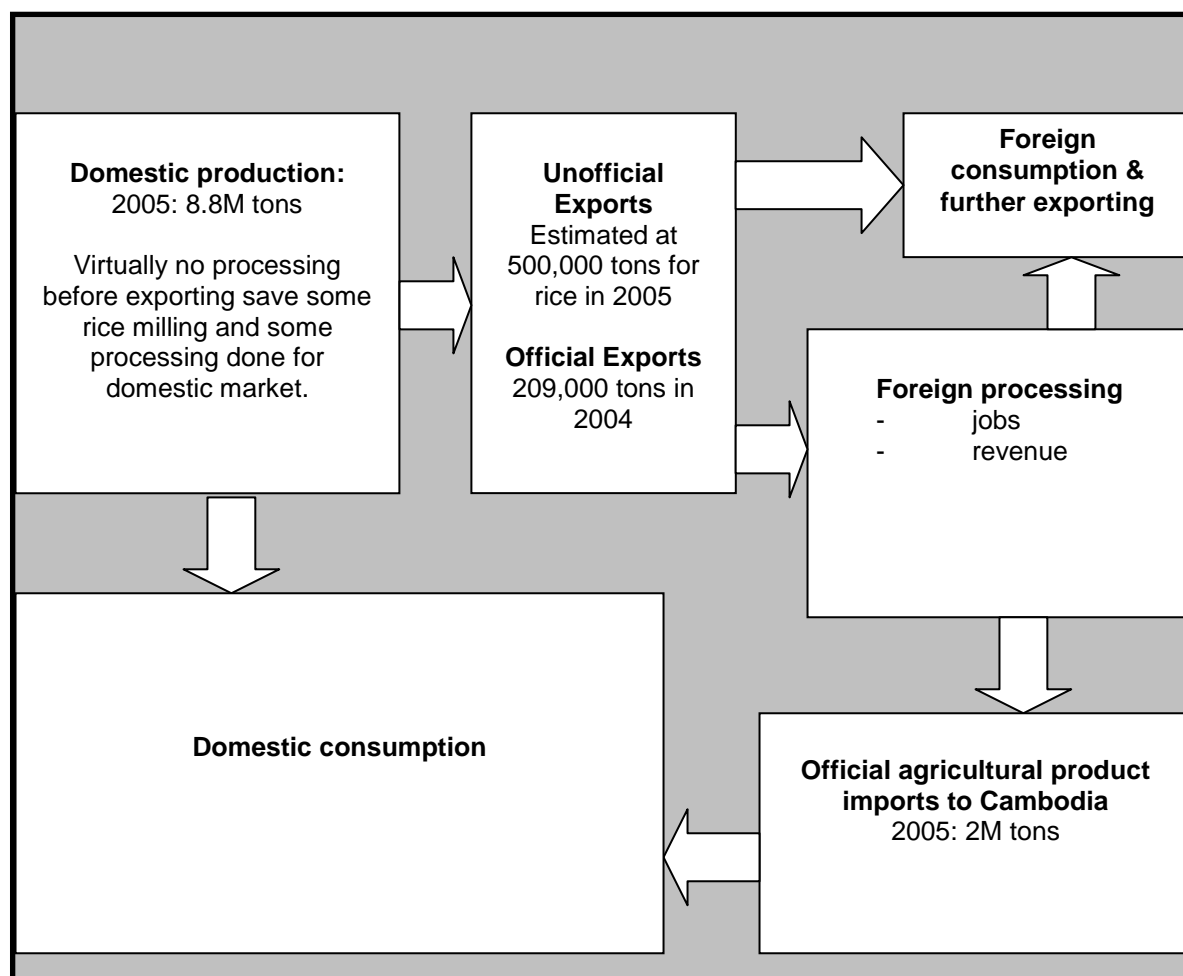
⁵⁶ Anecdotal information provided by interviewee from Canadian Cooperation Office.

⁵⁷ from article in *Cambodia Daily*, on May 28th 2007

One major challenge to increasing food processing in Cambodia is that in order to be able to compete with imported products, the product must appear attractively packaged and of export quality. Anecdotal reports by local processors have indicated difficulty selling Cambodian processed goods unless they marked “export quality” or “produced with German technology”, for example, on the packaging. This challenge also points to the need to conduct a proper market analysis before embarking in any major processing activity.

III.II. The case for investing in agribusiness and agro-entrepreneurs

Given the lack of agro-processing and agro-industry in Cambodia, a significant proportion of Cambodia’s agricultural goods (including rice) are sold unprocessed to foreign buyers who add value outside of Cambodia. Essentially, many agribusiness jobs and income generating opportunities are *exported*, more often than not illegally, meaning that no income from export taxes is earned either.



Clearly, value is being lost and revenue and jobs are being foregone in Cambodia. It would be useful to conduct an opportunity cost calculation of exporting so many raw agricultural materials as opposed to processing them locally. Given the need for more off-farm earning opportunities, processing and other agri-business activities (such as packaging) directed at adding value to the finished product present interesting opportunities. In addition, the high ratio of imports to

locally produced agricultural products means that Cambodia is not producing as much as it needs and could boost local production and create jobs through more business-oriented farming. It also shows that there is a domestic market capable of absorbing locally produced and processed food products as long as they are able to compete with imports.

This paper therefore argues that investing in agro-entrepreneurs, such as farmers who are starting to run their farms more intensively as income-generating operations and processors, should be done for the following main reasons:

1. **Investing in agribusiness opportunities is a “safe bet”** – no matter what the course of development of Cambodia’s agricultural sector, it will feature a more commercially-oriented production and processing of agricultural commodities given that more Cambodians are moving to the cities and less are doing farming.
2. **Providing affordable capital to agro-entrepreneurs overcomes current market failures.** The demand for affordable capital is currently not being met. This is a market failure that is seriously constraining growth in agro-enterprise development. Investing in agribusiness initiatives can help stimulate growth in the sector.
3. **Agribusiness creates needed employment opportunities, and jobs in processing are among the highest paid jobs in the agricultural sector.** Agribusiness can help improve income in rural areas. According to an ABiC survey conducted in 2005, wages for temporary labor doing processing were at 6,500 riels per day for men and 5,500 riels per day for women. This is higher than daily wages for any wages for rice, upland farming, cashew nuts, fruits and vegetables. Only earth workers, rubber workers, and logging worker wages were higher.⁵⁸
4. **Agro-industry is a natural progression from the current state of little value adding and requires few restructuring costs** - agro-processing, for example, can build on existing networks of collectors to add value to agricultural products. Rather than investing in an entirely new industry, investing in agro-industry is cost-effective since the supporting supply chains already exist.

⁵⁸ Cited in Agrifood Consulting International, “Final Report for the Cambodian Agrarian Structure Study”, Report prepared for The Ministry of Agriculture, Forestry and Fisheries, The Royal Government of Cambodia, Phnom Penh: August 2005, p. 172.

IV. AGRIBUSINESS OPPORTUNITIES

This section describes business opportunities that exist to increase rural incomes through commercially-oriented production, trading and processing. If invested in, these initiatives should be accompanied by demonstrations and/or exposure trips, market, business and financial training and efforts at linking people from across the value chain of the particular commodity. These commodities have been chosen since there appears to be a market for them domestically and internationally and because they can increase income for small- and large-holder farmers as well as endeavors that can help the miller, trader, wholesaler or collector expand the range of value-adding activities conducted in Cambodia. Other commodities such as black pepper and wild honey cultivation have been omitted because the world market is either already quite saturated with such goods and/or the employment generation impact would not be that important. It should be noted that the list is not exhaustive and that further work can reveal more opportunities.

It should be noted that while large-scale farms can be a solution to production issues, they do not generate as much employment as small farms do.

“While it is tempting to suggest that plantations have higher labor productivity than smallholder agricultural production, the fact remains that there are a large number of households that need to find productive employment opportunities (...) comparing labor absorption in the rubber industry amongst the SOE [State Owned Enterprises], private, and smallholder sectors; the private plantations absorb the fewest number of laborers (0.15 per ha), followed by the SOE plantations (0.55 per ha) and then finally the smallholders (0.87 per ha).”⁵⁹

This should be considered when planning any major, industrialized processing. If the goal of the initiative is to increase employment, perhaps a collector network or contract farming arrangement with existing small holders might be better in achieving the project’s goal than working only with large landholders.

IV.I. Existing Initiatives

1. Organic Rice Production Linked to Export Market

A number of NGOs in Cambodia are already engaging in conducting demonstrations to help increase rice yields. While a few NGOs in Cambodia focus on encouraging farmers to use a more productive seed (such as the varieties produced by the Cambodian Agriculture Research Development Institute (CARDI)) most NGOs focus on encouraging rice growing techniques (such as the SRI method⁶⁰) that use the soil’s nutrients in a more sustainable way.

Since rice production in Cambodia already exceeds domestic demand, the only way to ensure that increased rice production will also lead to increased income for the Cambodian farmer is to link production to an export market. Because Cambodia’s aromatic rice varieties may be seen

⁵⁹ Agrifood Consulting International, “Final Report for the Cambodian Agrarian Structure Study”, Report prepared for The Ministry of Agriculture, Forestry and Fisheries, The Royal Government of Cambodia, Phnom Penh: August 2005, pp. 90- 91.

⁶⁰ Anecdotal evidence has revealed that the SRI method to grow rice can be quite labor intensive, which is a problem for farmers in Cambodia whose land is often far away from their home and for whom labor costs are rising.

by consumers as inferior to the Jasmine and Basmati varieties, Cambodia's higher value export opportunity is in the organic market. (There are also a few varieties of deep-water rice, yielding beautiful long red and brown long rice grains that could be marketed as boutique rice.)⁶¹

Cambodia already has a *regional* reputation of producing rice with little or no chemicals, this could be feasibly expanded worldwide given that the Cambodia Organic Agriculture Association already has managed to obtain a certification to supply organic rice on the worldwide market and is currently negotiating contracts to export rice worldwide on behalf of farmers' associations⁶². Supporting efforts by the organization to expand organic rice production could end up enriching farmers.

The European market is a secure and large market for organic products. As long as quality standards are properly maintained and farmers receive a competitive price (on the upper-range) for their rice, they will have the incentive to produce the rice in such a way as to ensure quality and consistent and sufficient supply. While one mill already exists for milling organic rice, there may be a need in the future for an expanded milling network as well as proper storage facilities. Laser land leveling can also be applied to help increase yields.

2. Quality Fruit & Vegetable production in the off-season through greenhouse cultivation and linkage to high-end markets.

Currently demand outstrips supply in local markets for fruits and vegetables and supply is inconsistent leading to the high percentage of imports in this market. A survey of fruit and vegetable sellers in Siem Riep in June 2007 revealed the following:

Market Survey of Origin of Fruits and Vegetables in Siem Riep, June 2007:

Fruits

A lot of fruit is imported from Thailand or Vietnam. The reasons are:

- 1) **not grown in Cambodia:** Tamarind and Apples, different Mango varieties from Thailand.
- 2) **insufficient domestic supply:** Mangoes, Rambutan (from Vietnam)
- 3) **cheaper to import:** Oranges and Durian (from Thailand - Thai Durian cost the seller 6,000 Rs. per kg. whereas the Cambodian Durian cost the seller 10,000 Rs. per kg.)
- 4) **not in season in Cambodia:** Mangosteen

N.B. Bananas were the only fruits that were exclusively local.

Vegetables

The main reasons why vegetables are imported are:

- 1) **not grown in Cambodia:** carrots.
- 2) **insufficient domestic supply:** garlic, onions, tomatoes.
- 3) **cheaper to import:** cabbage.

N.B. More local vegetables appeared to be sold in comparison to fruits. Local vegetables included: Cucumber, eggplant, gourd, string beans, bean sprouts, lotus flower products.

⁶¹ Deep-water rice cultivation has declined in recent years in favor of less labor intensive methods. Promoting these varieties by securing supply contracts with high end supermarkets in Europe would also be a great opportunity to secure the survival of local rice varieties as well as the preservation of unique traditional growing techniques.

⁶² Information gathered from interview with Cambodia Organic Agriculture Association.

If Vietnam and Thailand are able to produce fruits and vegetables during the off-season, then Cambodia can too. Increased production should be encouraged during the rainy season by raising land in low lying areas or through bamboo baskets (as they do in Lao). Once again, exposure trips can help transfer techniques over to Cambodia.

Vegetable production has the advantage of being able to benefit small landholders in Cambodia. According to a study of the agrarian structure of Cambodia, “[v]egetable production seems to be immune from increasing economies of scale; primarily due to labor constraints in vegetable production (vegetable production is labor intensive, thereby limiting farm size).”⁶³ In Siem Reap, where tough competition from Thai fruits and vegetables exists, Cambodian farmers are currently being organized by a wholesaler who is trying to supply the hotel market. This wholesaler has also recently built greenhouses to grow organic lettuce and mesclun during the rainy season, when supply from farmers is of lower quality. While there probably is no room in the market in Siem Reap for another greenhouse, there may be one in Phnom Penh. An interview with the wholesaler and entrepreneur in Siem Reap indicated again that his major constraint was the high cost of lending money from the banks to get his operation going.

Eventually, as supply grows, processing facilities may be needed to be built on top of existing linkages to absorb excess fresh supply.

3. Swine Farming

Pork is a meat that features highly in Cambodian cuisine. It also is consumed by many millions of people in the region. Pigs reproduce easily, with one pig producing up to 10 piglets with several litters per year, although animal health needs to be properly attended to. This is a potential source of additional income for small farmers. One donor-funded program is very active in promoting pig farming and market linkages. It also is considering conducting an exposure trip for the pig growers to the US.⁶⁴ The results of this project’s efforts should be monitored to see if some of the ideas are transposable to the development of other value chains.

4. Organic Cashew Nut Roasting

There is an organic supply chain in the cashew industry in Cambodia. One processor has been certified for organic exporting of raw (de-shelled) cashew nuts to the US and one entrepreneur has begun roasting cashew nuts and vacuum packing them for the domestic market. Currently, most raw cashew nuts are exported to Vietnam.

While Vietnam and India have the lion’s share of the cashew market, the organic cashew market has yet to be conquered. Investment could be used to improve the packaging and marketing of these organic cashews.

Production and extension efforts to improve quality would need to be scaled up. However this is worthwhile since “Cashew nuts have many advantages from the perspective of producers. They are hardy, drought-resistant fruit that can grow on most types of soil (including land that

⁶³ Agrifood Consulting International “Project Brief Series : Cambodian Agrarian Structure Study,” Phnom Penh: August 2005, p. 1.

⁶⁴ Development Alternatives Inc.

has already been used for other purposes), are economical to grow and maintain, and do not require a great deal of expertise on the part of the producer (Dao 2005). Moreover, production does not benefit from significant economies of scale in an estate setting (ACI 2005b), so it is well suited to smallholder farming.)⁶⁵ Gross margins in 2005 were as high as \$1319.56 US per hectare per year in Ratanakiri (much better than \$150US for rice) and as low as \$242.77 in Kratie. Marketing margins benefit farmers as well, with the northeastern farmers earning as much as 82% of the markup.⁶⁶

Currently the only value added for cashews is that they are roasted, vacuum sealed and sold. Processing options can expand into roasted cashews with chili, sugar, etc. as well as organic cashew butter.

5. Soymilk Production

Hagar Soya Co. Ltd. is a social enterprise that employs women who were victims of trafficking and abuse to produce soymilk and green tea that are sold in attractively designed tetra pack containers. This is an interesting model for an organization. It should be noted however that it came about thanks to heavy funding and investment. This is a case in point to show that affordable loans should be provided to local businesses so that they can produce competitive goods that can be of export quality. While soybean is currently only being industrially processed into milk, other options such as soy sauce can also be explored. One of the issues constraining Hagar Soya is sometimes the quality of the soybeans that are delivered. This is why efforts up and down the supply chain are required to help develop processing in any commodity in Cambodia.

IV.II. Promising value chains to explore

1. Fish Harvesting and Processing

Fish is a major source of protein in Cambodia and is used every day in cooking. As Cambodians become more wealthy, demand for fish will increase immensely. There are numerous varieties of fresh water and salt water fish that are consumed across Asia making a large market available to absorb local production.

While freshwater reserves of fish are declining in the Tonle Sap and Mekong Rivers, alternatives for producing fish include building fish ponds and cultivating fish. Some NGOs are already involved in encouraging fish farming.⁶⁷

Women are very well represented among the wholesalers and processors in the fish supply chain who are mainly concentrated in Phnom Penh.⁶⁸ Working with them to expand processing can therefore help increase the presence of women entrepreneurs in the Cambodian business arena.

⁶⁵ Agrifood Consulting International, "MPDF Phase III Scoping Study", Prepared for Mekong Private Sector Development Facility (MPDF), Phnom Penh: October 2006, p. 78.

⁶⁶ Ibid.

⁶⁷ Notably CRDT in Kratie province.

⁶⁸ "The Role of Formal and Informal Credit in the Fish Marketing Chain, Cambodia: A Case Study in Pursat, Kandal, Phnom Penh and Kampot Provinces.",

2. Fruit Tree nurseries, increased fruit production, fruit processing:

Fruit tree nurseries: At the beginning of the supply chain, small little nurseries found on the side of the road sell seedlings but quality and variety are uncertain. A professional, quality fruit tree nursery is a niche that has yet to be exploited in Cambodia. A “guaranteed” quality fruit tree supply chain could be created by employing sellers in a nursery operation to deliver quality fruit tree seedlings to small, medium and large fruit producers. The nursery could also include interesting varieties (e.g. exotic mango varieties not available here) that could be grafted onto the stock of Cambodian fruit trees.

Production of fruit: Fruit tree cultivation does not take much land and can yield high value crops. The key is to assess market demand. High value, quick maturity fruit production such as papaya and passion fruit may be good options.⁶⁹ Orchard production appears to have some economies of scale. Large landholders can do this.

Fruit processing (especially bananas and mangoes): Mangoes are starting to be produced everywhere but demand is not large enough for supply (and anecdotal reports suggest that some farmers are cutting down their mango trees because of oversupply). One way to explore this opportunity is to have someone test the quality of mangoes and study the feasibility of processing the mangoes into mango products (e.g. mango juice). If possible, processing facility should be as close to the farmer as possible to make the business lucrative. A similar type of feasibility study could be conducted for bananas.

3. Cattle Growing and Development of a Beef Industry

There is a growing demand for cattle in Thailand, Malaysia and the Philippines. Meanwhile, large tracks of land lie semi-abandoned in Preah Vihear and Otdar Mean Chey. If pasture grasses are grown there as well as legumes to supplement the protein, cattle could easily graze there.

Semi-commercial enterprises comprising about 20 farmers with 5 breeding sows and cows could be set up. Bunta Kun is the border at which cattle trading happens illegally right now in a major way. This trading could be studied to analyze supply and demand. Slaughter houses and cold storage facilities could be encouraged throughout the value chain. At the retail end, restaurants, supermarkets and Lucky Burger, a growing local fast food chain could link into slaughter houses.

4. Coconut Processing

Coconut is produced in Kampot and Kandal provinces in Cambodia. Coconut is however often exported only as a bulk commodity with little value added. Coconut can be processed into many different products and has the potential to create jobs in the most populated province (Kandal) in Cambodia. Gross margins per hectare run as high as \$206US per hectare in Sihanoukville.⁷⁰ Processing can add significant value to that amount. “An integrated coconut system aimed at high value added exports would be viable at prevailing coconut prices. In Cambodia, lower

⁶⁹ One expat agro-entrepreneur is experimenting with fruit trees at the moment.

⁷⁰ Agrifood Consulting International, “MPDF Phase III Scoping Study”, Prepared for Mekong Private Sector Development Facility (MPDF), Phnom Penh: October 2006, p. 128.

labor costs and LDC duty status would give the country a good competitive posture.”⁷¹ Few potential pitfalls have been identified for coconut processing in Cambodia, provided there is an investor willing to get into the industry since no one is currently processing coconut. The advantage of coconut processing is that a variety of products can be made including ice cream mix, mattress coir, and charcoal.

5. Investing in research and development of biofuels

Growing grasses or plants that can be transformed into biofuel to be used with diesel motors can go a long way in terms of reducing costs for the Cambodian farmer. Currently, diesel and petrol prices represent some of the highest input costs for agricultural production and are a major reason behind the high cost of fruits and vegetables in Cambodia. While there are several possible types of biofuel, commissioning research on what is most feasible in Cambodia could be a very useful step forward. Reliance on petrol and diesel is not sustainable in the long run and new forms of energy will need to be sought after soon. This would be a very good way to be forward thinking while aiming to improve the productivity of the average farmer.

According to the MPDF scoping study, “In 2005, a project to produce biofuel from jatropha was established in Kampong Chhnang province. The project will develop and implement a new rural enterprise based on an existing locally grown plant that has no commercial value, improve economic conditions of rural households and provide communities with a new, cheaper, 100 percent renewable and 100 percent locally produced fuel to substitute for diesel fuel. The produced biofuel will be provided to the local businesses like the local battery chargers or mini-grid service (DATE 2005).”⁷² Cambodia Biodiesel is a company that is currently researching and developing jatropha-based bio-diesel. Through a socially-considerate (i.e. on land that is not cultivable for food crops) contract farming model, they are now growing jatropha on several thousands of hectares.

6. Peanut processing

Peanuts are widely produced in Cambodia. Studying the value chain of peanut production could therefore be worthwhile and help a wide number of families. While peanut butter is already being produced, peanut oil is not yet. Demand domestically and internationally would need to be examined carefully. Once again, the organic peanut niche should be explored as a potential export market.

⁷¹ Ibid.

⁷² Agrifood Consulting International, “MPDF Phase III Scoping Study”, Prepared for Mekong Private Sector Development Facility (MPDF), Phnom Penh: October 2006, p. 98.

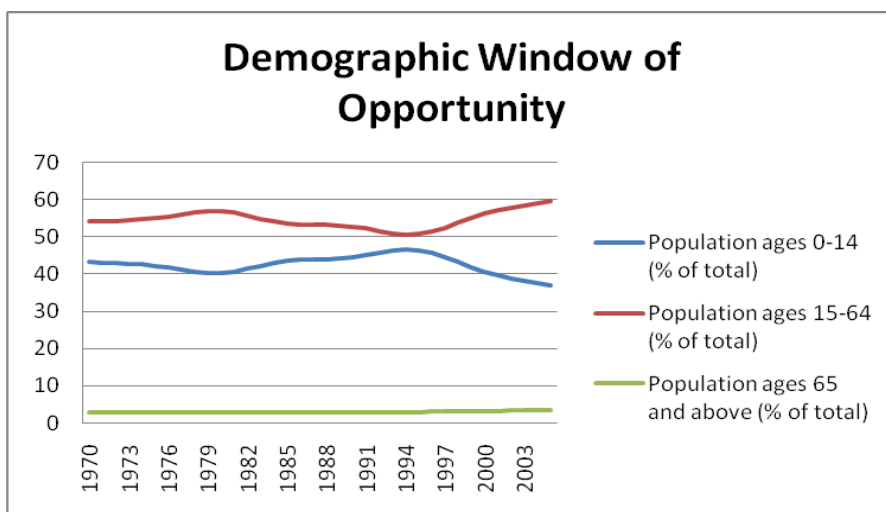
V. CONCLUSION

As this last section makes evident, agribusiness opportunities are plentiful and promise increased employment and income for Cambodians. Investment is however hard to find. This paper therefore calls on financiers in Cambodia, such as the private sector, the Cambodian Chamber of Commerce and banks to help play a role in driving the agribusiness sector forward. Partnership models could be devised so that profit-sharing is done. Businessmen and banks with links to Thai investors could also play the role of linking people to potential sources of affordable capital.

While there are a few agri-business initiatives already underway, they are all very small in size. Much value adding is still being done outside of Cambodia’s borders. This paper hoped to show that developing a strong agribusiness sector makes sense for Cambodia’s future development. The case that is made is that investment in agribusiness is a “safe bet”, overcomes current market failures, can create badly needed employment opportunities and is a natural progression for current market structures.

The government however has probably the major role to play in encouraging the growth of agribusiness activities in Cambodia. Efforts should be directed at ensuring the government makes progress on a host of issues, in particular infrastructure development, to help create a favorable environment for investments in agribusiness by the private sector to bear fruit.

The time is ripe for investing in change in Cambodia. The spike in the birth rate after the fall of the Pol Pot regime in 1979 rapidly increased the share of dependents to the working-age population. Since the late 1990s, the proportion of dependants to the working age population has decreasing dramatically, creating a demographic window of opportunity whereby earnings from each worker have the potential to be more freed up than ever before to be invested in new income earning pursuits. Unless the government creates an environment that encourages the provision of affordable start-up capital to those entrepreneurs whose ideas have the potential to contribute to economic growth and increased employment opportunities, this demographic window of opportunity may pass with little benefit being derived from it.



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APPENDIX I – LIST OF INFORMANT INTERVIEWS

1. Mike Colegrove, Business Seed Advisor, AQIP (Agriculture Quality Improvement Project), Meeting Dates: May 24, 2007, June 5, 2007.
2. David King, DFDL Legal & Tax advisers, Executive Director, Meeting Date: May 28, 2007
3. Grahame Hunter, Policy and Program Advisor, CAVAC, Meeting Dates: May 28, 2007, June 4, 2007.
4. Sonny Chhunn, entrepreneur and owner of rice mill in Battambang, Meeting Date: May 28, 2007
5. Srey Chanthy, Advisor of ABiC (Agribusiness Institute of Cambodia) and Senior Agriculture and Land Analyst at the Canadian Cooperation Office, Meeting Date: May 28, 2007
6. Kim Sovoeun, Irrigation Officer in Svay Rieng Province, Meeting Date: May 29, 2007
7. Normand Champoux, Country Manager, OXFAM Quebec, Meeting Date: May 29, 2007
8. John H. Young, Team Leader, CAVAC, Meeting Date: May 29, 2007
9. Dr. Mensarom, Executive Director of CARDI (Cambodian Agricultural Research and Development Institute), Meeting Date: May 29, 2007
10. Charles Davis, Agriculture Program Manager, Partners for Development, Meeting Date: May 30, 2007
11. Mr. Sethi, project coordinator for ABiC, Meeting Date: May 31, 2007
12. Or Channy, Executive Director of CRDT (Cambodia Rural Development Team), Meeting Date: May 31, 2007
13. Dr. Yang Seng Koma, Executive Director of CEDAC, Meeting Date: June 1, 2007
14. Edwin De Korte, Agricultural Advisor, DED and Royal Agriculture University, Meeting Date: June 1, 2007
15. Kaing Sitheng, Purchasing Manager, Lucky Market Group, Meeting Date: June 4, 2007
16. Vann Thean, Business Director, Agricultural Input Company, Meeting Date: June 4, 2007
17. Andrew McNaughton, Managing Director, Cambodia Biologicals Company Ltd., Meeting Date: June 5, 2007
18. Ben Heath, General Manager, Hagar Soya Co. Ltd., Meeting Dates: June 5, 2007, June 18, 2007, June 21st.
19. Marketing Director, RTC Cambodia, Meeting Date: June 5, 2007
20. Min Sophoan, Country Coordinator, Agronomes et Vétérinaires Sans Frontières, Meeting Date: June 5, 2007
21. Lim Sokundarun ARD Coordinator, CEDAC, Meeting Date: June 6, 2007
22. Sim Rasy, Managing Director, Triple F, Meeting Date: June 7, 2007
23. David Cowled, Provincial Program Advisor, ADRA (Adventist Development and Relief Agency), Meeting Date: June 7, 2007
24. Tun Vibol, Siem Reap Branch Manager, Credit Microfinance Institution (Credit MFI), Meeting Date: June 8, 2007
25. Bruce Todd, Facility Manager, CADF (Cambodia Agribusiness Development Facility), Meeting Dates: June 8, 2007, .
26. Philip Set Kao, President of Cambodia Hotel Association, Meeting Date: June 8, 2007.
27. Ms. Pisey Phal, Chief Executive Officer CCSF (Cambodian Community Savings Federation), Meeting Date: June 12, 2007
28. Ms. Kim San, Executive Director of ADA (Action de développement de l'agriculture), Meeting Date: June 12, 2007
29. Mr. Touk Chamreum, Executive Director of KRDA (Khmer Rural Development Association), Meeting Date: June 12th, 2007
30. Mr. Heng Monychenda, Executive Director, Buddhism for Development, Meeting Date: June 13, 2007
31. Lex Freeman, Senior Agricultural Advisor, Maddox Jolie Pitt Asia (MJP Asia), Meeting Date: June 13, 2007
32. Tony Knowles, Managing Director, SME Cambodia, Meeting Date: June 15, 2007

33. Ngin Bunrith, Director, HURREDO (Human Resource and Rural Economic Development Organization), Meeting Date: June 16, 2007
34. Tham Chee Chung, Grassroots Business Initiative, International Finance Corporation, Meeting Date: June 19, 2007
35. Hor Soneath, Program Officer-Cambodia Team Leader Business Enabling Environment, International Finance Corporation, Meeting Date: June 19, 2007
36. Ms. Keo Mom (Guorch), Director, LYLY Food Industry Co., Ltd., Meeting Date: June 26, 2007
37. Pich Chan, General Manager, KMF (Khmer Mekong Food Manufacturing), Meeting Date: June 26, 2007
38. Mr. Vanna Meas, Executive Director, COrAA (Cambodian Organic Agriculture Association), Meeting Date: June 27, 2007
39. Ms. Yi Makara, Coordinator, Khmer Product Promotions (KPP), Meeting Date: June 27, 2007
40. Mr. In Siphann, Senior Vice President & Head of Credit Division, ACLEDA Bank, Meeting Date: July 2, 2007
41. Mr. Tim Purcell, Director, Agricultural Development International, Meeting Date: July 3, 2007
42. Eric Vandenbrink, Independent consultant, Meeting Date: July 4, 2007
43. Srey Vuthy, Chief of Project Coordination, Monitoring & Evaluation Office, Department of Planning, Statistics and International Cooperation, Ministry of Agriculture, Forestry & Fisheries (MAFF), Meeting Date: July 5, 2007
44. Mr. Kenneth W. Key, Program Manager Agri-Business, International Finance Corporation, MPDF project, Meeting Date: July 6, 2007
45. Mr. Lim Saody, Chief Agricultural Marketing Office, Department of Planning and Statistics, MAFF, Meeting Date: July 9, 2007
46. Curtis Hundley, Director, Development Alternatives Inc., Meeting Date: July 9, 2007
47. Dr. Chan Darong, Director General for Technical Affairs, Ministry of Rural Development, Meeting Date: July 9, 2007
48. Mr. Ros Kimsan, Operation Manager, IDE (International Development Enterprise), Meeting Date: July 10, 2007
49. Mr. Chhieng, Extension Officer, Department of Agriculture, Kampong Thom Province, Meeting Date: July 12, 2007

APPENDIX II – LIST OF CASE STUDIES

1. 5 Farmers served by ABiC, Snoul District, Kratie Province, May 31, 2007
2. Simon, farmer in Kampong Thmor District, assisted by CEDAC, June 6, 2007
3. Mr. & Mrs. Sroung, farmers in Santuk District, Kampong Thom Province, June 6, 2007
4. Mrs. Hing Saro, farmer, Santuk District, Kampong Thom Province, June 6, 2007
5. Mr. Khoeurn, farmer in Takream Commune, Thmey Village, Battambang Province, June 14, 2007
6. Mrs. Chhem Chan Thou, Welder's spouse, Toul Ta Aek Commune, Otaki I Village, Battambang Province, June 14, 2007
7. Ms. Leung Hong, former president of Battambang Rice Miller Association, Battambang Province, June 14, 2007
8. Mrs. Van Oeun, farmer, Ballang Commune, Kampong Thmor District, Kampong Thom Province, July 12, 2007
9. Mr. Chan Sou Ol and Mrs. Cheng Vanna, Farmers, Kampong Thom District, Meeting Date: July 12, 2007