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Study on Access to Financial Services for Small and Medium Agribusiness Enterprises in Cambodia

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EXECUTIVE SUMMARY

1. The objective of this study is to describe key characteristics of agribusiness enterprises in Cambodia with the aim to identify barriers to finance and highlight the findings to policy makers, financial institutions, and development partners. The study is based on a survey of agribusiness enterprises located in 13 provinces of Cambodia and consisting of 1030 respondents that comprise (i) 330 processors; (ii) 227 input suppliers; (iii) 67 machinery sellers; (iv) 228 crop collectors; and (v) 178 rice sellers. The 13 selected provinces include 86% of the population and produce 89% of paddy in Cambodia. The survey also includes the capital city Phnom Penh because of its role as hub for input distribution and products commercialization. The value of total turnover captured by the survey amounts to $1.32 billion including $1.14 billion of crop products and $185 million of non-crop items.

2. Agribusiness enterprises present high variability in terms of size. Size is assessed based on the annual turnover. About 22 percent are classified as micro units, with annual turnover below $50,000. Small enterprises, with turnover between $50,000 and $500,000, account for 42% of the sample. Medium-size units, with turnover ranging from $500,000 to $2 million, represent 21% and large units, with turnover above $2 million constitute 15% of the sample.

CHARACTERISTICS OF AGRIBUSINESS ENTEPRISES

3. Given the dominance of rice in the agricultural sector in Cambodia, the activities of most enterprises are related to rice. For example, almost all processors are paddy processors. In the case of input suppliers, most of them are involved in fertilize (and rice cultivation is the main user of fertilizer) and only few respondents in the survey are involved in seeds or pesticides. Crop collectors are however involved in a number of agricultural commodities besides rice, such as cashews, maize, cassava, and soybean. Machinery sellers primarily deal with tractors, power tillers, and water pumps. Rice sellers are mostly small retailers located in urban areas. The surveyed enterprises are distributed geographically into 13 provinces selected for their relevance to crop production and population.

4. The surveyed enterprises are relatively young with about 30% of them having started operations during the past 5 years. Close to 90% of the agribusiness enterprises in Cambodia are family-owned. Only half of the surveyed agribusinesses have some degree of formality (ie are registered with some central or local authority). Larger enterprises tend to have higher degree of formality; however in the case of crop collectors and rice sellers even large enterprises are informal (more than 80% of them are not registered).

5. Surveyed agribusiness enterprises do not employ large numbers of staff. The maximum number of full-time staff per enterprise observed in the sample was 65 and the total employment generated by respondents was about 6,000 staff. Most of the employment is generated by processors and large companies. The number of staff increases with size but on average, even large enterprises hire just above a dozen workers.

6. The data show the presence of a continuum of enterprises consisting of micro, small, medium, and large enterprises, with each size currently finding its niche. For example large processors are more interested in export whereas small processors are more oriented to the local market; larger machinery sellers focus more on power tillers whereas medium sellers focus more on tractors.

7. Small enterprises (ie enterprises with turnover between $50,000 and $500,000) are the largest group comprising 42% of the sample of enterprises. Crop collectors and processors are the two most important agribusiness actors in terms of contribution to turnover. Among all types of agribusiness enterprises crop collectors make the largest contribution to turnover (45%). The contribution of the processing sector (35% of total turnover) is still lower than the contribution of crop collectors. This is largely a reflection of the underdevelopment of the agribusiness industry in Cambodia. Large volumes of unprocessed commodities are exported to neighboring Vietnam and Cambodia where they will be processed before been further exported with higher value added.

8. Large enterprises contribution to turnover is disproportionate to their numbers. For example, large enterprises represent 15% percent of the sample but generate 77% of total turnover. Large enterprises not only make the largest contribution to turnover, but also to employment and growth.

9. The "modern" sectors including input suppliers, processors, and machinery sellers make higher contribution to growth than the "traditional" sectors of crop collection and rice sellers.

10. Given the differential growth of different enterprise sizes observed between 2010 and 2011, if the growth pattern continues, then the structure of the industry might change in the near future. Medium and larger firm might come to dominate the industry and micro and small enterprises might be absorbed by larger units. This process of consolidation and growth might take place first among processors and input suppliers, two industries where growth has been stronger than in other agribusiness sectors.

FIXED ASSETS, INVESTMENT, AND WORKING CAPITAL

11. The survey collected information about fixed assets comprising buildings, machinery, vehicles, and equipment, but excluding land. In 2011, total assets amounted to $280 million. Processors have the highest share (55%) of total assets; large enterprises share of total assets is 59%.

12. On average traditional value chain actors (crop collectors and rice sellers) have a higher turnover to asset ratio than modern value chain actors (processors, input sellers, and machinery sellers). The traditional sector has a more rapid cycle of transactions and higher frequency of purchases and sales than the modern sector; business success for crop collectors and rice sellers is primarily based on individual reputation and contacts rather than on technology and fixed investments.

13. Overall, total investment into fixed assets (excluding land) over the past 3 years amounts to $48 million, representing less than 5% of total agribusiness turnover. Most of the investment (91%) is funded by own sources: only 6% of the total investment is funded by commercial banks, corresponding to an amount of $5.3 million.

14. The "modern sectors" comprising processors, input suppliers, and machinery seller are the major investors into fixed assets and contribute about 91% of total investment. Large enterprises contributed 62% to investment.

15. In 2011, the total working capital for the surveyed agribusiness entrepreneurs amounted to $141 million. Processors contribute about 56% of the total working capital. The "modern agribusiness sectors" including processors, input and machinery sellers contribute about 80% to the total working capital; large enterprises represent 62% of total working capital.

16. As in the case of investment into fixed assets, working capital is primarily self-funded. On average, commercial and microfinance institutions finance about 13% of working capital. In the case of processing enterprises and medium-large enterprises, commercial banks and MFIs finance about 20% of working capital. Financing from commercial banks and microfinance amounted to $34.1 million.

17. Crop collectors and rice sellers have the highest turnover/working capital ratio, a result of their frequent and rapid sales and purchases cycle.

COMMERCIAL TRANSACTIONS

18. The survey recorded total purchases of $1.32 billion comprising $1.14 billion of crop products, $118 million of agricultural inputs, and $67 million of material and equipment. Out of this amount, the commodities going through processors represent only 36% of the total. In fact, only in the case of rice, about half of the products purchased go through processing, whereas the rest is traded in unprocessed form. For other crops collected and traded in Cambodia, most of the product is traded in unprocessed form. A large amount of paddy is exported to Vietnam and Thailand in unprocessed form. In summary, agribusiness enterprises are still largely dominated by trading without much value addition.

19. Sales transaction recorded during the survey amount to $1.46 billion comprising $1.26 billion for crop products, $129 million for agricultural inputs, and $71 million for machinery. Most entrepreneurs are specialized in one product except crop collectors who are engaged in a number of crops. Even for crop collectors however rice and paddy represent almost 50% of total sales.

20. Enterprises use a number of currencies including the national currency (Riel), the US dollar, the Thai Baht, and the Vietnamese Dong. National currency tends to be used less in purchases (55% of transactions) than in sales (71%). Input suppliers and machinery sellers rely more on the use of US dollar which affects respectively 87% and 73% of total number of transactions. Enterprises are at ease with using multiple currencies. The readily availability of money exchanges throughout Cambodia facilitate the moving from one currency to another.

VALUE CHAIN LINKAGES

21. The surveyed agribusiness enterprises have limited linkages with financial institutions, farmer organizations, and with associations of their own peers. Limited business linkages among value chain actors constrain the pursuit of increased value added and access to capital, information and markets. The existing limited linkages with the financial sector are primarily with commercial banks; linkages with money lenders are very limited and linkages with MFIs are marginal.

22. The number of value chain linkages increases with the size of the business. On one end micro enterprises have close linkages with farmers, less linkages with wholesalers and rice sellers, and hardly any linkage with anybody else in the value chain. On the other hand, large enterprises have a much richer network of business linkages: almost 100% of large enterprises link with commercial banks; a large proportion of them also link with farmers, crop collectors, exporters, and wholesalers.

23. The marketing network of agricultural products is largely dominated by traders of different types (crop collectors, wholesalers, exporters, rice sellers). A relatively small amount of agricultural commodities goes into processing. Notable for their absence in the marketing channels are farmer organizations (groups, associations, cooperatives).

24. Processing of agricultural commodities is mostly limited to paddy; and even in this case a large amount of paddy is exported in unprocessed form. Very little of collected maize and cassava and hardly any cashew nuts and peanuts go into processing within Cambodia.

25. Overall, only 44% of the agribusiness entrepreneurs have one bank account with commercial banks. The proportion is highest for machinery sellers (72%) and lowest for rice sellers (29%). Having a bank account increases with the size of the enterprise: while 83% of large enterprises have a bank account only 17% of micro enterprises do. Virtually no agribusiness enterprise has a bank account with MFI.

26. Bank accounts of agribusiness entrepreneurs are concentrated among a few key players, with around 96% held by four banks: ACLEDA Bank, CANADIA Bank, ANZ ROYAL Bank and CAMPU Bank. ACLEDA is the most used commercial bank by agribusiness enterprises.

BANK SERVICES AND LOAN CHARACTERISTICS

27. Use of banking services. Agribusiness entrepreneurs use banking services mainly for taking loans and money transfers. About 64% of surveyed enterprises take loans from banks and 58% use banking services for money transfers.

28. Payments. Most payments for purchases of products by agribusiness enterprises are based on cash. Sales by surveyed agroenterprises tend to involve slightly greater use of short-term credit (partial and full) than purchases. Overall between 38% and 47% of

payments among value chain actors involve some form of credit, either fully or in combination with cash payment.

29. Financing requirements. The highest financing requirements of surveyed agroenterprises are during the rice harvesting season from November to February.

30. Financial planning. Most entrepreneurs have difficulty in financial planning and in estimating needs for working capital and fixed assets investment.

31. Loans taken. The total value of loans taken by the surveyed enterprises during 2010-2011amounts to US$ 40.7 million. The loans taken are able to cover only a fraction of the capital needs of the enterprises. In 2010-2011, more than three quarters of the loans were from commercial banks, 9% from microfinance institutions, 6% from money lenders (informal), 5% from rice miller associations, and 3% from other informal sources. The main source of loans for agribusiness enterprises are commercial banks. Most of the commercial banks are accessible by agribusiness entrepreneurs. The existence of the accessible banking infrastructure combined with a range of products and better terms may explain the high number of credits from commercial banks.

32. Interest rate. The interest rate charged on a loan is by far the most important characteristic of a loan for the businesses surveyed. Generally, interest rate decreases as the size of the loans increases, independently of the type of business. Loans beyond US$ 100,000 would correspond to lower monthly interest rate below 1%. Almost all credit below US$ 10,000 would incur higher interest rate, all above 1.5% with the exception of machinery sellers.

33. Bank fees. Overall, the average fee and administrative costs in getting a loan amounted to almost 1.4% of the average loan (average $1,254).

34. Loan duration. The median duration of loans is fairly consistent across most business types, with ricer sellers having loans of about two years and all other businesses having loans of about one year.

35. Loan terms. Processors, in particular, mentioned that monthly repayments of interest and principal are not suitable for them, given the seasonality of their liquidity. However, bullet loans are more suited to their way of functioning and more suitable to their business needs. Monthly repayment and bullet loans are the two main loan repayment modes for agribusiness entrepreneurs. Bullet loans are gaining favour with entrepreneurs.

36. Collateral. Formal financial services providers (commercial banks and microfinance institutions) require some form of collateral for nearly all of their loans. Often, commercial banks use a mix of land and buildings/fixed assets, whereas microfinance institutions rely almost exclusively on land. By contrast, informal lenders tend not to require collateral for most of their loans, although money lenders sometimes use land as collateral.

USE AND PERCEPTIONS OF FINANCIAL SERVICES

37. The three most used financial service providers in the survey are commercial banks, money exchanges, and money lenders. More than half of the respondents reported having worked with commercial banks. Agribusiness entrepreneurs barely rely on financial services from microfinance institutions (MFIs). The survey data show less than 5% of respondents using services from MFIs. In fact, they use money lenders and family and friends to much a greater extent (9%) than MFIs (5%).

38. Overall, formal institutions such as banks, MFIs, and insurance companies are perceived as less satisfactory than informal providers such as value chain actors, money lenders, and family and friends. However, services provided by commercial banks are perceived as more satisfactory than other financial institutions. The finance providers with the lowest satisfaction rating include the Rural Development Bank, MFIs, and insurance companies.

39. Overall, speed of doing business is considered satisfactory. Commercial banks and MFIs' speed of doing business is perceived as good or very good by more than 70% of respondents. The perception of agribusiness entrepreneurs about flexibility of repayments mirrors their response regarding speed of doing business. Overall, entrepreneurs are satisfied with repayments terms, particularly in the case of informal service providers.

40. Overall perceptions about interest rates charged by commercial banks are better than for other financial institutions. However, dissatisfaction about bank fees is very high for the Rural Development Bank and MFIs (30% and 15% of respondents are very dissatisfied) whereas only about 10% of respondents are very dissatisfied with fees charged by commercial banks, insurance companies, and money lenders.

41. Overall, more than two thirds of agribusiness entrepreneurs were satisfied about the awareness of financial service providers about the needs of the agribusiness sector. Most survey entrepreneurs reported high satisfaction (above 70% satisfied) regarding staff quality with any type of financial institutions except for insurance companies where only about half of respondents are satisfied.

42. In summary, agribusiness entrepreneurs are satisfied with financial service providers, particularly as regards dimensions of speed of doing business, flexibility in repayments, knowledge about sector needs, and quality of staff. They are less satisfied about interest rates and fees. Noteworthy is that commercial banks are perceived positively in most respects by most respondents. The two areas that need improvement for commercial banks are interest rates and fees.

CONSTRAINTS TO CREDIT

43. Respondents were requested to indicate their opinion regarding a number of factors that constrain access to credit. According to the respondents, constraints linked to collateral seem not to be a major problem in accessing credit. About two third of "non-users" and three quarter of "users" affirm to completely fulfill the criterion of having land title. Only a handful of entrepreneurs reported not having such documents. For other assets, most of the respondents partially or completely fulfill the criterion.

44. Good credit history is important according to respondents. Distributions of good credit history show different patterns for "non-users" and "users" of financial services. This latter group is more aware and more concerned about the role of credit history in getting credit. About 40% reported to somewhat fulfill and 12% completely fulfill the criterion, in contrast to 60% of "not at all" and only 1% "fulfill completely" for "non-users".

45. "Having good business plan" is a constraint to access loans for both groups of uses and non-users of financial service providers. Most of the agribusiness actors think that they will not be able to comply with the requirement of "having informal accounting records". The requirements of "having accounting system" and "having audited accounts" will remain difficult to attain by agribusiness actors. There is no substantial difference across users and non-users. About eight to nine out of ten reported "not at all" meeting these requirements.

46. Overall, for about 14% of the respondents the lack of credit is a risk with serious impact on their business.

ESTIMATION OF DEMAND FOR CREDIT

47. In order to make sense of all these potential factors affecting the demand for credit, an econometric analysis of credit demand has been carried out. The econometric analysis shows that the statistically significant variables affecting demand for credit include fixed assets, interest rate, export orientation, type of business, location, and availability of credit from friends and relatives.

48. The larger the fixed assets, the higher the demand for loans; the elasticity of demand with respect to assets is 0.6. Processors are the type of business with the highest demand for credit; all other types are less likely to take loans, especially crop collectors and machinery sellers. The interaction of assets with export orientation is also a statistically significant albeit small effect on the demand for credit: those enterprises which have both high fixed assets and export are more likely to demand for credit.

49. As expected, interest rate has a negative effect on credit, but the elasticity is not very high (-0.35) suggesting that the demand for credit is relatively "flat" with respect to interest rate. Other factors can influence such demand in a statistically significant way. For example, being a crop collector implies less demand for credit than a processor; being located in Phnom Penh will affect positively the demand for credit; and access to informal sources of credit such as family and friends will lower the demand for loans from commercial banks.

50. The main implications of this analysis are that to improve demand for credit, mechanisms to reduce interest rates to users should be identified and programs to accelerate investment in fixed assets should be formulated.

KNOWLEDGE AND USE OF ALTERNATIVE FINANCIAL PRODUCTS

51. Knowledge of products such as collaterized loans, transfers, saving/deposit accounts, insurance, and current accounts are known by the majority of the respondents; however few entrepreneurs in the sample know about credit cards, mortgages, overdraft facilities, leasing, letters of credit, alternate collateral, and factoring, advance payments.

52. Use of all financial products is relatively low, including those products that are well known. For example, even though almost all entrepreneurs know about collaterized loans and transfers, only about 45% of respondents have used a collaterized loan and less than half of the respondents have made financial transfers through a financial institution. In the case of mortgages, leasing, alternate collateral, and factoring virtually nobody in the sample has used these products.

53. Opinions of respondents on various finance issues are quite varied and there is not a strong common response. There are however three findings that are worthwhile to highlight for their relevance to the conclusions and policy implications.

54. First, in the view of the agribusiness entrepreneurs interviewed during the survey contrary to much widely-held opinion access to finance does not seem to be the main constraint to their business. Less than half of the respondents see finance as the main constraint, about two fifths disagree with the statement, and one tenth has a neutral position on the issue. This obviously does not imply that finance is not important. However, issues such as competition for raw material with neighboring countries, access to logistics, and governance of the value chains are factors that might be of even greater importance for the development of agribusiness in Cambodia.

55. Second, the responses on the question of interest rate affordability are divided. One third of respondents disagree, one half agrees, and one fifth is neutral on the issue. Again, this does not minimize the importance of interest rates. The econometric analysis of demand for credit shows a negative elasticity of demand for credit with respect to interest rates. However, that analysis also confirmed that the credit demand curve is relatively "flat" with respect to the interest rate (elasticity equal to -0.3).

56. Third, about three fifths of respondents disagree with the statement that lack of collateral is a main constraint to bank credit. Even though financial institutions require collateral, entrepreneurs seem to have sufficient collateral (in the form of either land or fixed assets) that could be used to obtain loans. The analysis of demand for credit shows that the higher the level of fixed assets, the higher is the demand for credit. However, factors such as the nature of the business (eg processing versus trade), interest rates, availability of credit from family and friends, and export orientation might have a bearing on the demand for credit that mitigate the lack of collateral.

KEY FINDINGS

57. **The Modern Agribusiness Sector is Emerging.** A "modern" sector related to value addition (processing) or higher farm productivity (inputs and machinery seller) is emerging. The recent rice policy with the target of 1 million rice export by 2015 has encouraged investment in the sector by both domestic and foreign investors. In recent years, a number of

initiatives by the government and development partners are focusing on the rice milling industry, food safety and quality assurance systems, postharvest systems, and value chain development.

58. **Dynamism in the Modern Sector and Medium-Large Enterprises.** One of the most visible signs of the taking off of the agroindustry in Cambodia is evidenced in the survey by the dynamism of modern sector and medium and large enterprises. The data indicated a growth of the agribusiness sector turnover of about 6% between 2010 and 2011. In fact most of this growth is due to the "modern sector" including processors, inputs suppliers, and machinery sellers. The "traditional" (trading) sector has hardly contributed to any growth. The growth dynamism is further differentiated. It is mostly the medium (turnover between $0.5 and $2 million) and large enterprises (turnover more than $2 million) who contribute to the growth of the sector. Their contribution is not just in terms of growth but also in terms of employment and turnover. For example medium and large enterprises represent 36% of the total enterprises, but contribute 61% to total employment, 93% to turnover, and 93% to growth.

1. **Weaknesses in Value Chain Linkages.** There are two major weaknesses in the current system of value chain linkages of the agribusiness sector in Cambodia. First, there are hardly any farmer organizations well integrated in the system of agricultural value chain exchange; as a consequence the opportunity of realizing economies of scale and improving quality and consistency of raw material is largely lost. Second, processors are the only business with some horizontal coordination through rice miller associations. However, there are external indications that governance in these associations is poor.

59. **Low Use of Financial Services and Products.** Only 44% of surveyed agroenterprises have a bank account. Most payments are in cash, and enterprises largely self-finance their working capital and investment needs. The three main financial services used by enterprises which have bank accounts are loans, transfers, and currency exchange. Few enterprises know and even fewer enterprises use a variety of financial products that could meet client needs. Enterprises are not really sure about the advantages and disadvantages of several financial products since there is not much awareness about the benefit of these financial products.

60. **Constraints to Credit and Demand.** Agribusiness enterprises have indicated a number of factors that in their view affects their access to bank finance. Econometric analysis has quantified the impact of all these factors and identified those which are statistically significant. The statistically significant factors of demand for credit include fixed assets, interest rates, export orientation (when combined with higher assets), type of business (for example processors), and availability of informal sources of credit (family and friends).

61. **Opinions of Agroenterprises about Finance.** Contrary to much widely held opinion access to finance does not seem to be the main constraint to business in the view of the agribusiness entrepreneurs interviewed during the survey. The survey shows that less than half of the respondents see finance as their main constraint. This obviously does not mean that finance is not important. However, it suggests that other issues such as competition for raw material with neighboring countries, access to logistics, and governance of the value

chains are factors that might be of even greater importance for the development of agribusiness in Cambodia.

POLICY IMPLICATIONS

62. **Consolidation of the Industry: Promising Clientele for Commercial Banks.** As mentioned above, growth in the modern sector is stronger than in the traditional sector. Moreover, growth of medium and large enterprises is stronger than micro and small enterprises. If the trend observed in the survey were to continue, a concentration and consolidation of the industry might occur. Given that medium and large enterprises are the ones that contribute most to growth, employment, and value addition, the consolidation trend would promise well for growth, employment and value addition in the country and rural areas. It would also have an important implication for commercial banks.

63. As noted in the analysis of the survey data, larger enterprises and "modern sector" enterprises tend to have higher demand for credit and a variety of financial services (checking and saving accounts, money transfers, letters of credit, loans, payments of employees and suppliers, leasing, insurance, factoring). Larger and modern enterprises also have higher fixed assets and closer linkages with commercial banks and other actors in the value chain. These enterprises could be a primary customer for the banking sector. The working capital and fixed assets investment requirement will increase both for the enterprises already in existence and for new companies entering the industry. The banking industry should closely monitor the trend in the agribusiness sector and get ready to meet the growing demand of agribusiness enterprises for credit and other financial services.

64. Monitoring the growth of the agribusiness sector should also be a priority of the government not only to assure that its rice export goal is achieved, but also to ensure that the pattern of growth based on medium and large enterprises results in greater productive employment and sustainable income growth.

65. **Value Chain Development.** Continued growth of the modern agribusiness sector requires the development of institutional mechanisms that could strengthen value chain linkages both vertically and horizontally. Farmer organizations are largely missing in the existing value chains. This seriously constrains the opportunity for improving quality of products and consistency of supply. Trade and industry associations are also weak and poorly governed. The opportunity of benefiting from organized training and capacity building and access to programs and credit is also constrained.

66. Suggested improvements might include: the formation of value chain development committees with representatives of processing industry, farmers, traders, and financial institutions to identify common strategies for strengthening value chain linkages; innovative contract farming arrangements; and expansion of business linkages to other sectors outside of agribusiness such as agricultural research institutes, logistics operators, quality control service providers, packaging and equipment suppliers with the objective of lowering transportation cost and improving quality.

67. **Meeting the Increasing Demand for Credit and Financial Services of the Agribusiness Sector.** The main implications of the credit demand analysis are that to improve demand for credit, financial institutions should make an effort at finding mechanisms to reduce interest rates and accelerate investment in fixed assets; they should also focus on processors, input suppliers and machinery sellers. The survey has also shown some economies of scale in lending and interest rates: larger loans are usually matched with lower interest rates. This suggests a strategy of credit pooling to ensure that larger loans are disbursed with lower interest rates. Credit pooling could be directed to associations of enterprises, provided that good governance of these associations is in place. An alternative strategy is to use value chain financing: banks provide finance to a large enterprise in the value chain (for example to a processor) which in turns can extend credit to crop collectors, farmers, and rice sellers. These linkages among value chain actors already exist and partial or full credit is already given, albeit to a limited extent.

68. The credit demand analysis has also quantified the effect of fixed assets on demand for credit. It has also shown that most of the investment in fixed assets is financed by own sources. Acceleration of fixed assets investment could be obtained through tax incentives (eg accelerated depreciation) or even matching grants (in case the fixed assets provide additional benefits as for example biomass renewal energy generation).

69. **Major Effort in Capacity Building and Awareness**. To realize the opportunities offered by the expanding finance needs of the agribusiness sector, the financial sector will require to engage in a major effort at capacity building and awareness activities. This effort should be based on joint forces of the banking sector and business development service (BDS) providers. Financial literacy of agroenterprises has to improve. A number of financial products (eg letter of credits, credit cards, overdraft facilities, line of credit, leasing, mortgages, factoring) are not clearly understood by enterprises. Accounting systems have to be consistent with generally acceptable practices. Business plans and strategic plans of agribusiness enterprises need to be formulated to improve not only operations and performance, but also to improve access to finance. Value for money spent on financial services and financial products has to be assessed and clearly communicated to agribusiness enterprises. The four main commercial banks currently used by agribusiness enterprises (ACLEDA, CANADIA, ANZ Royal, and CAMPU) need to expand their outreach and make their products better understood. Promotion campaigns will be crucial to capture the promising agribusiness enterprise market.

1. INTRODUCTION

1. Cambodia's agribusiness sector is in the midst of several transformations including (i) productivity improvement; (ii) increasing cross-border trade; (iii) expansion of the rice milling industry; (iv) regional integration through economic and logistics corridors; and (v) new entries in the world and regional rice market.

2. In the production system, investments in irrigation and changes in cropping patterns during the wet season have been critical to increase cultivated area, yields, and cropping intensity. Growth has accelerated over the past 7 years. Future agricultural production growth will still rely on a combination of land expansion, yield improvements, and increase in cropping intensity, particularly with increased importance of the dry season crops. In addition to rice, production of a number of crops has increased rapidly, particularly maize, cassava, cashews and rubber. Most future land expansion will come upland areas which will be suitable of a variety of crops and faming systems (including cattle) that will probably require larger investments and agribusiness finance.

3. Cross-border trade with neighboring Thailand and Viet Nam has accelerated in a number of commodities. It is estimated that between 2 and 2.2 million tons of paddy are sent to Vietnam and Thailand. Other commodities include cashew nuts, maize, soy beans, and sesame. In addition to agricultural commodities, a number of agricultural inputs (fertilizer, sees, pesticides) and machinery are imported. The cross-border trade with Viet Nam and Thailand is very active and dominated by a rich network of Cambodian traders who have established long-term relationships with their cross-border buyers. The trade benefits from the higher prices of agricultural commodities paid by Thai and Viet Nam buyers and by arbitrage opportunities in the exchange rate available to Cambodian traders.

4. Recent investment in the rice milling industry by both private and foreign investors has occurred over the recent years and led to the emergence of a growing group of modern large rice mills in Cambodia and capacity for exporting quality rice[1]. At the same time programs by donors are addressing some of the constraints faced by small and medium mills. At the policy level, a policy to promote rice exports has already been formulated and is being implemented. The target of the policy is perhaps a little ambitious (1 million tons export by 2015), but the policy provides a framework and strategy to act on different dimensions thought essential to the growth of the rice industry including improvements in production, processing, finance, infrastructure, and institutions.

5. In the Greater Mekong Subregion (GMS) a number of initiatives are strengthening the regional integration through infrastructure development in the East-West and North-South corridors, logistics improvements, and supporting trade measures such as integration of customs and SPS and food safety systems. The regional integration will improve Cambodia's

[1] Tom Slayton & Sok Muniroth 2012, Turning Rice Into "White Gold".

link to major ports in the region, particularly those in Saigon (Vietnam) and Laem Chabang (Thailand) to overcome the infrastructure weaknesses of the Sihanoukville port.

6. As Cambodia is struggling to convert its paddy surplus into rice export, the world rice market might be ready for a new entry already looming at the door. Myanmar, another country in the Greater Mekong sub-Region is positioning to become a major rice exporter by promoting the rice milling industry and investment in production. The next decade might witness a very different outlook in the key players in rice world market. The GMS is already the leading region for rice exports. Sub-regional improvements in infrastructure and logistics might even set the stage for the emergence of truly global markets, including regional logistics agreement, warehouse receipt systems, and futures markets for rice.

7. The transformations above and an abundance of natural resources (Cambodia land/population ratio is relatively high by Asian standards, its rich water resources are home to some of the most diverse fisheries habitats in the world, and its forestry resources are considerable although declining at an alarming rate) provide opportunities for Cambodia to become not only a sizable exporter of rice and other agriculture, fishery, and forestry products, but also to transform its agricultural sector from one characterized by low value added to one able to produce higher value added with a growing rural non-farm economy and strong agribusiness sector.

Table 1 Ratio land over Active Agricultural Population

	Cambodia	**Vietnam**	**Thailand**	**Nepal**	**Myanmar**
Agricultural land (ha)	5,550,000	10,272,000	19,795,000	4,250,000	12,440,500
Active population	4,966,000	29,631,000	19,302,000	12,066,000	18,789,000
Ratio land / Active Population	1.12	0.35	1.03	0.35	0.66

Source: FAOSTAT, and Authors' Calculation

8. As a consequence of the factors above there are several consequences that are visible manifestations of structural transformation in agriculture. These include an increasing modernization and professionalization of management systems and production processes, access to increasingly sophisticated markets, an increasing willingness by industry leaders to innovate and adopt new technological solutions, increasing access to credit, and an increasing interest from foreign investors to invest in Cambodia agribusiness sectors, either through joint ventures or alone.

9. It is therefore important to understand how the agribusiness sector in Cambodia is faring in general and identify those constraints that might slow down the transformation of the sector into a more dynamic one. One of these constraints is finance.

10. The objective of this study is to provide an evidence-based analysis of agribusiness enterprises in Cambodia with the main aim of understanding constraints to finance.

11. The report is organized into 9 chapters including this introduction. Chapter 2 provides the methodology of the study and chapter 3 presents a typology of agribusiness enterprises and their characteristics. Chapter 4 considers the key indicators of assets, working capital, and investment; chapter 5 presents the commercial transactions and chapter 6 the business linkages. Chapter 7 gives details about banking services. Chapter 8 discusses the perceptions of agribusiness entrepreneurs about financial services and finance issues. Chapter 9 gives the conclusions.

2. STUDY METHODOLOGY

2.1. Objective

12. The objective of this report is to describe key characteristics of agribusiness enterprises in Cambodia with the aim to identify barriers to finance and to highlight the findings to policy makers, financial institutions, and donors.

2.2. Sample Size, Locations, Distribution

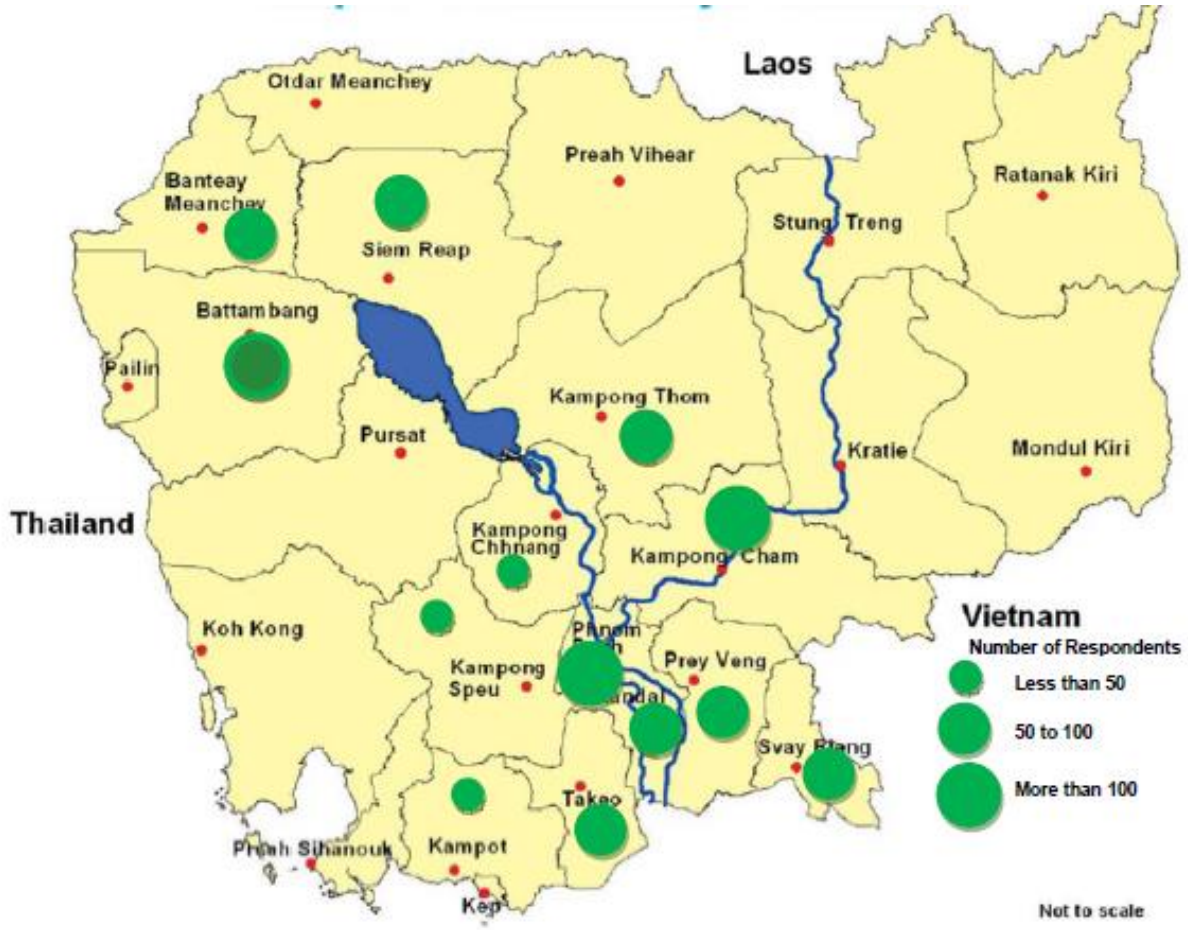
The study is based on evidence from a survey with a sample size of 1,030[2]. The design of the survey adopted a purposive approach to identify provinces and respondents aiming at representativeness. This purposive approach[3] resulted in the selection of the following 13 provinces (see Figure 1):

i. Bantey Meanchey
ii. Battambang
iii. Kampong Cham
iv. Kampong Chhnang
v. Kampong Speu
vi. Kampong Thom
vii. Kampot
viii. Kandal
ix. Phnom Penh
x. Prey Veng
xi. Siem Reap
xii. Svay Rieng
xiii. Takeo

[2] Based on Ministry of Industry, Mine and Energy (MIME) latest data in 2011, there are 13,809 agro-processing enterprises which are active and have received one year operating permit and three-year operating licenses from MIME. Using sample size calculator to determine sample size selection/sampling by applying 99% confidence level and accepting 3.9% margin of error, the recommended sample size is 1,011 respondents.

[3] The approach is described in the background paper prepared by BDLINK.

Figure 1 - Map of Surveyed Locations



13. The process of identifying the sample of agroenterprises relied on indicators of crop production and population in each province and resulted in the following sample distribution:

Table 2 Sample Distribution

Type of business	Number of sampled units	% in terms of sample size	% in terms of turnover
Processors	330	32.0%	35.1%
Input sellers	227	22.0%	9.0%
Machinery sellers	67	6.5%	6.2%
Crop collectors	228	17.3%	44.6%
Rice retailers	178	17.4%	5.1%
Total	1,030	100.0%	100.0%

14. The lack of contact details and updated contact information in the available databases resulted in a decision to use the snowball survey technique to carry our survey implementation. Typically, survey implementation in a province started by contacting local authorities and business associations to obtain lists of agricultural enterprises in the province. Processors are the starting point for the interviews. Contact information of their trading partners are collected and used to identify and locate subsequent agribusiness enterprises. The same process is applied to each value chain actor and repeated until the target number of respondents is reached by location.

2.3. Representativeness

15. With 1,030 enterprises interviewed, this is one of the most comprehensive surveys of agribusiness actors in Cambodia. The sample size is significantly larger than other previous surveys on agribusinesses[4]. The 13 provinces in the sample cover all major strategic locations for agribusiness enterprises in Cambodia. Population in the 13 surveyed provinces represents 86% of total population and their rice production accounts for 89% of total rice crop production in Cambodia.

16. The volume of transactions by various value chain actors recorded during the survey represents a substantial proportion of the total national production and thus reinforces the representativeness of this survey. Overall, the transaction recorded by the survey amounts to $1.14 billion. Total purchases of non-crop items, including fertilizers and pesticides, represent $185 million. The total quantity of paddy purchased by the interviewed processors (1.24 million tons) represents 16% of the national paddy production[5]. For other products, transactions recorded by the crop collectors in the sample account for 25% (229,000 tons) of national maize production, 85% (229,000 tons) of national groundnut production, and 10.5% (360,000 tons) of total national cassava production.

2.4. Actors

[4] The study by IFC 2010, Understanding Cambodian Small and Medium Enterprise Needs for Financial Services and Products, International Finance Corporation, is based on a survey of 504 SMEs of which 161 are agriculture related; in the IFC 2010, Prospects for Cambodia's Cashew Sub-sector, International Finance Corporation, 80 value chain stakeholders were interviewed; in Goletti 2010 Emerging Dynamics in the Rice Sector in Cambodia and Implications for Viet Nam, a questionnaire was administered to 47 respondents in cross-border trade; in the agrostorage survey conducted during the Emerging Food Assistance Project (see ACI and NIRAS 2011 Emergency Food Assistance Project and Strengthening Institutional Capacity for Emergency Response to Food Crisis and Improving Food Security) a questionnaire was administered to 127 respondents.

[5] To avoid double counting, the share reported shows the highest transaction achieved across type of business. For example, Cambodia produces 7.6 million tons of rice. The survey captured 1.24 million tons through processors (16% of national production), 1.06 million tons through crop collectors (14%) and 47 tons through rice sellers (<1%). In total, the survey captured 31% of the total rice production, a percentage biased upward since in some occasions, processors may buy rice from crop collectors, or inversely. However, using the highest percentage from the highest value chain actors (here 16% from processors) will downward bias the share captured by the survey but the team decided to use the more conservative number to assess the representativeness of the study in terms of volume of crop captured.

17. Agribusiness actors are characterized by the type of business and the size of business. Within the same element of the value chain, some enterprises may be large and work as wholesalers; some may be small and perform as retailers. To assess the size of the business, the study uses the amount of turnover generated by the enterprise.

18. Turnover volumes reflect the gross annual total sales of the enterprise. Data in this study are self-reported by the respondents. The ability to generate turnover is an important measure of the activity of the enterprises, and particularly is relevant in the context of an analysis of access to finance. Other financial indicators will be also used in this analysis, including asset size, working capital, and purchase and sales volumes. However, we will use the magnitude of the annual turnover to assess the size of the enterprise. This approach is consistent with the way in which commercial banks and microfinance institutions classify enterprises in Cambodia, regardless of their self-classification status of micro, small, medium, or large.

19. The following classification[6] is used for the analytical presentation:

Table 3 – Classification of Enterprises

Classification	Enterprises generating annual turnover in US$ of…
Micro	< 50,000
Small	Between 50,000 to 500,000
Medium	Between 500,000 to 2,000,000
Large	> 2,000,000

2.5. Limitations

(i) This study aims at identifying the barriers to accessing finance by small and medium agribusiness enterprises in Cambodia. Even though the survey covers enterprises engaged in different agricultural value chains (rice, maize, cashews, cassava, soybeans), given the importance of rice in the agricultural sector of Cambodia, the majority of the surveyed enterprises are related to the rice sector. As such, the survey is biased towards rice sector and provides only limited information about SME in other subsectors.

(ii) The study is focused on 5 types of agroenterprises and does not cover farmers.

(iii) The largest ten rice processors are not included in the survey. The main conclusions of the study (see chapter 9) are probably not affected by this limitation; nevertheless the robustness of the conclusions should be validated in the future when data on the ten largest rice millers are collected.

(iv) Information on land assets is not collected.

[6] Alternative classifications are based on employment and on assets. In the case of agribusiness enterprises, the classification based on employment would not provide sufficient variation to derive meaningful results. The classification based on assets would give similar results to the one based on turnover.

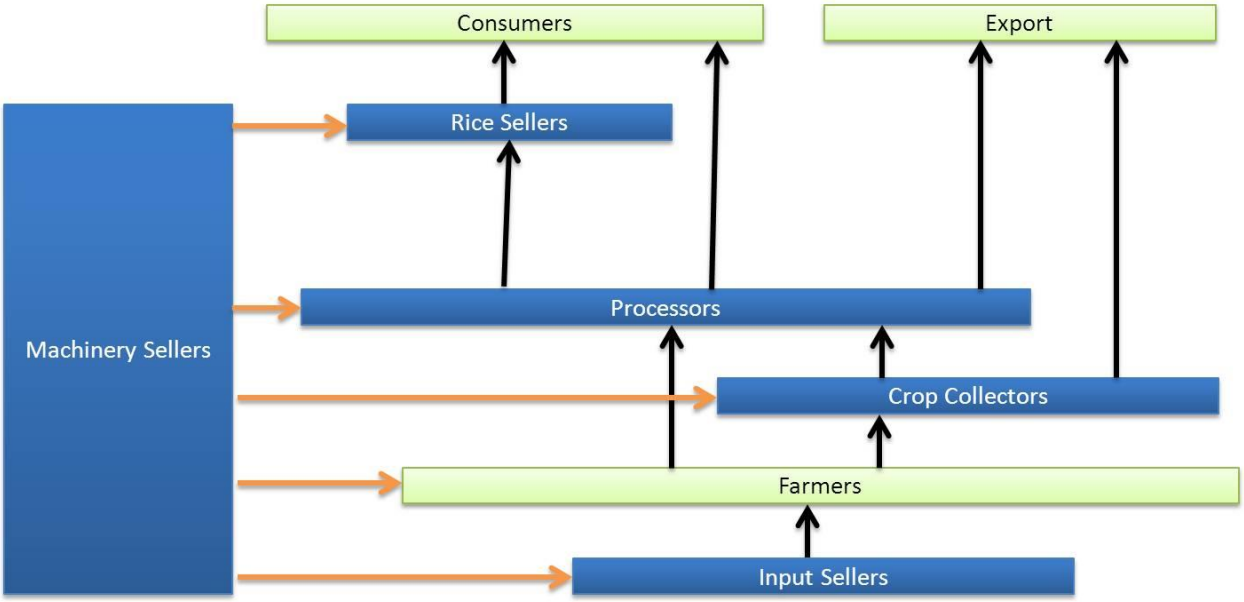
(v) Information collected at the province level is not necessarily representative of the province.

3. GENERAL CHARACTERISTICS OF RESPONDENTS

A simplified representation of an agricultural value chain in Cambodia is provided in Figure 2. The value chain includes the input sector (eg machinery, equipment, seed, fertilizer), the production sector (farmers), the processing sector (eg rice millers), the trading sector (crop collectors, rice sellers, exporters), and consumers (either domestically or internationally). The report focuses on the following five types of value chain actors[7] highlighted in Figure 2, namely:

1. Input Suppliers
2. Crop Collectors
3. Machinery sellers
4. Processors
5. Rice Sellers

Figure 2 – Actors in the Agribusiness Value Chain



3.1. The Surveyed Agribusiness Enterprises

3.1.1. Gender of Owner or Manager of Enterprise

20. About 90% of respondents are owners of the enterprise and the remaining are general managers. **There is no huge gender difference in the overall sample where women**

[7] The data) did not include farmers. The main objective of the study is to look at SME in agribusiness with the aim to understand constraints to finance. By not including farmers, the survey does not allow to analyze the full demand for agricultural credit. Presumably part of this demand is met by MFIs. In our survey we find that MFI are quite weak in addressing the needs of agribusiness SME.

account for 47%. Generally, women dominate micro and small rice sellers and input suppliers. However, **as the size increases, then there are more men in charge of agribusiness enterprises** (see Table 4).

Table 4 - Gender of Owner or Manager by Size and Type of Enterprises

	Micro		Small		Medium		Large		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Processors	69%	31%	62%	38%	65%	35%	77%	23%	67%	33%
Input Suppliers	43%	57%	52%	48%	48%	52%	63%	38%	48%	52%
Machinery Sellers	60%	40%	57%	43%	75%	25%	60%	40%	60%	40%
Crop Collectors	63%	37%	50%	50%	57%	43%	52%	48%	54%	46%
Rice Sellers	24%	76%	33%	67%	47%	53%	60%	40%	33%	67%
Total	46%	54%	51%	49%	59%	41%	63%	37%	53%	47%

3.1.2. Processors

21. **Most of the processors in the survey are involved in rice** (see Table 5). They purchase paddy and mill it into rice or they purchase brown rice and they polish it. Other processors are involved in maize and cassava (for the feed industry). The few reported non-rice processors are a reflection of the fact that, in spite of considerable surplus in cashew nuts and soybeans (see section 3.1.5 on crop collectors), these products are hardly processed in Cambodia.

22. The rice miller industry has considerably changed over the past few years partly in response to opportunities presented by EU (*Everything but Arms* program) and also the incentives of the Rice Export Policy (one million tons by 2015). Newcomers are investors with large capacity mills who will primarily target the export market[8]. The new and largest mills have not been included in the survey partly due to the difficulty of reaching them. There is however considerable variation in the rice processors sample and an acceptable number of relatively large rice mills to derive a number of robust conclusions for this group of processors.

Table 5 - 2011 Turnover for Processors by Group of Crops

Group of Crops	Average Turnover ($ '000)	Total Value ($ '000)	Share on turnover
Maize	6,500	13,000	2.7%
Paddy/Rice	3,144	460,927	95.2%
Cassava	8,234	8,234	1.7%

[8] See recent reviews by Tom Slayton 2009, A Road Map for Cambodian Rice Exports; Tom Slayton and Sok Moniroth 2011, A More Detailed Road Map For Cambodian Rice Exports; Francesco Goletti 2010, Emerging Dynamics in the Rice Sector in Cambodia and Implications for Viet Nam, Agrifood Consulting International; Tom Slayton & Sok Muniroth 2012, Turning Rice Into "White Gold".

Other	294	1,765	0.4%
Total	1,466	483,926	100.0%

3.1.3. Inputs suppliers

23. Surveyed input suppliers sell three products: fertilizers, pesticides and seeds; **fertilizer is however the main represented product in the survey with 98% of total sales** (see Table 6). Activities of input suppliers are concentrated during the main agricultural season. During the main rice growing season (summer rainy season), the demand for fertilizers and pesticides tends to be high, and inversely, activities are low during off-season particularly in provinces with limited irrigated areas.

Table 6 – Input Suppliers Sales Transactions

Input	Total Sales ($ '000)	% Total Sales	Estimates share of sales from total national sales
Seeds	113	0%	<3%
Fertilizer	129,132	98%	82%
Pesticides	1,598	1%	82%
Other	1,354	1%	N/A
Total Inputs	132,197		

3.1.4. Machinery sellers

24. Agricultural machinery sellers can be found in every province but are mostly located in Phnom Penh and Kampong Cham. Other provinces, Battambang and Banteay Meanchey (bordering Thailand), and Svay Rieng and Takeo (bordering Vietnam) are key points for importing machinery. **Agricultural machinery sellers primarily sell tractors, power tillers, water pumps, and harvesters**. They sell a variety of products but the main ones include tractors, power tillers, and water pumps (see Table 7). Power tillers are mostly sold by large enterprises, tractors by medium enterprises, and water pumps by large and small.

Table 7 – Machinery Sellers Sale Transactions

	Total Values	Sales by size over product sales	Sales by product over total sales
Power Tillers	US Dollars		
Micro	15,300	0%	
Small	334,850	1%	
Medium	3,496,500	13%	
Large	23,200,000	86%	
Total Power Tillers	27,100,000		35.8%

Tractors	US Dollars		
Micro			
Small	39,000	0%	
Medium	6,780,000	61%	
Large	4,389,000	39%	
Total Tractors	11,200,000		14.8%

Water Pumps	US Dollars		
Micro	195,840	2%	
Small	3,217,270	36%	
Medium	749,555	8%	
Large	4,733,482	53%	
Total water pumps	8,896,147		11.7%

Other	US Dollars		
Micro	101,520	0%	
Small	1,381,750	5%	
Medium	2,107,600	7%	
Large	25,000,000	87%	
Total Other	28,600,000		37.7%

All Machineries	US Dollars	
Micro	312,660	0%
Small	4,972,870	7%
Medium	13,100,000	17%
Large	57,400,000	76%
Total machineries	75,800,000	

3.1.5. Crop Collectors

25. **Crop collectors are middleman for various crops such as rice, cashew nut, cassava, maize, soybean, and sesame** (see Table 8). Most of the entrepreneurs will work with variety of crops even if in some provinces such as Prey Veng, collectors will specialize in trading paddy for sale to bordering Vietnam. Paddy is the main crop collected followed by cashews, cassava, and maize.

Table 8 - Values of Purchase (US Dollars) by Crop Collectors in 2011

	Values	**%**	**Estimated % from National Values**
Maize (raw)	39,087,625	6.0%	22%
Maize (shelled)	8,409,638	1.3%	5%
Paddy	322,564,640	49.3%	27%
Milled rice	703,000	0.1%	-

Broken rice	400,000	0.1%	-
Rice bran	250,000	0.0%	-
Rice husk	279,180	0.0%	-
Soy bean	45,460,350	6.9%	59%
Cassava	59,177,650	9.0%	12%
Cashew	129,709,900	19.8%	-
Sesame	21,061,300	3.2%	54%
Seeds	93,500	0.0%	-
Ground Nut	15,090,400	2.3%	-
Mung Bean	12,629,080	1.9%	-
Red Bean	7,500	0.0%	-
Total Crop Purchases	654,923,763	100%	

3.1.6. Rice retailers

26. The main activities of rice retailers are buying and selling rice for domestic consumption either to smaller rice sellers or directly to consumers. Most of them are relatively small in size and sell from their home-base, often without warehouse. Rice sellers are more numerous in large consumption areas such as the capital Phnom Penh, Battambang, Kandal, and Kampong Cham. Compared to other types of businesses, small, medium, and large scale rice sellers have a relatively more balanced contribution to the total turnover; **among rice sellers there are no large dominant enterprises**; for example large rice retailers contribute 45% of total turnover of the group whereas the average for other enterprises is 76%.

3.2. Starting Year of Operations

27. **The surveyed enterprises are relatively young with about 30% of them having started operation during the past 5 years**[9]. Most of the enterprises have started after economic liberalization in 2000. The age of the enterprises tends to be higher with the size of the enterprise. This is not surprising, given that many micro and small enterprises have a high mortality rate, whereas medium and large enterprises are more stable. Age of enterprises varies also with the type of business. Processors are older (82% of them are more than 5 years old) whereas input seller are the youngest (44% of them are less than 5 years old).

3.3. Formal Structure

28. Close to **90% of the agribusiness enterprises in Cambodia are family-owned** (Table 9). The ratios are very high for rice sellers (99%) and crop collectors (98%), but drop

[9] The survey was undertaken in 2011-2012.

to 73% for machinery sellers and to 79% for processors. Nearly 92% of input collectors units are also family-owned enterprises. Overall, about 10.5% of the enterprises are sole-proprietor[10] enterprises and less than 0.3% of them are in the form of partnership.

Table 9 - Ownership and Formal Structure of Enterprises by Type of Business (Percentage of Enteprises)

Structure of the Enterprises	Overall	Processor	Input Supplier	Machinery Seller	Crop Collector	Rice Seller
BY OWNERSHIP						
Sole proprietor	10.5%	20.3%	7.5%	25.4%	2.2%	1.1%
Family-owned	89.2%	79.1%	92.5%	73.1%	97.8%	98.9%
Partnership	0.3%	0.6%		1.5%		
BY FORMAL STRUCTURE						
Formal	49.3%	81.8%	71.8%	50.7%	8.3%	12.4%
Informal	50.7%	18.2%	28.2%	49.3%	91.7%	87.6%

29. In the survey, questions about formal structure of business in the survey refer to the process of business registration. By law, all merchants engaging in commercial activities are required to register with the Ministry of Commerce (MOC), the Ministry of Industry, Mine and Energy (MIME) or at different level of the Government (Province, Municipality, local authority). However, most enterprises start their business operations before applying for relevant operating licenses from government agencies. Often, law enforcers require enterprises to apply for relevant licenses and facilitate the whole licensing process starting from filling in the application form to handing out the license. In practice, firms pay a lump sum fee for the entire licensing application process and wait to receive the license. Large enterprises involved in import and export are likely to apply for business registration and licensing in order to meet government regulations related to cross border trading.

30. **About half of the surveyed agribusinesses are formal (that is registered with some central of local authority),** with two distinct patterns by type of business: processors, input suppliers, and machinery sellers are more inclined to formalize their enterprises while crop collectors and rice sellers tend to be informal with respectively 91.7% and 87.6% not registered.

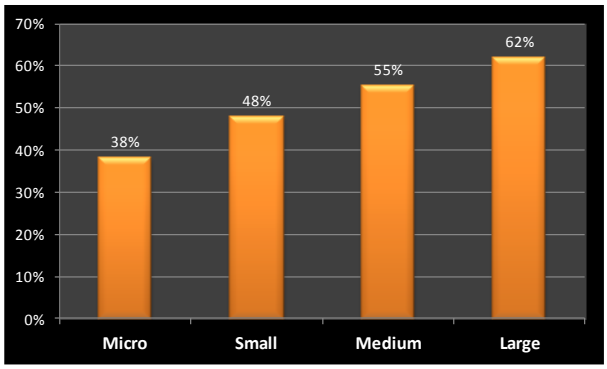
31. Varying with the nature, size, and location of their businesses, enterprises register with different authorities. Processors are likely to register with the MIME (78% of registered enterprises); input suppliers register mostly with local authorities (57%), and machinery sellers tend to register at the municipality/provincial level (35%). The percentages of registered units for crop collectors and rice sellers are very low but those who register mostly use municipality and local authority. The regulations related to business registration are not

[10] Family-onwed could be registered or not registered, but they are owned by the family. Sole proprietor are registered with Ministry of Commerce and refer to a private limited company.

entirely clear and there is both confusion as to the exact type of registration required and not strict enforcement by authorities[11].

32. **Enterprise size affects the degree of formality**. The proportion of formal enterprises rises from 38% for small enterprises to 62% for large enterprises (see Figure 3). However, there are differences across types of businesses. For processors, 98% of large units are formal, registered mostly with the MIME. Even small processors tend to formalize their activities (62%). Similarly, 72% of input suppliers are registered mostly with local authorities. About 50% of machinery sellers are formal, half of them registered with the MOC. While only 20% of small machinery sellers are formal, the proportion of formality rises to 85% with the large (20% formal) to the large machinery sellers.

Figure 3 - Degree of formality by size



33. However for rice sellers and crop collectors, bigger size does not always imply higher registration rate. About 82% of large crop collectors and 83% of large rice sellers remain informal. For rice retailers, only 12% of all enterprises are formal, almost all of which are registered at the municipality level. The figure is even lower for crop collectors (8% formal) despite their relative higher annual turnover. Nonetheless, the increase of the proportion of formality as the units become larger may be observed for crop collectors as well but at very low magnitude from 0% for micro enterprises to 17% for large enterprises. **Crop collectors and rice retailers, even when they are large, tend to be informal businesses.** Presumably crop collectors see more disadvantages than advantages in formalizing their business. Given their rapid and large cash flow turnover and margins, increased formalization would make more susceptible to taxes and other government controls. Moreover, their need for investment in fixed assets, equipment, or raw material is much lower and they largely depend on cash transactions.

3.4. Employment Level and Type

34. **Surveyed agribusiness enterprises do not employ large number of staff**. The maximum number of full-time staff per enterprise observed in the sample was 65 and the total employment was about 6,000 staff.

[11] **BDLINK 2011, Business Survey in Licensing & Inspections in the Agro-Processing Sector in Cambodia, A study conducted by BDLINK for IFC**

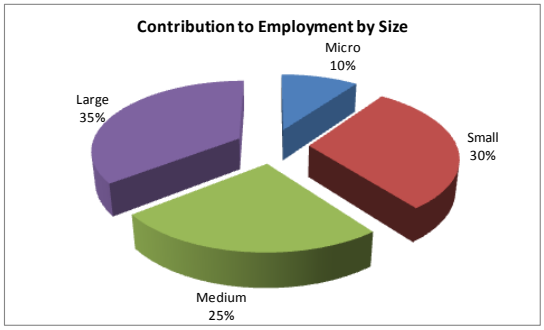
35. **Most of the employment is generated by processors and large companies** (see Table 10, Figure 4). The number of staff increases with size but on average, even large enterprises hire just above a dozen workers.

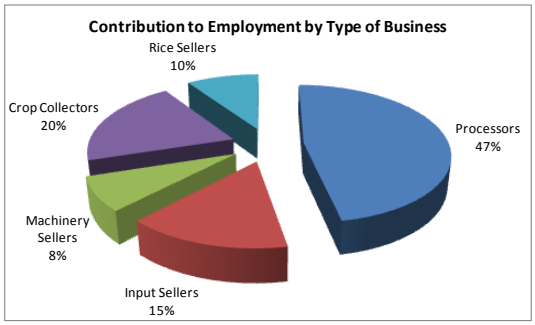
36. The turnover per employee of different surveyed enterprises varies considerably ranging from just below $10,000 for micro enterprises to over half a million dollars for large enterprises. Crop collectors have the highest turnover per employee (again over half a million dollars) and rice sellers have the lowest at $125,000 (see).

Table 10 – Number of Staff by Type and Size

By type	Average Number of Staff	**Employment**	**Turnover 2011 ($ 000)**	**Turnover /Employee ($ 000)**
Processors	8.41	2,774	483,926	174.451
Input Sellers	3.94	894	124,454	139.210
Machinery Sellers	6.93	464	85,687	184.670
Crop Collectors	5.29	1,205	616,412	511.545
Rice Sellers	3.15	561	70,073	124.907
Total	**5.73**	5,898	1,380,551	234.071
By Size		**Employment**	**Turnover 2011 ($ 000)**	**Turnover /Employee ($ 000)**
Micro	2.64	588	5,566	9.466
Small	4.02	1,751	86,773	49.556
Medium	6.84	1,463	225,152	153.897
Large	13.35	2,096	1,063,060	507.185
Total	**5.73**	5,898	1,380,550	234.071

Figure 4 – Contribution to Employment by Enterprises


Contribution to Employment by Size
Micro
10%
Small
30%
Medium
25%
Large
35%


Contribution to Employment by Type of Business
Rice Sellers
10%
Processors
47%
Input Sellers
15%
Machinery
Sellers
8%
Crop Collectors
20%

3.5. Size and Distribution of Enterprises

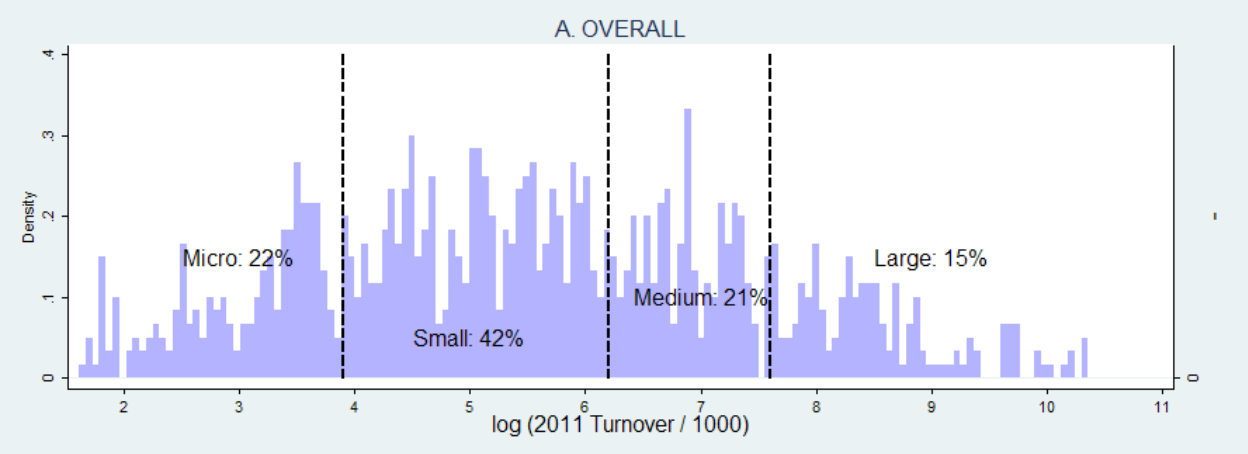
37. Size of enterprises in the survey is measured by level of turnover (see methodology section 2.4). The analysis of enterprise distribution highlights the diversity of enterprises in terms of size and type of business. The data show **the presence of a continuum of enterprises consisting of micro, small, medium, and large enterprises, with each size currently finding its niche**. For example large processors are more interested in export whereas small processors are more oriented to the local market; larger machinery sellers focus more on power tillers whereas medium sellers focus more on tractors. Given the rapid change in the sector however, this structure will likely change over the medium term (see section 3.8 on growth).

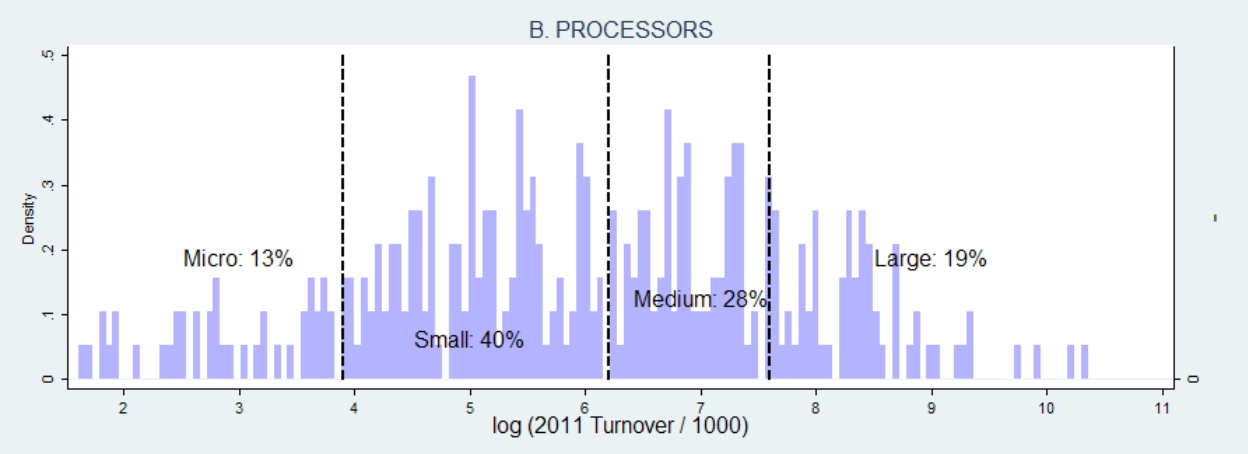
38. The histograms in Figure 5 represent the distribution of agribusiness firms in the survey by the level of 2011 turnover[12]. From left to right the three dashed vertical lines represent the benchmark for micro (annual turnover below $50,000); small (annual turnover between $50,000 and $500,000), medium (annual turnover between $500,000 and $2 million) and large units (annual turnover above $2 million).

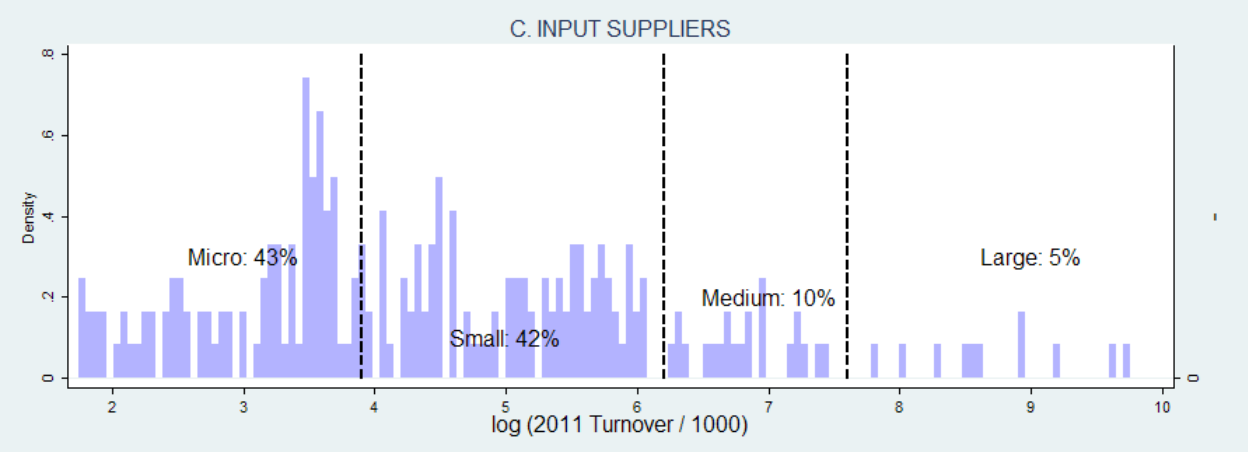
39. Figure 5 shows the overall distribution of actors by size of the enterprise and by type of business. The largest group in the sample consists of small size enterprises (42%), followed by micro size (22%) and medium enterprises (21%). The group of micro-to-medium size enterprises accounts for 85% of the entire sample. Large enterprises represent 15% of the sample. This breakdown significantly varies across type of business. For processors, micro-to-medium size units with turnover below $500,000 represent 81% of the sample; this proportion surges to 95% for input suppliers and to 97% for rice sellers. On the other side, machinery sellers and crop collectors are characterized by relatively high number of large enterprises, with respectively 19% and 28% of the respective samples. **Small enterprises (ie enterprises with turnover between $50,000 and $500,000) are the largest group of enterprises in the sample distribution** ranging from 33% of crop collectors to 56% of rice sellers.

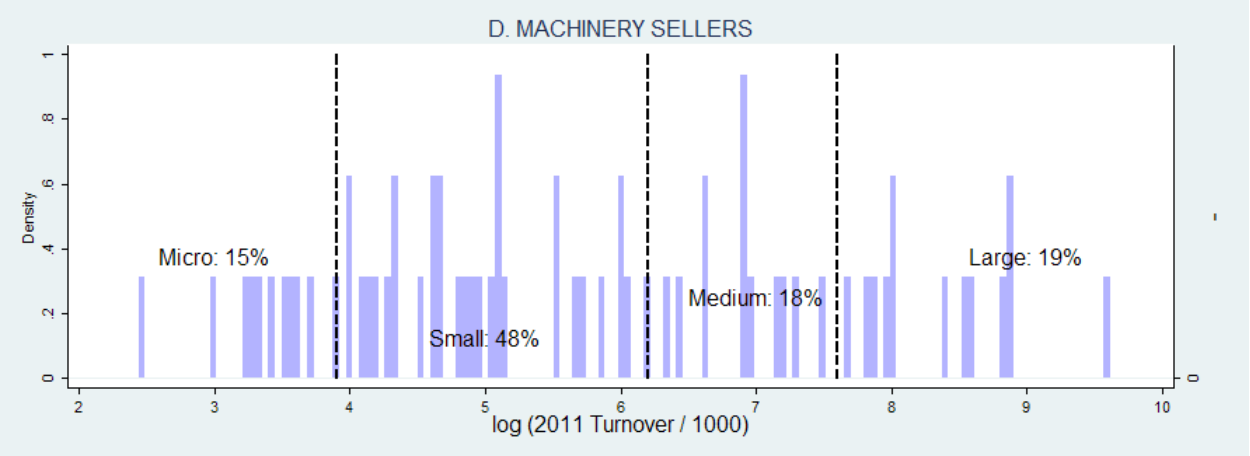
Figure 5 – Distribution of Sample

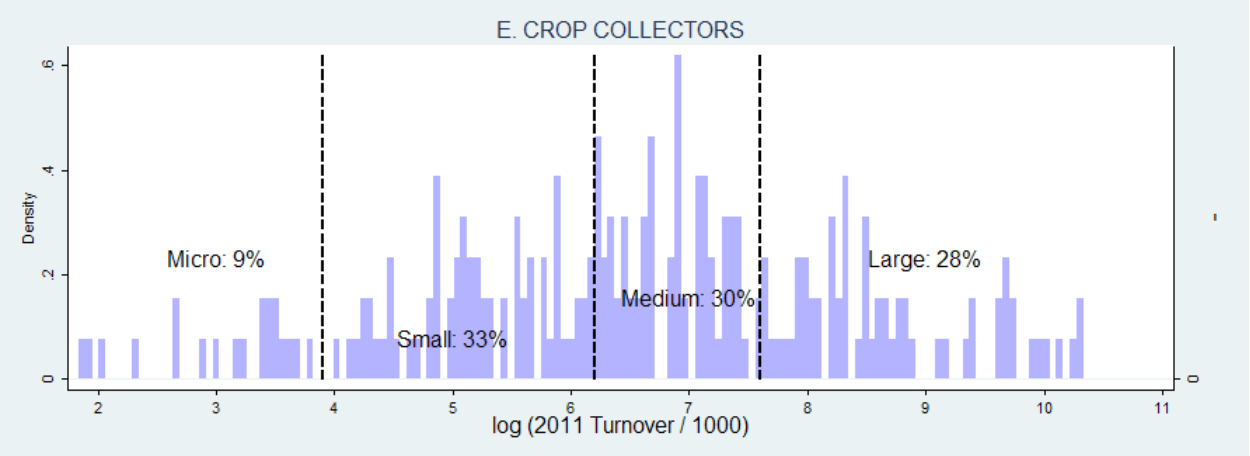
[12] By using log of the turnover on the horizontal axis (rather than a linear ranking) makes it easier to visualize the distribution of the sample across the horizontal axis. A linear ranking would show most of the density function concentrated to the left of the graph.

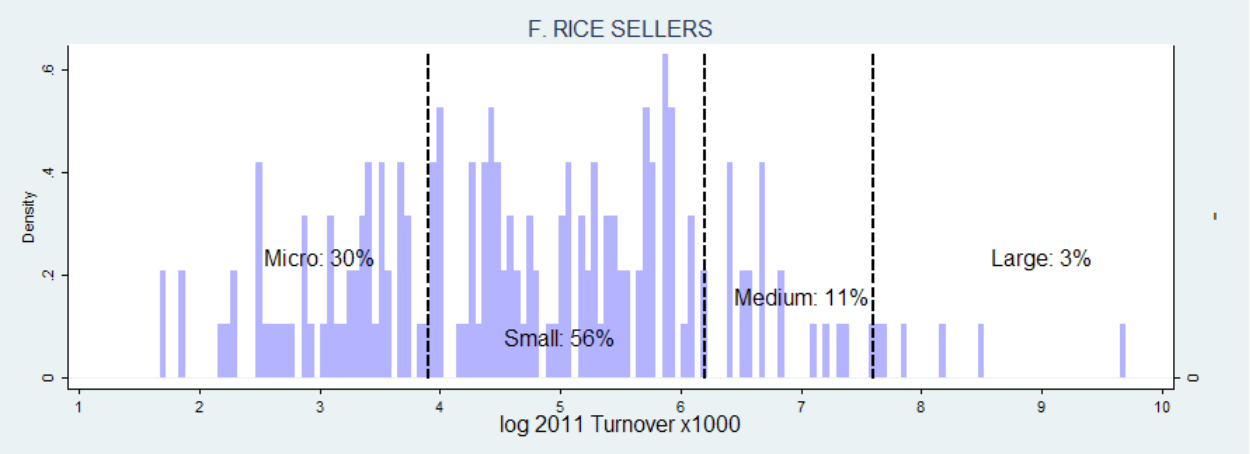

A. OVERALL
Density
Micro: 22%
Small: 42%
Medium: 21%
Large: 15%
log (2011 Turnover / 1000)


B. PROCESSORS
Density
Micro: 13%
Small: 40%
Medium: 28%
Large: 19%
log (2011 Turnover / 1000)


C. INPUT SUPPLIERS
Density
Micro: 43%
Small: 42%
Medium: 10%
Large: 5%
log (2011 Turnover / 1000)







What does it all say about structure of Cambodia agribusinesses? How does it compare to other countries in the region or at same income level.

3.6. Geographical Distribution of the Enterprises

40. **The geographical distribution of surveyed enterprises primarily reflects the distribution of crop production and population of different provinces.** As a result provinces such as Battambang and Kampong Cham where crop production is high, and Phnom Penh where population is high have more respondents than other provinces. The distribution within the provinces also takes into account prior information regarding the concentration of certain actors in certain provinces. So, for example, a large concentration of processors and crop collectors is located in Battambang and Kampong Cham (see Figure 6 and Figure 7) because these are the provinces with higher crop production volumes. Most rice sellers and machinery sellers are located in Phnom Penh (see Figure 8 and Figure 9), whereas input suppliers are more evenly distributed (see Figure 10).

Figure 6 – Surveyed Processors and Crop Production in Different Provinces

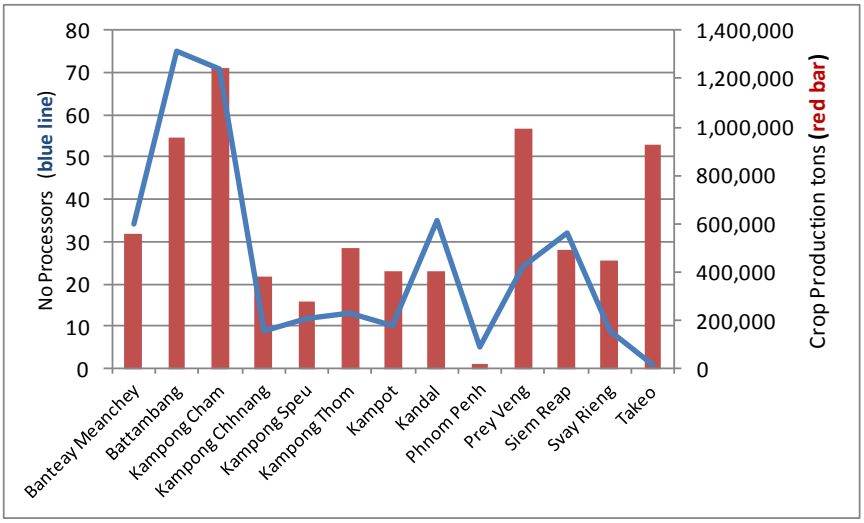


Figure 7 – Surveyed Crop Collectors and Crop Production in Different Provinces

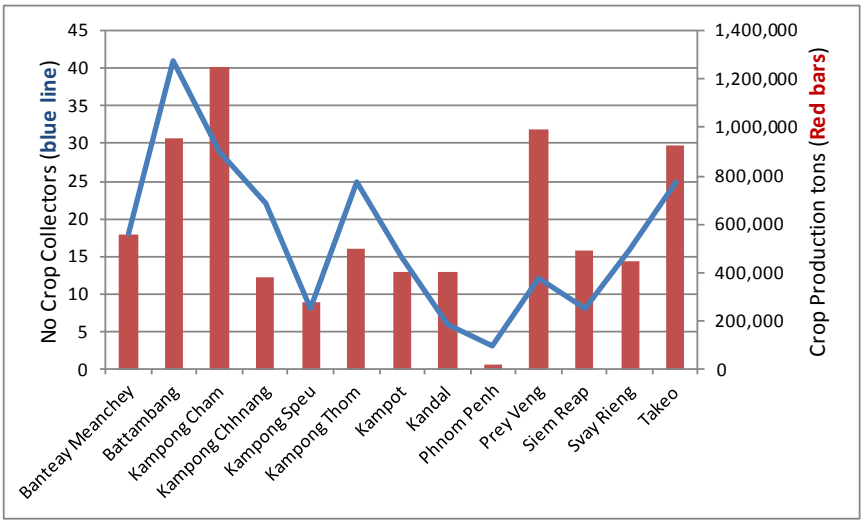


Figure 8 – Surveyed Rice Sellers and Population in Different Provinces

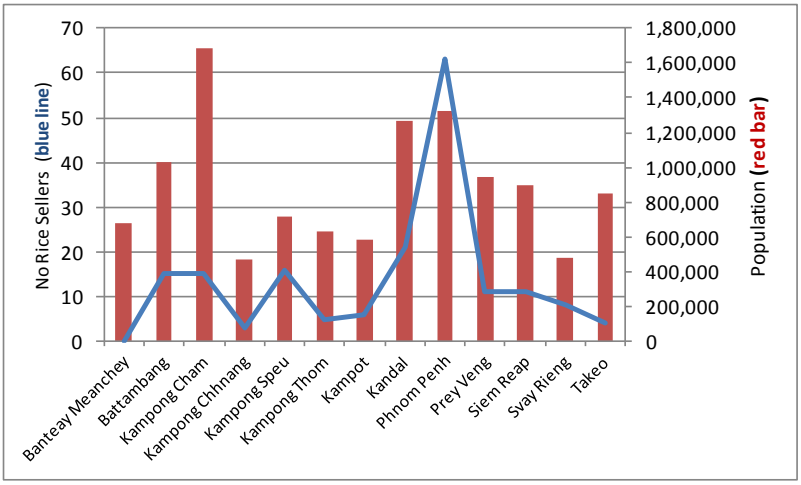


Figure 9 – Surveyed Machinery Sellers and Crop Production in Different Provinces

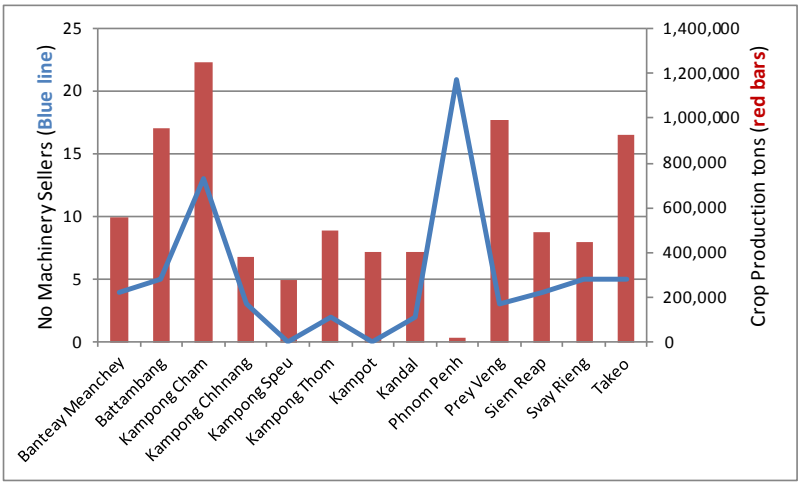
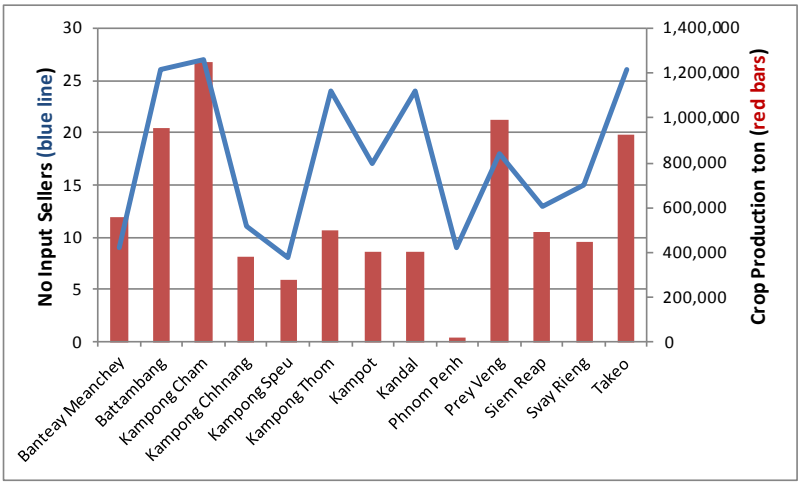


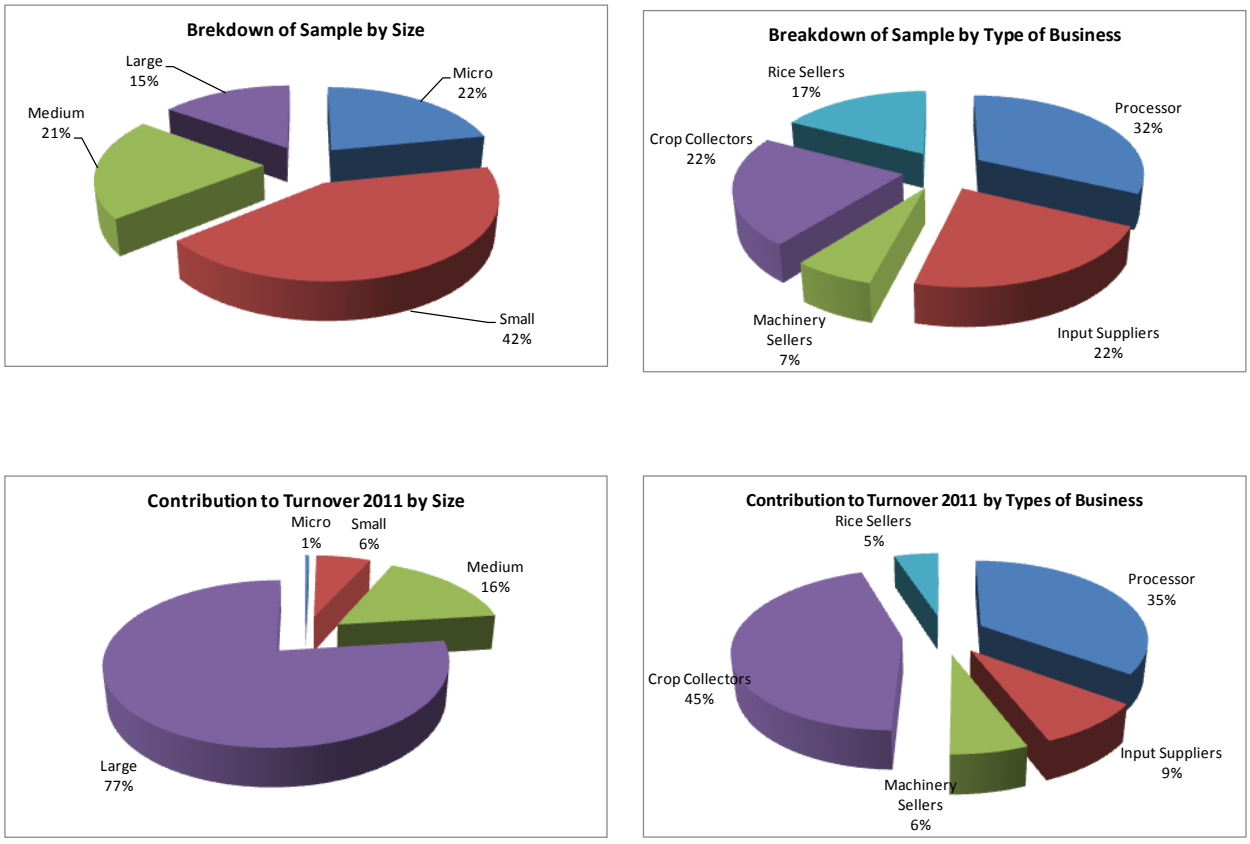
Figure 10 – Surveyed Input Sellers and Population in Different Provinces



3.7. Turnover Contribution of Agribusiness Actors

41. Analysis of turnover contribution highlights a structure of the agribusiness sector whereby **crop collectors and processors are the two most important agribusiness actors, together contributing about 80% of turnover; however crop collectors make the largest contribution to turnover** (see Figure 11). Crop collectors account for 45% of the turnover in 2011, followed by processors (35%), and input suppliers (9%). Rice sellers and machinery sellers respective turnover shares are 5% and 6%. **This is largely a reflection of the underdevelopment of the agribusiness industry in Cambodia**. The dominance of crop collectors is symptomatic of the still relatively low role of value adding activities in the agribusiness sector as they are also involved in cross-border trade. Several agricultural commodities including paddy, cashew, maize, soy beans are exported to neighboring countries for processing. As a result **the contribution of the processing sector in agribusiness turnover is still lower than the contribution of crop collectors**. The high turnover of crop collectors masks their limited value added to the economy.

Figure 11 - Contribution to 2011 Turnover by Size of Business



42. The general pattern observed in the agribusiness sector **is that large enterprises contribution to turnover is disproportionate to their numbers**. For example, large enterprises represent 15% percent of the sample but generate 77% of total turnover (see Table 11). This pattern is observed in other agribusiness types as well. Micro and small processors

represent 53% of the sample but generate only 5.5% of the processors turnover, while large processor units (19% of the sample) generate 74% of the turnover. For machinery sellers, the 19.4% large generates 78% of the turnover. The extreme case is for input suppliers where the largest units (less than 5% of the sample) generate 66% of the total turnover in 2011. Large enterprises contribute to overall turnover much more than smaller enterprises. The disproportionate contribution of the large enterprises to turnover reminds us of similar patterns in employment (see section 3.4). On average, one large enterprise generates 277 times more turnover than a micro enterprise and 34 times more than a small enterprise. The important role of large enterprises in turnover echoes a similar role in turnover and growth (see Table 12).

Table 11 - Contribution to Turnover 2011 by Size and by Type of Agribusiness Enterprises

Size of Business	**All**	**Processor**	**Input Suppliers**	**Machinery Sellers**	**Crop Collectors**	**Rice Sellers**
Micro	0.4%	0.2%	2.0%	0.3%	0.1%	1.9%
Small	6.3%	5.3%	14.4%	6.6%	3.0%	27.4%
Medium	16.3%	20.6%	17.2%	14.8%	11.9%	25.4%
Large	77.0%	73.8%	66.4%	78.3%	85.1%	45.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 12 – Enterprise Contribution to Employment, Turnover, and Growth in 2011

Group	% of Sample	% of Employment	% of Turnover	% of Growth
Micro	21.8%	10.0%	0.4%	0.1%
Small	42.3%	29.7%	6.3%	6.8%
Medium	20.8%	24.8%	16.3%	23.0%
Large	15.0%	35.5%	77.0%	70.1%
Total	100.0%	100.0%	100.0%	

3.8. Growth of Agribusiness Enterprises

43. In 2011, the overall amount of turnover for all businesses in the sample reached $1.38 billion (see Table 13), a 6.4% increase from the 2010 level. Figure 12 shows that the **overall growth was mostly driven by large enterprises** (contributing 70% of overall growth) **and processors** (contributing 56% of overall growth).

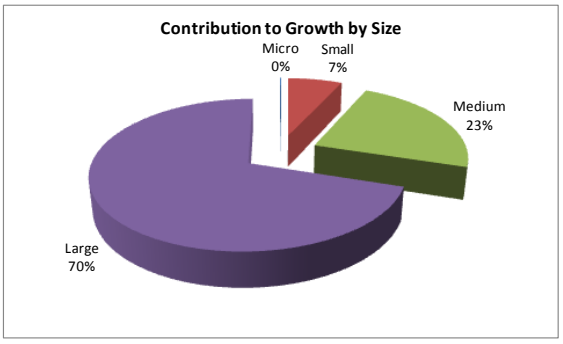
44. T**he "modern" sectors** including input suppliers, processors, and machinery sellers make a contribution to overall growth much higher than the "traditional" sectors such as crop collection and rice sellers (see Figure 12).

45. Based on the observations, **growth is driven by medium and large enterprises and by the "modern" agribusiness sector involved in processing, input supply, and machinery**. Micro and small enterprises do not make much contribution to overall growth.

Table 13 – Turnover of Different Sizes and Types of Agribusiness in 2010 and 2010 ($ 000)

Type/ Size	All		Processors		Input Suppliers		Machinery Sellers		Crop Collectors		Rice Sellers	
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
Micro	5,449	5,566	1,136	993	2,322	2,471	281	288	411	492	1,300	1,321
Small	81,172	86,773	24,626	25,770	15,507	17,864	5,175	5,616	18,018	18,326	17,846	19,197
Medium	206,092	225,152	88,377	99,882	19,624	21,422	11,770	12,702	71,920	73,332	14,401	17,814
Large	1,004,933	1,063,060	321,849	357,280	58,695	82,696	64,319	67,081	527,609	524,262	32,462	31,740
Total	1,297,646	1,380,550	435,988	483,926	96,148	124,454	81,544	85,687	617,957	616,412	66,008	70,073

Figure 12 – Contribution to Turnover Growth (2010-2011) by Size and by Type of Agroenterprises



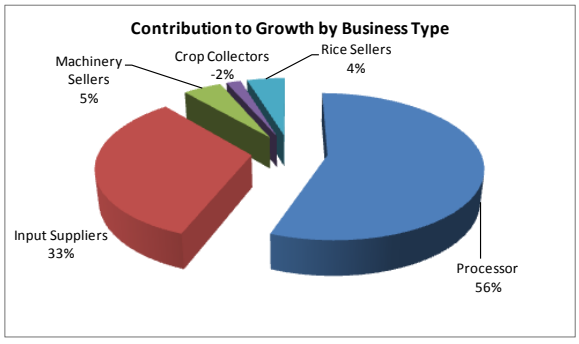


Table 14 – Growth of Agroenterprises by Size and Type

Size of Business	**All**	**Processor**	**Input Suppliers**	**Machinery Sellers**	**Crop Collectors**	**Rice Sellers**
Micro	2.1%	-12.6%	6.5%	2.6%	19.8%	1.7%
Small	6.9%	4.6%	15.2%	8.5%	1.7%	7.6%
Medium	9.2%	13.0%	9.2%	7.9%	2.0%	23.7%
Large	5.8%	11.0%	40.9%	4.3%	-0.6%	-2.2%
Total	6.4%	11.0%	29.4%	5.1%	-0.3%	6.2%

46. Given the differential growth of different enterprise sizes observed between 2010 and 2011, if the growth pattern continues, then the structure of the industry might change in the near future. Medium and larger firm might come to dominate the industry and micro and small enterprises might be absorbed by larger units. **This process of consolidation and growth might take place first among processors and input suppliers, two industries where growth has been stronger than in other agribusiness sectors.**

4. KEY FINANCIAL INDICATORS

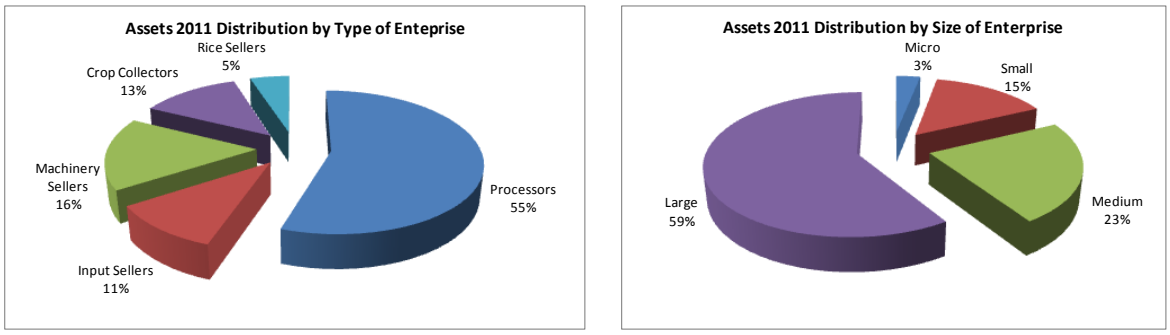
4.1. Assets

47. The survey collected information about assets including the value of buildings, machinery, vehicles, and equipment, but excluding land. In 2011, total assets (as defined in the survey) of surveyed enterprises amounted to $280 million (see Table 15). Processors (see Figure 13) are the main contributors to the total assets (55%), followed by machinery sellers (17%), crop collectors (13%), input suppliers (11%), and rice sellers (5%). In terms of size, medium (23%) and large (59%) enterprise contribute 82% of total assets.

Table 15 – Assets in 2011 by Type and Size

By type	Mean ($)	Total ($)
Processors	468,203	155,000,000
Input Sellers	131,228	29,800,000
Machinery Sellers	689,548	46,200,000
Crop Collectors	155,716	35,500,000
Rice Sellers	79,309	14,100,000
Total	271,957	280,000,000
By Size		
Micro	38,880	8,670,181
Small	95,390	41,600,000
Medium	300,541	64,300,000
Large	1,054,394	166,000,000
Total	271,957	280,000,000

Figure 13 – Distribution of Assets by Size and Type of Agribusiness Enterprise



48. When compared to the distribution of turnover, assets are less unequally distributed than turnover; the large enterprises own 20 times more assets than the micro; whereas they generate almost 200 times more turnover (see Table 16).

49. Looking at the turnover/asset ratio, there is a large variation along the dimensions of size and type of business, showing that different actors are differently able to use their assets to generate turnover. Crop collectors are the most skillful to utilize their limited assets in order to generate high turnover and machinery sellers the less skillful. The capacity of "converting" assets into turnover increases with the size of the business (see Table 16). **On average traditional value chain actors (crop collectors and rice sellers) have a higher turnover to asset ratio than modern value chain actors (processor, input sellers, and machinery sellers)**. The traditional sector has more frequent cash generated by its operations; business success is primarily based on individual reputation and contacts rather than on technology and fixed investments.

Table 16 – Assets and Turnover in 2011

	% Sample	% Turnover	% Assets	Avg Turnover ($ 000)	Avg Assets ($ 000)	Turnover/ Asset Ratio
By type						
Processors	32.0%	35%	55%	1,466	438	3.3
Input Sellers	22.0%	9%	11%	548	120	4.5
Machinery Sellers	6.5%	6%	17%	1,279	664	1.9
Crop Collectors	22.1%	45%	13%	2,704	141	19.1
Rice Sellers	17.3%	5%	5%	394	72	5.4
Total	100.0%	100%	100%	1,340	254	5.3
By Size						
Micro	21.8%	0.4%	3%	25	35	0.7
Small	42.3%	6.3%	15%	199	89	2.2
Medium	20.8%	16.3%	23%	1,052	273	3.9
Large	15.0%	77.0%	59%	6,858	997	6.9
Total	100.0%	100.0%	100%	1,340	254	5.3

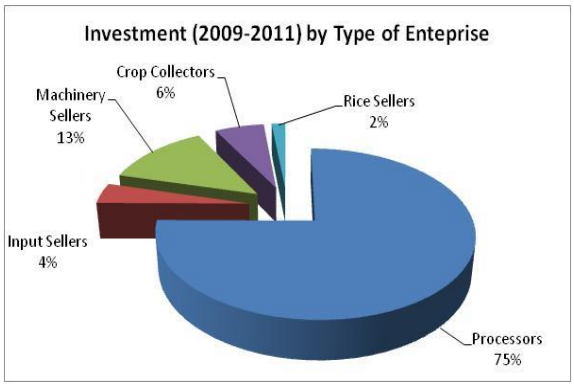
4.2. Investments into fixed assets

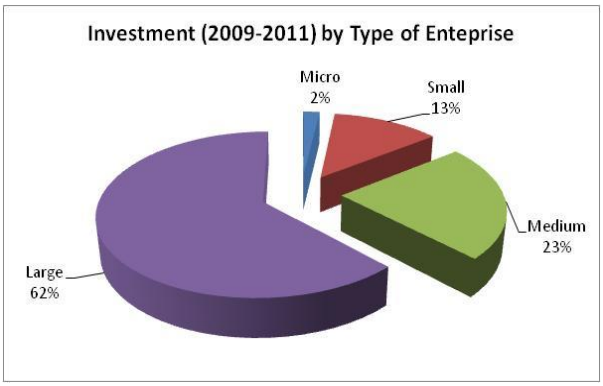
50. The survey includes information about investment into fixed assets during the last three years. Overall, total investment accounts to $48 million, representing less than 5% of total agribusiness turnover. Most entrepreneurs do not borrow money to invest in fixed assets. The results of the study indicate that **most of the investment is funded by own sources**: only 6% of the total investment is funded by commercial banks, 91% are funded by own source (saving and equity) and 2% are from relatives and friends.

Table 17 – Investment in the Past 3 years and Sources of Funding

			Sources of Funding (%)			
By type	Mean ($)	Total ($ '000)	**Own**	**Bank/MFIs**	**Money Lenders**	**Others**
Processors	155	36,187	88	8	0	3
Input Sellers	28	1,968	93	2	1	4
Machinery Sellers	272	6,259	99	1	-	-
Crop Collectors	29	2,945	95	4	0	1
Rice Sellers	20	819	89	9	-	-
Total	103	48,178	91	6	0	2
By Size						
Micro	14	944	93	4	1	1
Small	34	6,093				
Medium	91	11,078	89	5	-	6
Large	298	30,065	91	-	-	9
Total	103	48,178	91	6	0	2

Figure 14 Contribution to Total Investment by Type and Size of Enterprises





51. The majority of investments (75%) are made by processors. **The "modern sector" comprising processors, input suppliers, and machinery seller are the major investors** and contribute about 91% of total investment.

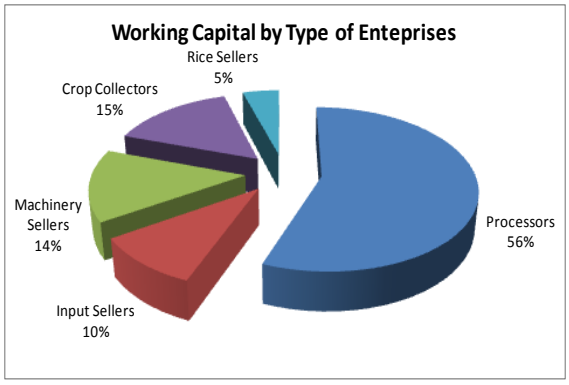
4.3. Working capital

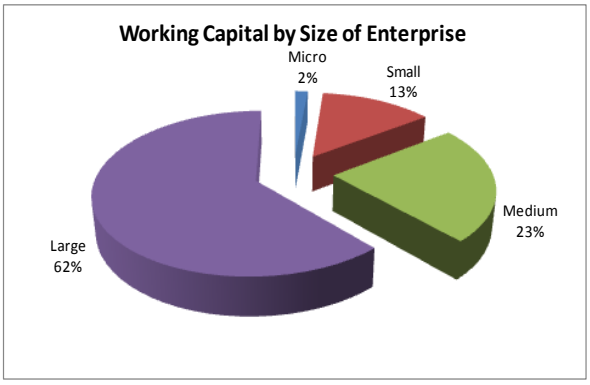
52. In 2011, the total working capital for the surveyed agribusiness entrepreneurs amounted to $141 million (see Table 18). Processors contribute about 56% of the total working capital, followed by crop collectors (15%), machinery sellers (14%), and input sellers (10%). **The "modern agribusiness sector" including processors, input and machinery sellers contributes the most to the total working capital** (about 80%). Large (62%) and medium (23%) enterprises together represent 85% of total working capital (see Figure 14).

Table 18 – Working Capital and Sources of Funding

			Sources of Funding (%)			
By type	**Mean ($)**	**Total ($ '000)**	**Own**	**Bank/MFIs**	**Money Lenders**	**Others**
Processors	240	79,062	74	20	1	4
Input Sellers	62	14,074	84	8	2	3
Machinery Sellers	302	20,261	85	12	0	1
Crop Collectors	94	21,541	74	15	3	4
Rice Sellers	36	6,422	91	5	0	2
Total	137	141,360	80	13	2	3
By Size						
Micro	9	2,128	91	5	1	2
Small	44	19,009	82	11	1	4
Medium	153	32,848	71	20	3	3
Large	564	87,375	70	22	2	4
Total	137	141,360	80	13	2	3

Figure 15 Contribution to Total Working Capital by Type and Size of Enterprises





53. **Working capital is primarily self-funded** (see Table 18)**.** On average, commercial and microfinance institutions finance about 13% of working capital. **In the case of processing enterprises and medium-large enterprises, commercial banks and MFIs finance about 20% of working capital.** The actual motivations behind the decision of taking a loan could be quite elusive (see **Box 1**).

54. The ratio of turnover to working capital gives an idea of how much turnover can be generated by each unit of working capital**. Crop collectors and rice sellers have the highest turnover/working capital ratio**, a result of their frequent and rapid sales and purchases cycle (see Table 19). In the case of machinery sellers, the ratio is the lowest. Surveyed traders (crop collectors and rice sellers) have a higher turnover-to-working capital ratio than "enterprises" (processor, input sellers, and machinery sellers). This is partly explained by more rapid purchases and sales cycles of traders due to either lack of processing or less demanding technical requirements in their products.

Table 19 – Turnover to Working Capital Ratio

By type	**Average Working Capital ($'000)**	**Average Turnover ($ '000)**	**Ratio Turnover to Working Capital**
Processors	240	1,466	6.1
Input Sellers	62	548	8.8
Machinery Sellers	302	1,279	4.2
Crop Collectors	94	2,704	28.6
Rice Sellers	36	394	10.9
Total	137	1,340	9.8
By Size			
Micro	9	25	2.6
Small	44	199	4.6
Medium	153	1,052	6.9
Large	564	6,858	12.2
Total	137	1,340	9.8

Box 1 Different motivations for taking (or not taking) loans

While the study team did find quite a few of the interviewed firms with loans out with financial institutions the size of the loans was vastly out of proportion with the size of their business. Two examples are worth expanding on to illustrate the size of the issue and more importantly the evasiveness (or plausibility?) of the answers.

Trader A had an overdraft facility of US$200,000 (@12%pa. and fully repayable after 4 months). While Trader A didn't indicate the size of his business just a rough calculation of his stock on hand and stated volumes would indicate at least a US$10 million business. Trader B indicated that his working capital requirements was around US$1 million while his overdraft facility was only US$100,000 (@12%pa, US$25,000 quarterly repayments over 2 years).

In both of these cases it was clear that they didn't need the loans as they had more than enough money to fund their own working capital. When asked why, Trader A said that he took the loan as (i) it made him appear to his neighbors that he was just as poor and struggling as they were (i.e. social reasons) and (ii) if the tax department ever came around he could point to his overdraft and claim that at a maximum he only had a US$200,000 business. Trader B was asked the same question and came to the opposite answer; laughing, he said that (i) he was a businessman, so why would he be so stupid as to voluntarily pay %12pa to the banks if he didn't need to, and (ii) the authorities never came to visit him in any case.

Findings from inception report of the Study Team

5. COMMERCIAL TRANSACTIONS

5.1. Purchases

55. The survey recorded total purchases of $1.32 billion comprising $1.14 billion of crop products, $118 million of agricultural inputs, and $67 million of material and equipment (see Table 20).

56. For crops, the most important product is paddy rice, which accounts for 69% of total volumes and 61% of total value of the purchased crops. Other significant crops are cashews with total purchases of $129 million (11%), cassava $62 million (5%) and maize $52 million (4%). The amount of products being processed is quite small, representing only 36% of the total. In fact, only in the case of rice, about half of the products purchased go through processing, whereas the rest is traded in unprocessed form. For other products, most of the product is purchase in unprocessed form. Most of the crops collected and traded in Cambodia are in unprocessed form. Even a large amount of paddy is exported to Vietnam and Thailand in unprocessed form. **Agribusiness enterprises are still largely dominated by trading without much value addition**.

57. Purchases of agricultural inputs are dominated by fertilizers amounting to $117 million. This total amount is purchased by input sellers (91%) and crop collectors (9%). Total value of purchased pesticides amounts to just below $1 million. Most of seed purchases (91%) are not going through input suppliers[13], but through crop collectors; the small total purchase value of $102,800 (Table 20) indicates that only about 200 tons of rice seeds are recorded in the survey; this is not surprising given that the major seed company (AQIP) is not part of the survey.

Table 20 - Value of Purchases by Type of Businesses

Products	$ Value of Crop Purchased by all Businesses	% value of Crop Purchased by product	Percentage of values of transaction of "products" going through…				
			Processor	Input Supplier	Machinery Seller	Crop Collector	Rice Seller
CROP PRODUCTS							
Rice	796,670,504	70.0%	50.3%			40.7%	9.0%
Cashew	129,709,900	11.4%				100.0%	
Cassava	61,928,745	5.4%	4.4%			95.6%	0.0%
Maize	52,614,658	4.6%	9.7%			90.3%	
Other Crops	97,700,779	8.6%	1.0%			96.5%	2.6%
Total Crop	**1,138,624,58**	**100.0%**	**36.0%**	**0.0%**	**0.0%**	**57.5%**	**6.5%**

[13] This might have to do with the sampling used. The main seed companies and distributors are not covered by the survey.

Products	$ Value of Crop Purchased by all Businesses	% value of Crop Purchased by product	Percentage of values of transaction of "products" going through…				
			Processor	Input Supplier	Machinery Seller	Crop Collector	Rice Seller
	6						
AGRICULTURAL INPUTS							
Fertilizers	116,870,746	99.1%	0.1%	90.9%		9.0%	
Pesticides	938202	0.8%		100.0%			
Seeds	102800	0.1%		9.0%		91.0%	
Total Inputs	**117,911,748**	**100.0%**	**0.1%**	**90.9%**		**9.0%**	
MACHINERIES							
Tractor (Small)	25,161,100	37.6%			100%		
Tractor (Big)	10,162,000	15.2%			100%		
Pumping Machine	8,167,990	12.2%			100%		
Other machineries	23,372,590	35.0%			100%		
Total Machinery	**66,863,680**	**100.0%**			**100%**		

5.2. Sales

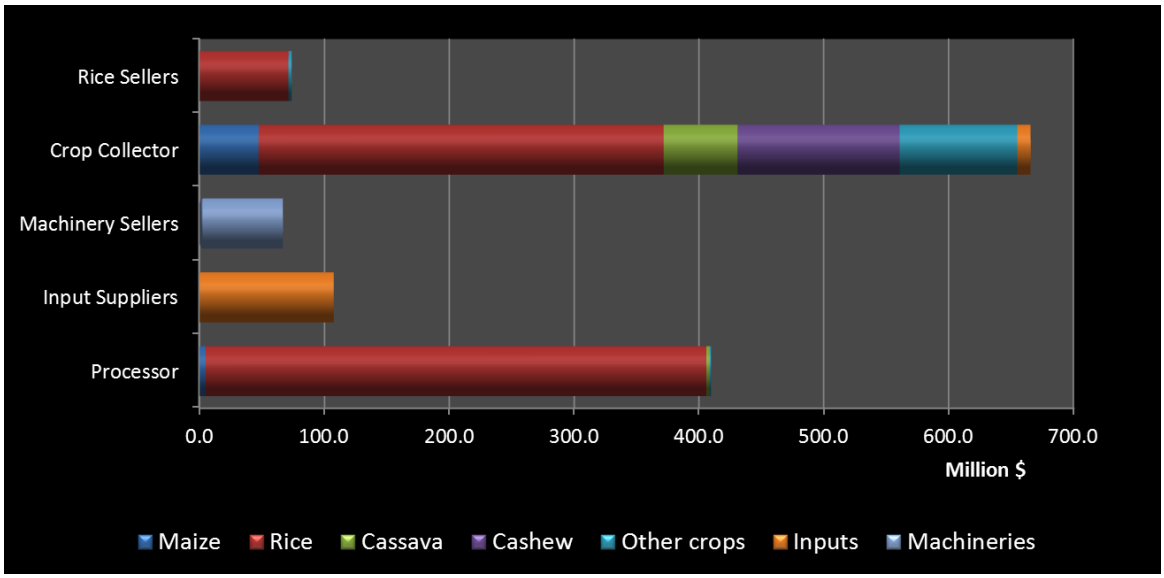
58. Sales transaction recorded during the survey amount to $1.46 billion comprising $1.26 billion for crop products, $129 million for agricultural inputs, and $71 million for machinery (see Table 21).

Table 21 - Values of Sales by Type of Businesses

Products	$ Value of Crop Sold by all Businesses	% value of Crop Sold by product	Percentage of values of transaction of "products" going through…				
			Processor	Input Supplier	Machinery Seller	Crop Collector	Rice Seller
CROP PRODUCTS							
Rice	883,609,037	70.1%	54.0%	0.1%		37.6%	8.2%
Cashew	135,685,868	10.8%				100.0%	
Cassava	71,640,300	5.7%	5.0%			95.0%	
Maize	66,602,815	5.3%	10.5			89.5%	

			%				
Other Crops	102,574,425	8.1%	1.8%			95.6%	2.6%
Total Crop	**1,260,112,445**	**100.0%**	**38.8%**	**0.1%**	**0.0%**	**55.1%**	**6.0%**
AGRICULTURAL INPUTS							
Fertilizer	127,319,331	98.6%		91.1%	0.2%	8.6%	
Pesticide	1,649,260	1.3%		100.0%			
Seeds	110,750	0.1%		8.6%		91.4%	
Total	**129,079,341**	**100.0%**		**91.1%**	**0.2%**	**8.6%**	
MACHINERIES							
Tractor (small)	27,067,650	38.3%			100.0%		
Tractor (big)	11,208,000	15.8%			100.0%		
Pumping Machine	8,576,467	12.1%			100.0%		
Other Machineries	23,881,370	33.8%			100.0%		
Total	**70,733,487**	**100.0%**			**100.0%**		

Figure 16 - Sales of Agricultural Products/Inputs/Machineries by Type of Business and by Crop



59. Figure 16 shows that sales of machinery and inputs are specialized businesses as their revenues are entirely generated by the sales of machinery and inputs respectively and other types of businesses are not engaged in sales of machinery and inputs. We observe that only multi-crop activity is carried out by crop collectors. However, rice dominates crop collectors' activities as well by generating about half of their revenue. **Most entrepreneurs are specialized in one product except crop collectors who are engaged in a number of crops.** Even for crop collectors however rice and paddy represent almost 50% of total sales

60. Differences in sales volumes between large and micro enterprises are huge across all agribusiness types. The differences also vary significantly across different business lines. For example, large processors generate about 100 times more sales revenue than micro-processors ($495,000 versus $4,850). This difference goes up to 250 times for input sellers but drops to 40 times among machinery sellers. The difference is 110 times for crop collectors and 70 times for rice sellers.

5.3. Currency Used in Purchasing and Selling

5.3.1. Buying Commodities

61. Overall, 55% of crop purchases are in Riel, 24% in US$, and 20% in Thai Baht. The type of business substantially affects the choice of currency for transaction while the size of businesses would matter less. Input suppliers and machinery sellers rely more on the use of US$ with respectively 87% and 73% of total number of transactions; at second position is the Thai Baht with 12% and 11% of the purchase transaction for these two sectors. By contrast, crop collectors, rice sellers, and processors often use Riels with proportions higher than 65%.

5.3.2. Selling Commodities

62. Overall, 71% of the sale transactions are in Riel, 13% in US$, 13% in Vietnam Dong, and the remaining 3% in Thai Baht (particularly in bordering provinces of Battambang and Beantey Meanchey, where Thai Baht is the main currency for transactions accounting for 58% and 76% of total values of sales). In the border with Vietnam, for example in the provinces of Svay Rieng and Takeo, the use of Vietnam Dong is higher but the use of this foreign currency stays under 20% of total sale transactions.

6. VALUE CHAIN LINKAGES

6.1. Business Linkages

63. Respondents were asked to indicate the entities with which they have business linkages leading to exchange of goods, capital, and information. The surveyed agribusiness **enterprises have limited linkages with financial institutions, farmer organizations, and with associations of their own peers** (see Figure 17-Overall). Limited business linkages among value chain actors constrain the pursuit of increased value added and access to capital, information and markets. **The existing limited linkages with the financial sector are primarily with commercial banks; linkages with money lenders are very limited and linkages with MFIs are marginal**.

64. Processors seem to have better linkages than other business types (Figure 17-Processors). About 65% of the processors have linkages with commercial banks that enable them to get loans and use banking services; in fact 55% of processors currently have bank account. Around 90% of processors worked directly with farmers and nearly 80% of them are linked with crop collectors. Although processors work with individual farmers, processors do not work with farmer organizations. A large proportion (60%-70%) of processors is linked with wholesalers and retailers. The nature of these linkages is relatively simple: processors purchase raw materials from farmers and collectors; processors sell milled rice to wholesalers and retailers. Approximately 30% of processors are linked with other processors and 23% are linked to rice miller associations. Again these linkages usually do not go beyond exchange of commodity flows (paddy, brown rice, milled rice) and information, with the exception of some processors getting loans from rice miller associations[14].

65. Although 95% of input suppliers sell directly to farmers, only 2% of input suppliers link with farmer organizations (Figure 17-Input Suppliers). Around 40% of input suppliers are linked with commercial banks by using banking services including access to credit. Input supplier entrepreneurs are linked with wholesalers and retailers. Wholesalers and retailers often directly sell fertilizer and pesticide to farmers, and provide practical training to their clients.

66. Business linkages for machinery sellers (Figure 17-Machinery Sellers) are similar in many ways to input suppliers. However, machinery sellers are better linked with commercial bank. Machinery sellers are linked to private machinery and equipment companies, wholesalers, and retailers.

67. Crop collectors (Figure 17-Crop collectors) obtain their supplies by directly linking with farmers and through other crop collectors. Crop collectors have multiples linkages with both the formal and informal financial service providers: approximately 53% of crop collectors are linked with commercial banks; 14% of them reported to have contact with money lenders; and about 10% are also engaged with microfinance institutions. Crop

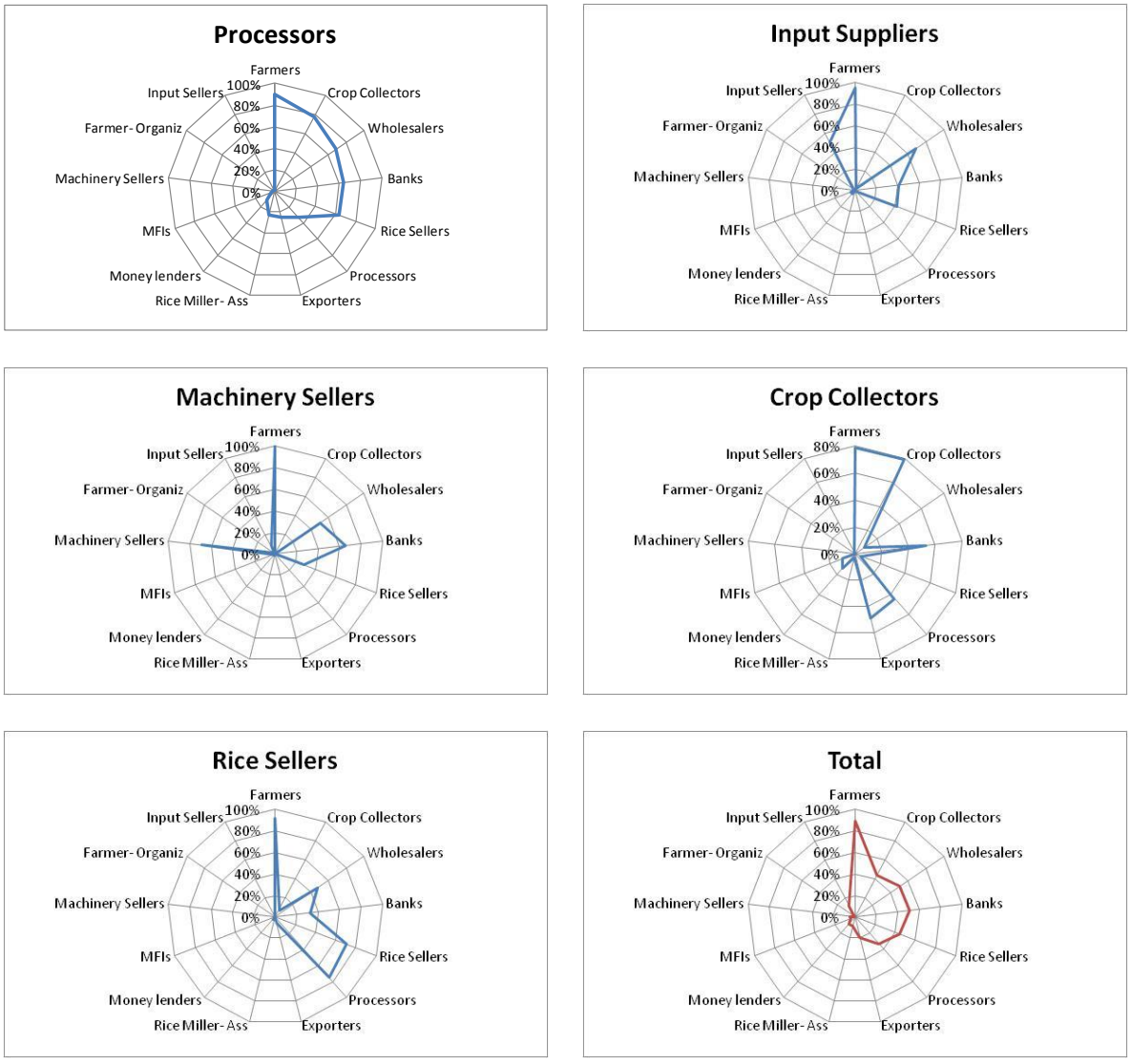
[14] Over the last three years, 18 processors received loans from rice miller associations, for a total amount of $1,350,000. These enterprises comprise of five large, six medium and seven small units. They are mostly located in Battambang, Kampong Cham, Svay Rieng, and Takeo provinces.

collectors sell their supplies to processors, exporters, and other traders. However, their linkages with processors are weaker than with exporters.

68. Only 33% of rice sellers (Figure 17-Rice Sellers) are linked with commercial bank which is lower than other agribusinesses enterprises. Only a small proportion of rice sellers use banking products and services, the majority have little experience with the formal banking system. Downstream, rice seller enterprises are engaged directly with consumers and upstream 75% are linked with processors, wholesalers and other retailers for supply of milled rice. About 5% of rice sellers reported having linkage with exporters.

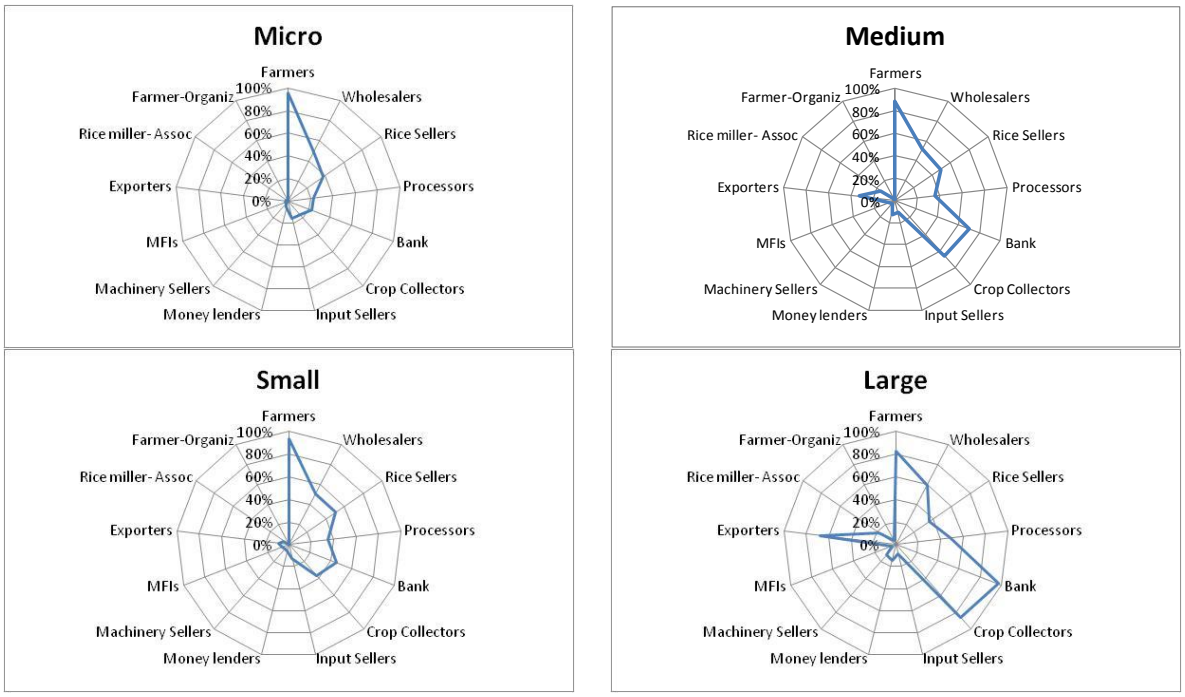
69. Overall, about half of the surveyed agribusiness enterprises are linked with commercial banks; nearly 5% are engaged with microfinance institutions; and approximately 8% have worked with money lenders. Most of the transactions are handled in cash even though 44% reported having bank account.

Figure 17 – Business Linkages by Type of Business



70. The analysis of value chain linkages by size of enterprises is reported in Figure 18. As expected, **the number of value chain linkages increases with the size of the business**. On one end micro enterprises have close linkages with farmers, less with wholesalers and rice sellers, and hardly with anybody else in the value chain. On the other hand, large enterprises have a much richer network of business linkages: almost 100% of large enterprises link with commercial banks; a large proportion of them also link with farmers, crop collectors, exporters, and wholesalers.

Figure 18 – Business Linkages by Size of Business



6.2. Suppliers and Customers[15]

71. The most obvious example of business linkage among actors in the value chain is the one between suppliers and customers. In this case, the linkage is implicitly defined by the level of purchases and revenues. **The marketing network of agricultural products is largely dominated by traders of different types (crop collectors, wholesalers, exporters, rice sellers). A relatively small amount of agricultural commodities goes into processing. Notable for their absence in the marketing channels are farmer organizations (groups, associations, cooperatives)**.

72. **Processing is mostly limited to paddy (even though a large amount of paddy is exported). Very little of collected maize and cassava and hardly any cashew nuts and peanuts goes into processing within Cambodia**.

[15] See graphical illustration of sources of supplies and destination of sales in APPENDIX 3.

6.3. Bank Accounts

73. Overall, only 44% of the agribusiness entrepreneurs have at least one bank account with commercial banks (Table 22). The proportion is highest for machinery sellers (72%) and lowest for rice sellers (29%). **Having a bank account increases with the size of the enterprise**: while 83% of large enterprises have a bank account only 17% of micro enterprises do. Virtually no enterprise has a bank account with MFI.

74. **Being informal does not preclude entrepreneurs from having bank account.** On average, 44% of the surveyed enterprises have at least one bank account. Respectively, the percentages (see **Error! Reference source not found.**) for informal and formal units are 30% and 55%. By type of enterprises, the difference is quite large for processors with 14% (informal) against 59% (formal). For other type of enterprises, the ratio percentage of formal enterprises having bank account to the ratio of informal having bank account is close to two. However, **being formal implies that it is twice more likely to have a bank account**.

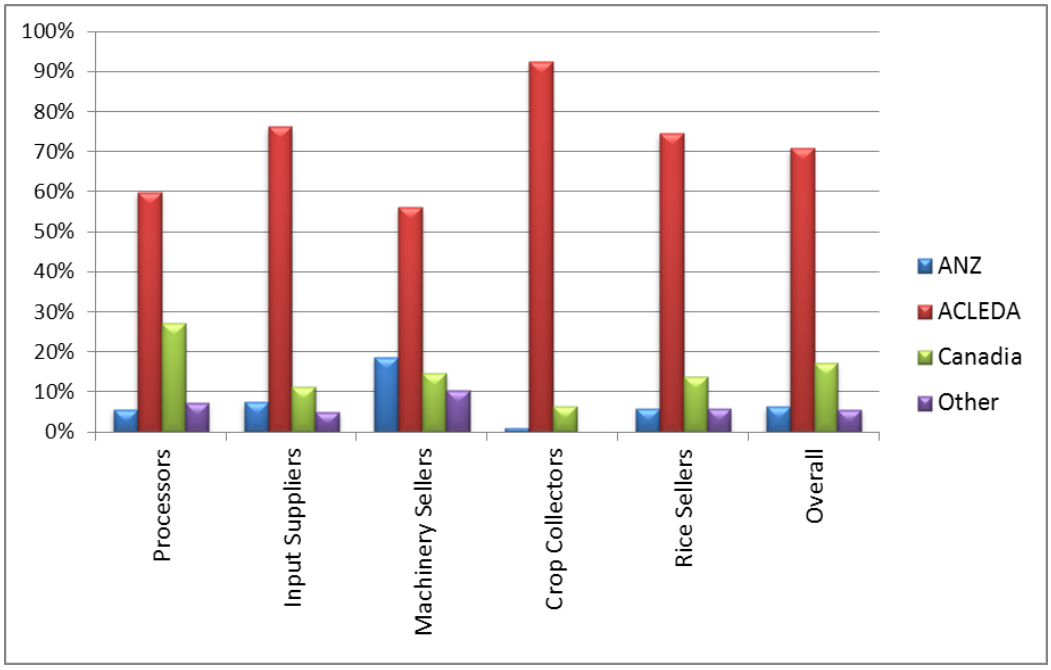
75. Bank accounts of agribusiness entrepreneurs are concentrated among a few key players, with around 94% held by three banks: ACLEDA Bank, CANADIA Bank, and ANZ ROYAL Bank. **ACLEDA is the most used commercial bank by agribusiness enterprises**, with 71% customers (see Figure 19). CANADIA comes in second place with 17% share, and ANZ ROYAL with 6; other financial institutions account for 6%.

Table 22 - Proportion of Enterprises Having Bank Account by Type and Size of Business

Type of Business	Processors	Input Suppliers	Machinery Sellers	Crop Collectors	Rice Sellers	Total
Proportion having Bank Account with Commercial Bank	54%	35%	72%	41%	29%	44%
Having Bank Account with MFI	0%	0%	0%	0%	0%	0%

Size of Business	Micro	Small	Medium	Large	Total
Proportion having Bank Account with Commercial Bank	17%	35%	61%	83%	44%

Figure 19 - Use of Commercial Banks by Type of Business (percentage related to those having bank account)



76. Sole proprietor enterprises are twice likely to have bank account (83%) in comparison to family-owned enterprises (39%).

Table 23 2011 Turnover (US $) and Formality of Enterprises

	Processors	Input Suppliers	Machinery sellers	Crop collectors	Rice Retailers	**Total**
Amount of 2011 turnover going through banks	132,000,000	22,800,000	30,700,000	98,800,000	3,535,316	**288,000,000**
Estimated amount of turnover for the entire sector	2,157,091,473	160,923,463	152,110,969	2,137,955,354	807,649,699	**5,415,730,958**
% of turnover going through bank	27%	18%	36%	16%	6%	**25%**
% of units having bank account	54%	35%	72%	41%	29%	**44%**
Estimated amount of turnover missed by banks because unit do not have bank account	**270,616,930**	**19,232,949**	**15,257,245**	**202,314,438**	**28,919,555**	**632,934,122**

77. On average, 44% of agribusiness entrepreneurs have bank account. About 25% of the 2011 turnover, representing $288 million are channelled through commercial bank. Overall, the total turnover for the entire sector in 2011 is estimated at $5.41 billion. Using these parameters, and with the assumption that all agribusiness units have at least one account, the commercial banking sector would have about $632.9 million in missed opportunities. This amount of money will go through cash transaction.

7. FINANCIAL SERVICES

7.1. Use of Banking Services

78. Overall, about 53% to 58% of the agribusiness enterprises use banking services (see Table 24) for sending and receiving money within the country and around 5% of enterprises use banking services for international money transfers (IMT). Machinery sellers and input suppliers have relatively higher use for money transfer services compared to other types of agribusinesses. Over 64% of the entrepreneurs reported the use of banking service to take a loan. The proportions of those using banking services to take a loan are higher (close to 75%) for processors and crop collectors. Uses of bank accounts for savings and money deposits were reported by 20 to 25% of the entrepreneurs. In summary **the two main uses of banking services are for taking loans and money transfers.**

Table 24 – Uses of Banking Services by Enterprises (percentage of users)

Use of Banking Service	Processors	Input Supplie	Machinery	Crop Collect	Rice Sellers	Total
Deposit temporary excess money	28.4%	14.2%	14.9%	19.4%	13.3%	20.8%
Send money transfers within country	59.0%	65.7%	71.6%	46.9%	50.7%	58.0%
Send IMTs	3.6%	8.2%	21.6%	0.6%	5.3%	5.8%
Receive money transfers within country	59.7%	43.3%	59.5%	56.3%	38.7%	53.7%
Receive IMTs	6.5%	5.2%	10.8%	1.3%	1.3%	5.0%
Save	25.5%	20.9%	33.8%	15.0%	26.7%	23.3%
Build track record to get	0.7%	0.0%	0.0%	0.0%	0.0%	0.3%
Take loan	76.3%	47.8%	44.6%	74.4%	46.7%	64.2%
Other	0.0%	0.7%	1.4%	0.0%	0.0%	0.3%

7.2. Payment Method

79. The survey recorded four payments methods used during purchase and sales of products:

- Cash paid before the transaction is completed ("cash beforehand")
- Cash paid at the time of the transaction ("100% cash on purchase")
- Partial short-term credit: a percentage of cash paid on purchase/sale with the remainder paid a few days later ("% cash, % few days later")
- Full short-term credit: purchased on short-term credit (100% cash later).

80. **Most payments for purchases of products by agribusiness enterprises are based on cash**. Only 18% ($238 million) of purchases are fully based on credit. Input suppliers, machinery sellers, and rice sellers tend to make more use of short-term credit than do crop collectors and processors (see Figure 20). One hundred percent cash on purchase is common

among processors (82%) and crop collectors (68%). Cash beforehand is relatively more important for machinery sellers compared to other value chain actors.

Figure 20 - Method of Payment for Purchases by Type of Business (Percentage of Purchase Transactions)

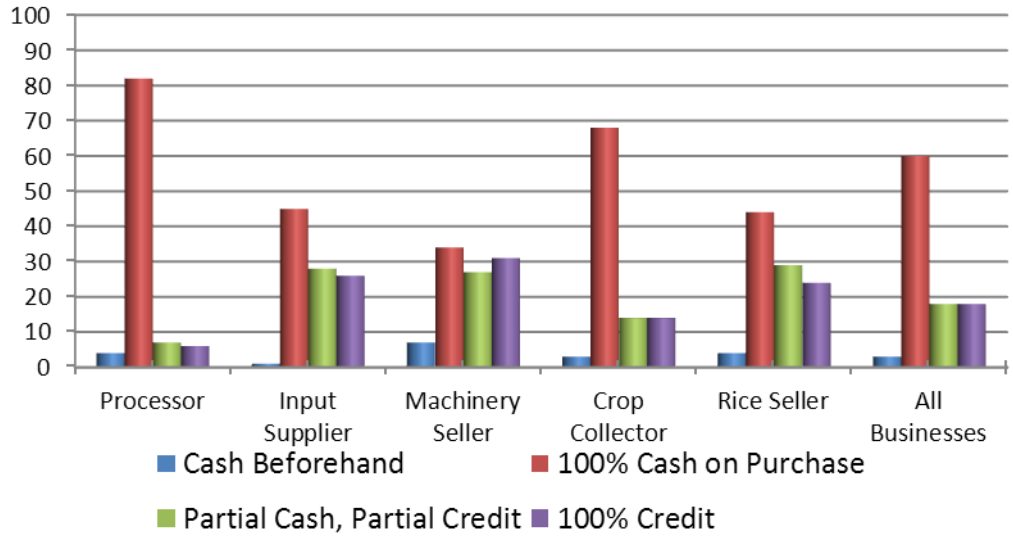
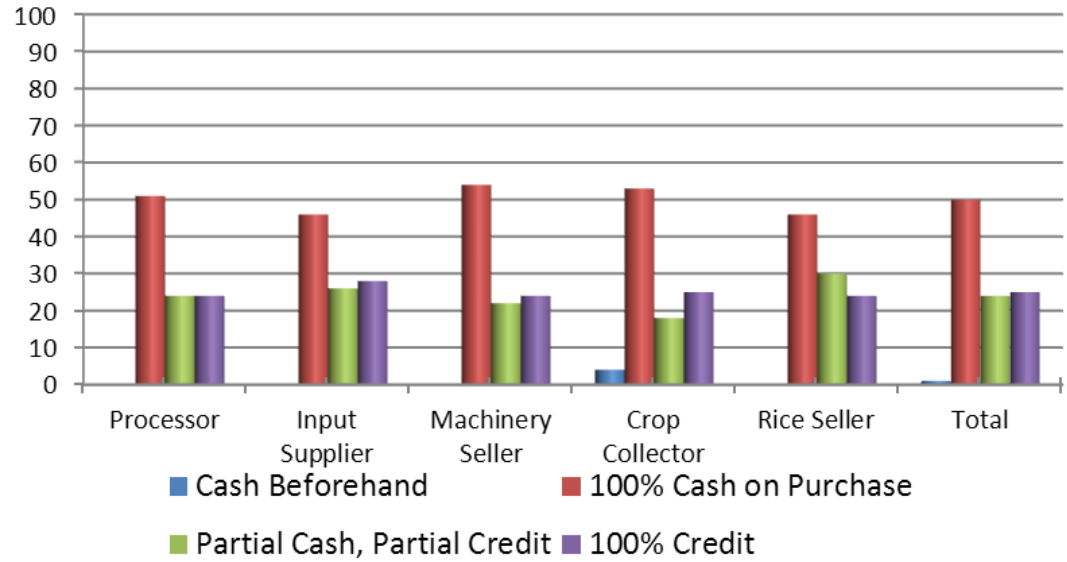


Figure 21 - Method of Payment for Sales Transactions by Type of Business (Percentage of Sales Transactions)



81. Combined across all types of business, around 1% of sales involve cash in advance, 50% involve cash on sale, 24% involve part cash on sale and part short-term credit, and 25% involve only short-term credit. **Sales by surveyed agroenterprises tend to involve slightly greater use of short-term credit (partial and full) than purchases**.

82. Methods of payment for sale transactions are more balanced and the figures are similar across types of business, even though the share of cash on purchase still dominates. Payments based on short term credit (full) or partial credit account for more than 20% each for any type of business. Cash beforehand is barely used, only crop collectors show a tiny share for this method with less than 4% share.

83. Comparing the results for purchases and sales, it appears that both processors and crop collectors tend to sell on credit more than they buy on credit – presumably because they both buy significant shares of their products from farmers, who want to get paid in cash on delivery.

84. Transactions (purchases and sales) based purely on credit vary between 20% (for purchases) to 25% for sales. Combination of cash and credit varies between 18% for purchase to 22% for sales. **Overall between 38% and 47% of payments among value chain actors involve some form of credit, either fully or in combination with cash payment.**

7.3. Seasonality of Financing Requirements

85. Figure 22 shows the average financing requirement (scored from 1=low need to 5=very high need) for each month of the year, disaggregated by business type. Overall, the average score ranges from 3.2 to 4 throughout the year, with **the highest financing requirements of surveyed agroenterprises are during the rice harvesting season from November to February**[16]. However, the overall results mask important differences by type of business activity.

86. The seasonality of financing requirement is very similar for processors and crop collectors. Their needs are high from October to March. This is not surprising given that their activities are mostly post-harvest. During the planting seasons, they both have low-to-moderate financing needs

87. Agricultural machinery sellers financing requirement is the lowest during the planting season and then rise during the harvest season (start just in October) and ease slightly in the after-harvesting season. Since purchase of machineries require relatively large investment, it is predictable that they will reconstitute their stock during the harvest season when the likelihood for farmers to buy equipment is the highest.

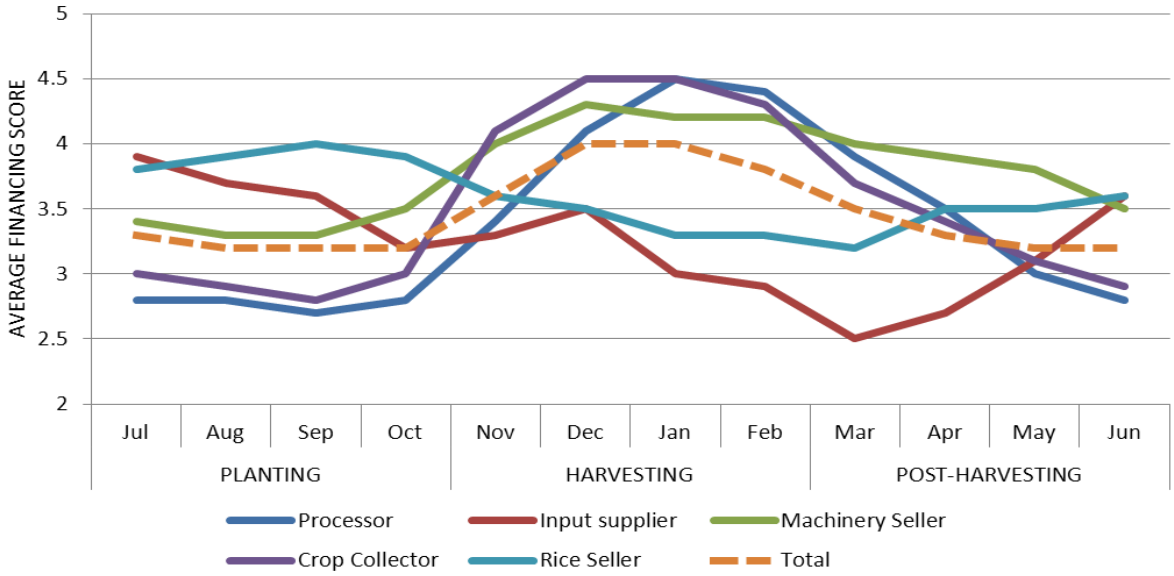
88. Averaged throughout the year, the financing needs of input suppliers are lower than other business types (Figure 22). Their financing cycle is very different from other business types. It gradually rises during the months preceding the planting season and peaks in July, at the beginning of the planting season. This is consistent with the nature of their businesses: selling fertilizers, pesticides and seeds. Their financing needs gradually decline during planting and harvesting seasons.

[16] Seasons refer to the rice-growing seasons, due to the dominance of the rice crop in Cambodia.

89. Financing needs for rice sellers do not show much variation throughout the year. Nevertheless, the shape of their financing needs show moderate peak during the planting season and lowest towards the end of the harvesting season.

90. There are no large differences in the seasonality of financing requirements based on the size of the business. However, there are differences in the magnitude. Large and medium units reported crucial needs (score above 4) for finance during the harvest season.

Figure 22 - Seasonal Need for Finance by Business Type



Notes: Seasons are based on rice-growing seasons (since rice is Cambodia's dominant crop).
Average Financing Score based on respondent ratings on need for finance:
1 = Low need for finance; 2 = Some need for finance; 3 = Moderate need for finance;
4 = Substantial need for finance; 5 = Very large need for finance.

7.4. Demand for Working Capital and Medium Term Investment

7.4.1. Working Capital Needs

91. Respondents were asked about their short-term financing needs for working capital up to one year (end of 2012). The entire sample reported a total need of US$ 76.1 million, with non-zero response rate of 47.5%. The requested amount averages US$ 155,300 (see Table 25).

92. The overall figure masks important differences based on turnover and type of businesses. **As expected, there is a positive correlation between the size of the enterprise and the need for working capital**. Indeed, businesses with higher turnover require

significantly more financing than those with lower turnover. On average, total needs for the micro units in the sample amount to US$ 1.4 million; small-size enterprises reported US$ 8.7 million needs; medium size US$ 22.0 million; and the large units have needs twice as large as the previous category with US$ 44.0 million. Average needs for working capital are also increasing by size of enterprises from US$ 18,300 for micro to US$ 403,000 for large units.

93. Analysis by type of business shows significant differences. Average financing needs are greatest for processors with US$ 256,300, pulled up by the high request from large units. Machinery sellers occupy the second place with US$ 253,200. Crop collectors and input suppliers are respectively at US$ 73,000 and US$ 69,200. At the other end of the spectrum, rice sellers are characterized by low demand for working capital, with average values of US$ 34,400.

94. A comparison with the working capital needs and the current working capital is presented in Table 26. The average ratio of turnover to working capital in 2011 was 9.8 (with considerable difference across size and types of businesses). The ratio of turnover in 2011 and working capital needs in 2012 is 18.1 (twice the previous value). **The high ratios of turnover to working capital needs suggest that respondents are probably under-estimating the actual working capital needs.** This is in fact confirmed by the low number of respondents to the question of estimating working capital needs one year in advance.

Table 25 - Average and Total Need of Working Capital until the end of 2012 by Type and Size of Enterprise (in US$)

	Micro	Small	Mid	Large	Avg	Sum
Processor	21,719	54,392	256,343	675,447	*256,294*	*53,565,446*
Input Supplier	21,072	57,833	120,714	331,667	*69,028*	*5,591,268*
Machinery Seller	18,750	69,125	292,500	514,286	*243,259*	*6,567,993*
Crop Collector	12,000	29,516	36,750	142,411	*73,232*	*8,421,680*
Rice Seller	12,925	32,111	72,000	85,000	*34,405*	*1,995,490*
Average	*18,381*	*48,144*	*179,211*	*403,391*	***155,392***	
Sum	1,400,774	8,704,811	22,012,165	44,024,330		76,142,080

Table 26 – Turnover and Working Capital Needs by Type and Size of Enterprise

Group	Turnover in 2011 ($ '000)	Working Capital Needs in 2012 ($ '000)	Ratio Turnover 2011 to Working Capital needs 2012	Ratio Turnover 2011 to Working Capital in 2011
Processor	483,926	53,565	9.0	6.1

Input Suppliers	124,454	5,591	22.3	8.8
Machinery Sellers	85,687	6,568	13.0	4.2
Crop Collectors	616,412	8,422	73.2	28.6
Rice Sellers	70,073	1,995	35.1	10.9
Total	1,380,551	76,142	18.1	9.8
Micro	5,566	1,401	4.0	2.6
Small	86,773	8,705	10.0	4.6
Medium	225,152	22,012	10.2	6.9
Large	1,063,060	44,024	24.1	12.2
Total	1,380,550	76,142	18.1	9.8

7.4.2. Capital Investments Needs for the Next 5 years

95. Respondents were asked about their investment capital financing needs over the next five years, for investment in long-term assets such as land, buildings, equipment and machinery. However, only a small number of respondents provided an answer to the question[17], making difficult the interpretation of the data.

96. The responses indicate that over the next five years, the total needs for capital investment amount to US$ 39.8 million, almost half of the needs recorded for working capital[18]. Because of the lack of data points, it is hazardous to interpret data on the need for investment. It is also difficult to make definitive comparisons due to the limited number of respondents by some business types. For example, there were only six out of the 67 agricultural machinery sellers who responded with non-zero value to the question. The available data indicate only that processors and input suppliers have significantly higher financing needs than rice sellers and crop collectors.

97. As in the case of working capital needs over the next 5 years, **the responses are probably largely under-estimating the actual needs.** New medium and large enterprises

[17] Non-zero response rate was only 22% (227 respondents among the 1,030 sample size). Processors show non-zero response rate of 37%, input suppliers 13%, machinery sellers 9%, crop collectors 20% and rice sellers 12%.

[18] By size of business, 8% of the micro enterprises reported investment needs for the next five years. The ratio increases to 24% for small units, then to 27% for medium-size units. For large enterprises, 30% reported need for investment capital financing within the next five years.

are likely to invest in the sector, particularly in the rice industry, creating a demand for investment capital.

98. Perhaps the main conclusion of these assessments is **the difficulty that most entrepreneurs have in financial planning**. This is not surprising given the limited presence of formal accounting systems and lack of familiarity with financial control methods.

7.5. Loans

7.5.1. Demand for Loans

99. The analysis below focuses on loans taken out in 2010 and 2011. Overall, 438 loans were recorded during 2010 and 2011 for the entire 1,030 agribusiness enterprises. The total value of loans amounts to US$ 40.7 million with a minimum of US$ 250 to a maximum of US$ 2 million (see Table 27. Overall average credit is US$ 92,600 varying between US$ 163,000 for input suppliers and US$ 147,700 for processors to US$ 25,450 for rice sellers and US$ 32,500 for input suppliers.

100. Credit to processors account for 74% of the total loans portfolio. Crop collectors account for only 12% of total loans, followed by machinery sellers (8%). Respectively input suppliers and rice sellers account for 5% and 2% of total amount of credit in 2010 and 2011.

101. By size of business, average loans for large units amount to US$ 214,500, almost 2.5 times the average for medium-size enterprises (US$ 83,800); ten times more than the credit received by small units (US$ 27,000) and 30 times the loans obtained by micro-units.

102. In terms of volumes, large units account for 63% of the total US$ 40.7 million loans, corresponding to 27% of the number of credit.

103. A comparison of working capital needs and actual loans (see Table 28) shows how loans over a period of 2 years (2010 and 2011) would be barely enough to finance half of the working capital needs for one year. In fact, given the comment (in paragraph 94) that the reported working capital needs are underestimated**, the loans taken are actually able to cover only a fraction of the capital needs of the enterprises**.

Table 27 - Loans Amount (US$) in 2010 and 2011

	Minimum	Mean	Median	Maximum	Total value of loans	% total value	# loans	% loans
Business type:								
Processor	250	147,719	50,000	2,000,000	29,839,270	74%	202	46%
Input supplier	500	32,463	10,000	200,000	1,947,800	5%	60	14%
Machinery seller	2,000	163,342	50,000	1,500,000	3,103,500	8%	19	4%

Crop collector	250	38,775	15,000	500,000	4,924,433	12%	127	29%
Rice seller	1,500	25,450	10,500	150,000	763,500	2%	30	7%
Total	250	92,645	30,000	2,000,000	40,578,503	100%	438	100%
Micro	250	7,875	5,000	35,000	283,500	1%	36	8%
Small	250	27,147	10,000	250,000	4,289,170	11%	158	36%
Medium	2,000	83,828	40,000	500,000	10,478,500	26%	125	29%
Large	4,000	214,515	100,000	2,000,000	25,527,333	63%	119	27%
Total	250	92,645	30,000	2,000,000	40,578,503	100%	438	100%

Table 28 – Working Capital Needs and Loans

Type/Size	Working Capital Needs in 2012 ($ '000)	Actual Loans in 2010-2011 ($ '000)	Loans as % of Working Capacity Needs
Processor	53,565	29,839	56%
Input Suppliers	5,591	1,948	35%
Machinery Sellers	6,568	3,104	47%
Crop Collectors	8,422	4,924	58%
Rice Sellers	1,995	764	38%
Total	76,142	40,579	53%
Micro	1,401	284	20%
Small	8,705	4,289	49%
Medium	22,012	10,479	48%
Large	44,024	25,527	58%
Total	76,142	40,579	53%

7.5.2. Characteristics of Loans

Currency

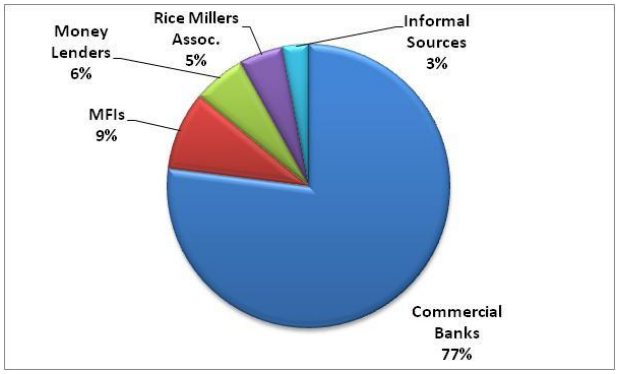
104. All loans in the survey were taken out in US dollars.

Loan Providers

105. In 2010-2011, more than three quarters of the loans were from commercial banks, 9% from microfinance institutions, 6% from money lenders (informal), 5% from rice miller

associations, and 3% from other informal sources (see Figure 23). **The main source of loans for agribusiness enterprises are commercial banks.**

Figure 23 – Loan Providers



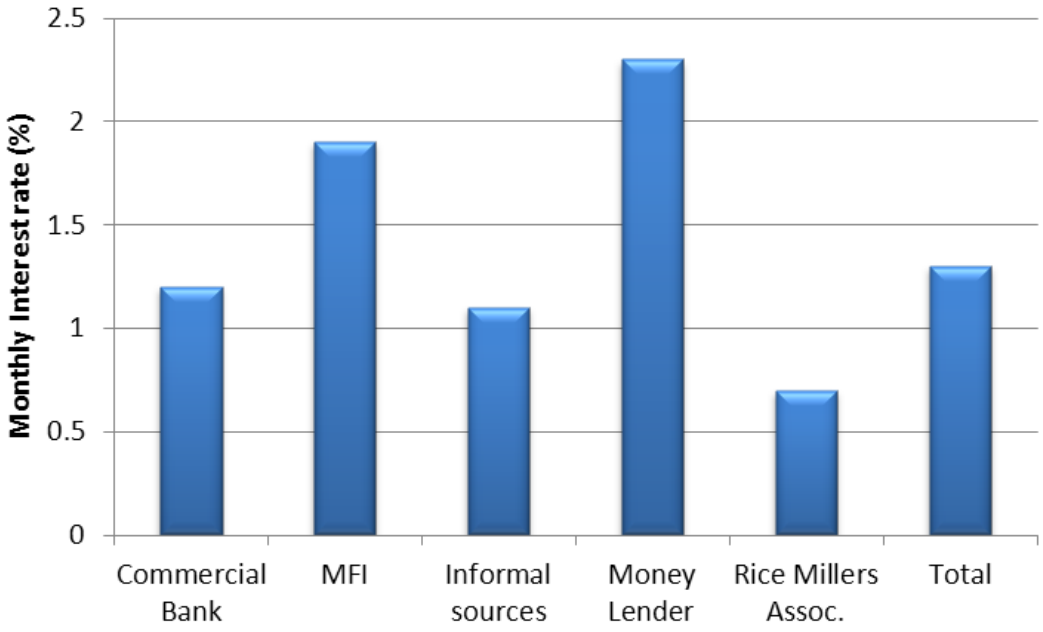
106. **Most of the commercial banks are accessible by agribusiness entrepreneurs**. The average distance to the nearest ATM is just 4.2 km, with range from 0 to 50 km; and the average distance to the nearest branch is 4.0 km ranging from 0 to 38 km. The existence of the accessible banking infrastructure combined with a range of products and better terms may explain the high number of credits from commercial banks.

Interest Rates

107. **The interest rate charged on a loan is by far the most important characteristic of a loan for the businesses surveyed**[19]. Interest rates are charged by formal financial services providers (commercial banks, specialized banks, and Microfinance Institutions) and informal service providers supplying credit (money lenders, traders, and sometimes friends or relatives).

Figure 24 – Median Interest Rate by Loan Provider

[19] 90% of respondents listed interest rates as one of the three most important characteristics of a loan.



108. Measured by the median monthly interest rate, the most common monthly interest rate is 1.3% which is above the median rate of 1.2% charged by commercial banks. Median rate for microfinance institutions is at 1.9% and for money lenders, almost twice the cost for commercial banks, at 2.3%. Loans through the Rice Millers Association were significantly cheaper at 0.7% monthly interest rate (Figure 24).

109. For Microfinance Institutions, there appears to be a negative correlation between the monthly interest rate and the size of the loan. The average monthly interest rate is 2.0% for loans below US$ 10,000, and decreases to 1.5% for loans between US$ 10,000 and US$ 99,999. In terms of business type, there appears to be no significant difference in the rates charged to processors, input suppliers or crop collectors (See **Figure 25**).

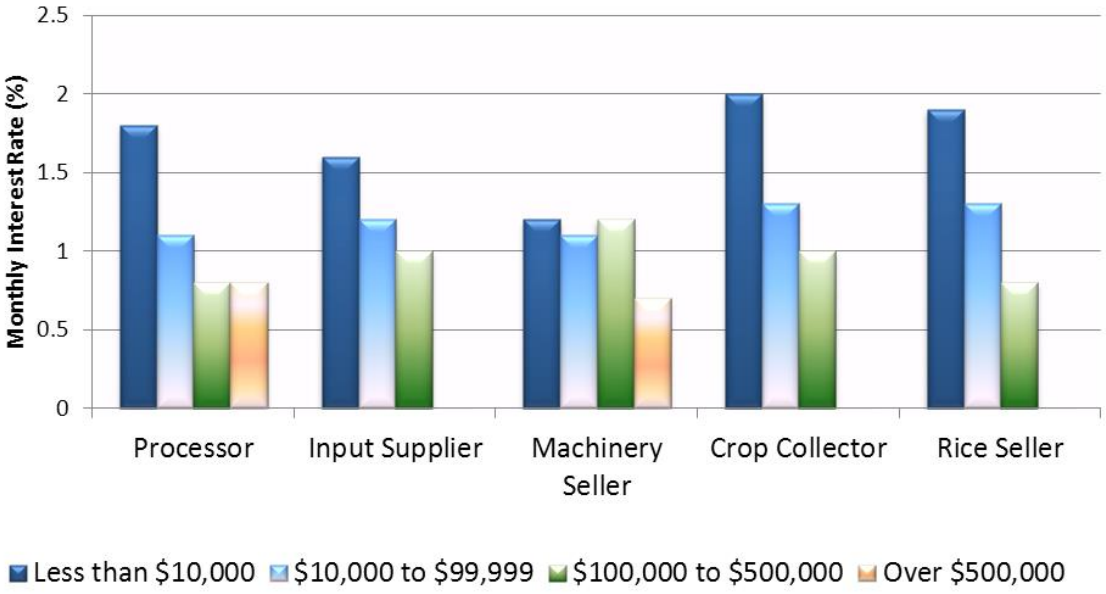
110. For money lenders, it seems that there are no significant differences in rates charged for different loan sizes. Data from the survey show that the median interest rate for loans below US$ 10,000 is 2.2% and this increases to 2.3% for loans between US$ 10,000 and US$ 99,000. Making comparisons between business types is not meaningful given the small number of loans made by money lenders.

111. For commercial banks, often smaller loans are charged higher interest rates. Combined across all business types, loans of less than US$ 10,000 have an average monthly interest rate of 1.6%, which decreases to 1.2% for loans between US$ 10,000 and US$ 99,999, and further decreases to 0.9% for loans between US$ 100,000 and US$ 500,000, and to 0.8% for loans over US$ 500,000.

112. **Generally, interest rate decreases as the size of the loans increases, independently of the type of business.** Loans beyond US$ 100,000 would correspond to lower monthly

interest rate below 1%. Almost all credit below US$ 10,000 would incur higher interest rate, all above 1.5% with the exception of machinery sellers.

Figure 25 - Average Interest Rates by Size of Loans



Administrative Fees

113. Another burden facing businesses needing a loan is the administrative fees and other costs incurred in taking out the loan. Many surveyed businesses complained that commercial banks charge a fee of around 1% of the total amount of the loan. The survey team observed that this practice is widespread for medium and large loans. However, actual practice can vary slightly from one commercial bank to another. In total, more than half of all loans incurred administrative fees. Most of the loans (91%) with commercial banks involve fees. Overall, **the average fee and administrative costs in getting a loan amounted to almost 1.4% of the average loan** (average $1,254).

Maturity

114. Respondents indicated a wide range of loan durations for loans taken out in 2010 and 2011, from as little as two weeks to as much as 15 years. However**, the median duration of loans is fairly consistent across most business types, with ricer sellers having loans of about two years and all other businesses having loans of about one year**. The average durations are considerably higher, especially for machinery sellers and rice sellers.

115. In a separate question, respondents were asked to nominate their desired loan durations for loans used for working capital and separately for investment in fixed assets. The median loan duration desired for working capital purposes is one year (12 month) for all business types. For investment capital, the median loan duration desired for capital investment purposes is three years for processors, input suppliers and machinery sellers, and two years for crop collectors and rice sellers.

Payment Terms

116. In addition to a loan's interest rate and other costs, the attractiveness of taking out a loan depends on the terms on which the loan is to be repaid (i.e. the frequency of payments). As shown in Figure 26 nearly half of all loans involve monthly repayments of interest and principal, figures are higher for rice sellers (63%) and input suppliers (58%). Another 29% of loans are "bullet" loans, where monthly interest payments are made but the entire principal amount is repaid once at the end of the loan period.

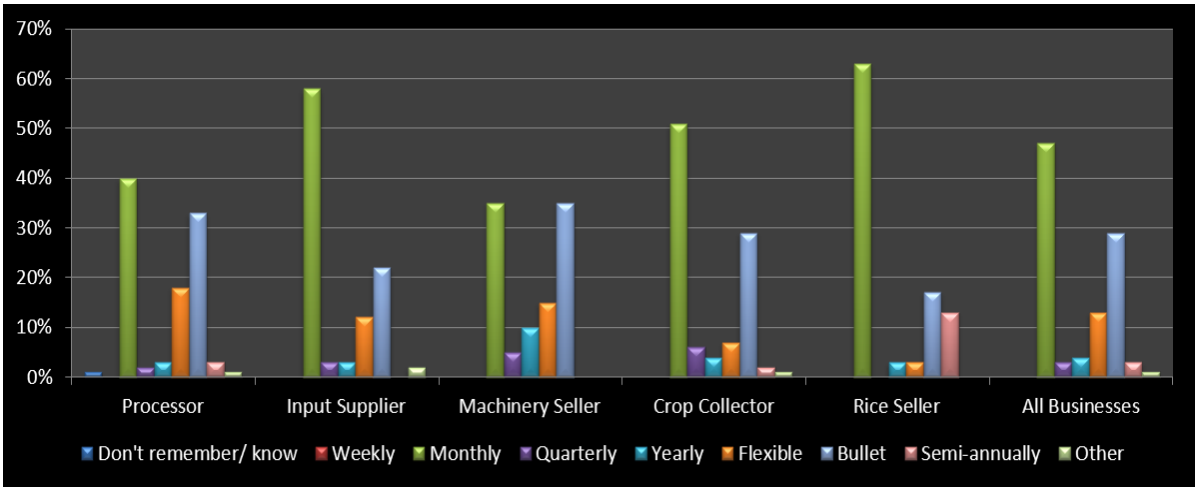
117. Bullet loans and flexible repayment terms are common practices for every type of business. Processors repay 33% of their loans through bullet system, and 18% with flexible system. Machinery sellers follow similar pattern. Rice sellers and crop collectors barely adopt flexible system with respectively 3% and 7% of their loan repayment using this system. Input sellers are on the average: 22% bullet and 12% flexible.

118. During the field consultations, agribusiness owners frequently said that the payment term is a critical factor in deciding whether or not to take a loan. It directly affects their ability to repay the loan. **Processors, in particular, mentioned that monthly repayments of interest and principal are not suitable for them, given the seasonality of their liquidity**. **However, bullet loans are more suited to their way of functioning and more suitable to their business needs.**

119. Bullet loans seems to be a recent development in the agribusiness sector in Cambodia, as there was no such a payment term available to processors when BDLINK conducted a similar survey of small and medium enterprises in 2008.

120. **Monthly repayment and bullet loans are the two main loan repayment modes for agribusiness entrepreneurs. Bullet loans are gaining favour with entrepreneurs.**

Figure 26 - Loan Repayment Frequency by Type of Business



Collateral Requirements

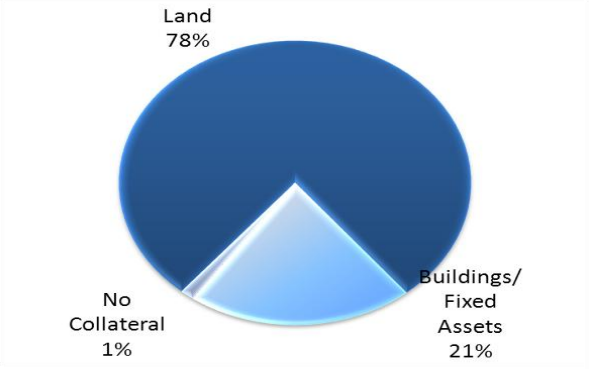
121. Formal financial services providers (commercial banks and microfinance institutions) require some form of collateral for nearly all of their loans (see Figure 27). Often, commercial banks use a mix of land and buildings/fixed assets, whereas microfinance institutions rely almost exclusively on land. By contrast, informal lenders tend not to require collateral for most of their loans, although money lenders sometimes use land as collateral.

122. For commercial banks, there are some differences in the collateral used depending on the type of business. In particular, machinery sellers and rice sellers are more likely to use buildings/fixed assets as collateral than other businesses, especially crop collectors.

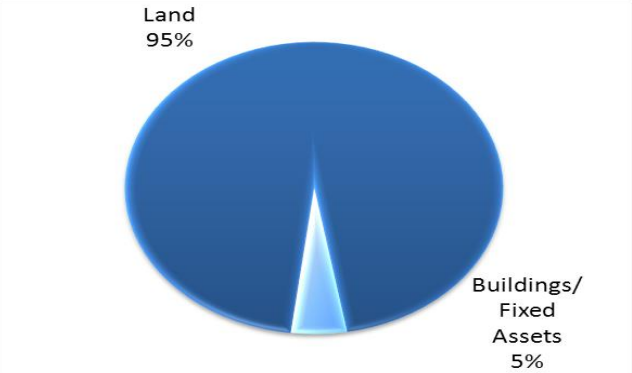
123. Regarding the type of land accepted as collateral, commercial banks typically require hard land title[20] (74%) but also accept soft land title recognized at the district level (26%). Microfinance institutions are more relaxed about the type of land title, with a split of hard land title (52%) and soft land title (48%).

Figure 27 – Collateral Requirements by Type of Lenders

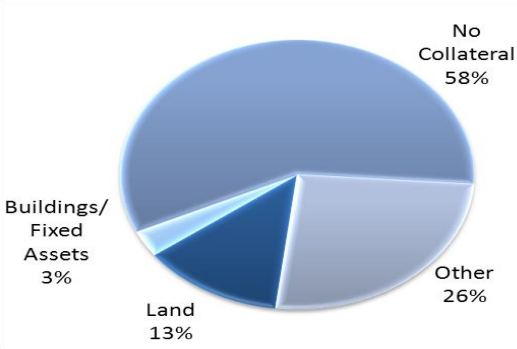
[20] Hard land title: is a land title recognised at the ministry level – i.e. at national level; Soft land title: is a land title recognised at the district level in the province



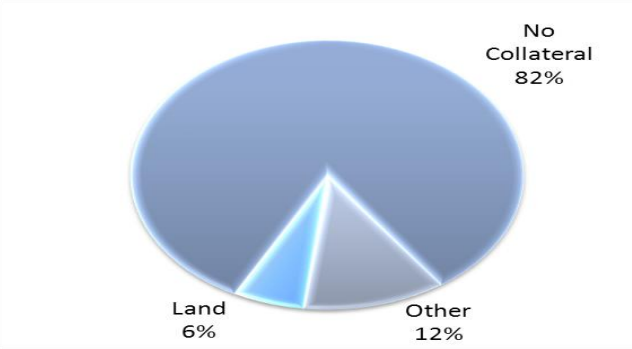
Commercial Banks



Microfinance Institutions



Money Lenders



Friends, Relatives, Business Partners

8. WHAT DO AGRIBUSINESS ENTREPRENEURS THINK ABOUT FINANCE?

124. In this section we are interested in the perceptions of agribusiness entrepreneurs about financial service providers, business loans, and alternative financial products. We also ask the opinion of the entrepreneurs about a number of statements such as:

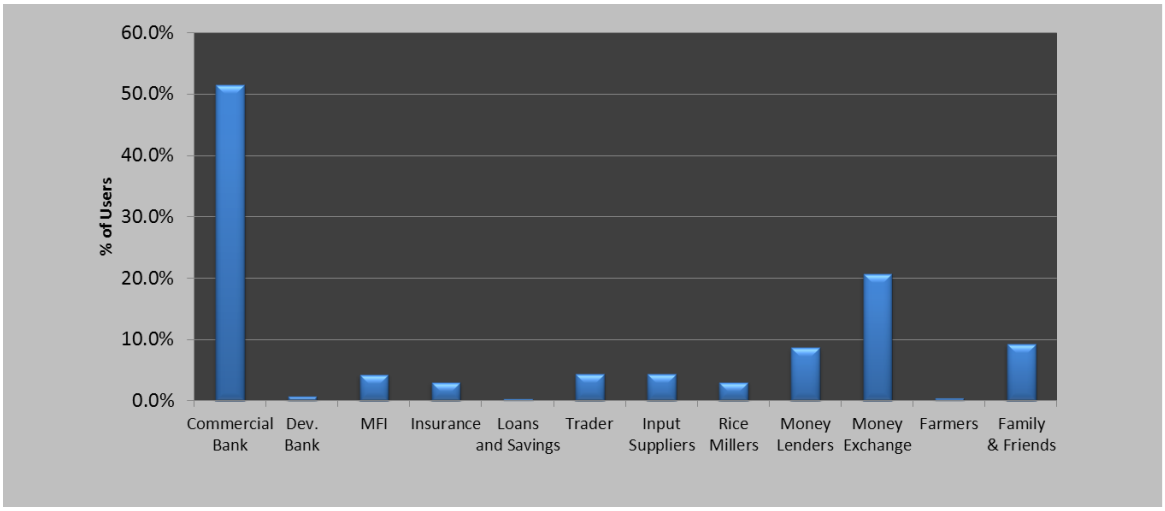
- Access to finance is the largest constraint to my business
- My business would be much bigger if I could access finance for long-term investment
- My business cannot afford the high interest rates of the banks
- My business will always continue to use informal source of credit because they are easier and more flexible
- Getting a bank loan is too time consuming
- My main constraint to a bank is my lack of collateral
- Bank staff does not understand agricultural sector
- I regard taking a loan from a bank as a loss of face
- I cannot continue to take loans from informal sources when my business is bigger
- I rely on my business partners for some of my financing
- Due to seasonality, my business has trouble accessing finance

- I can raise enough working capital myself; I need bank loan for investment

8.1. Use of Financial service providers

125. We start by looking at the actual use of financial service providers. The list of financial service providers in the survey includes commercial banks, rural development banks, microfinance institutions, insurance companies, loans and savings cooperatives, traders, input suppliers, rice millers and processors, money lenders, money exchangers, farmers and neighbors, and family and friends.

Figure 28 – Percentage of Respondents using different Types of Financial Service Providers



126. **The three most used financial service providers in the survey are commercial banks, money exchanges, and money lenders. More than half of the respondents reported having worked with commercial banks** (see Figure 28). Financial services provided by commercial banks include savings and deposits; short, mid, and long-term loans; overdraft facilities, checking and saving accounts; and inter-bank transactions. In addition to specialized money transfer companies such as Western Union, Moneygram, and Maybank Money Express, commercial banks also provide money transfer services to agribusiness entrepreneurs.

127. The percentage of agribusiness units working with commercial banks increases with the size of business (see Figure 29). Four out of five large enteprises work with commercial banks; this ratio drops to two third for medium enterprise; to half for small enteprises; and to one fifth for micro enterprises. Also, more than half of machinery sellers, processors, and crops collectors reported to have worked with commercial banks. Input suppliers and rice sellers exhibit slightly lower rate of uses, between 30% and 40% (see Figure 30).

Figure 29 – Use of Financial Services by Size of Business

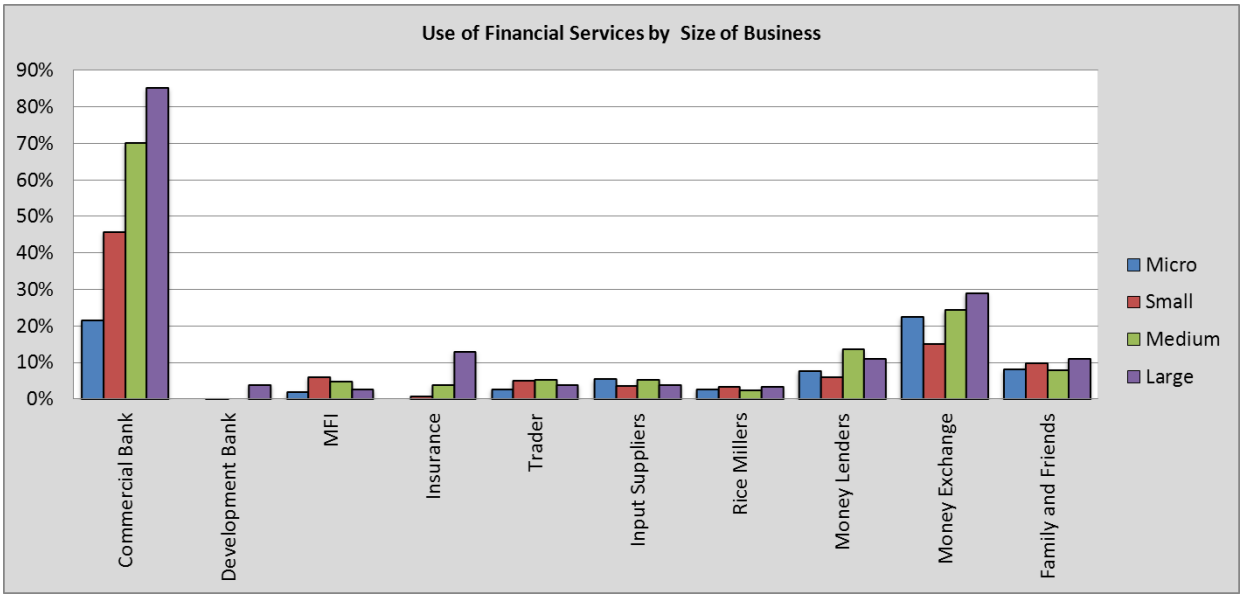
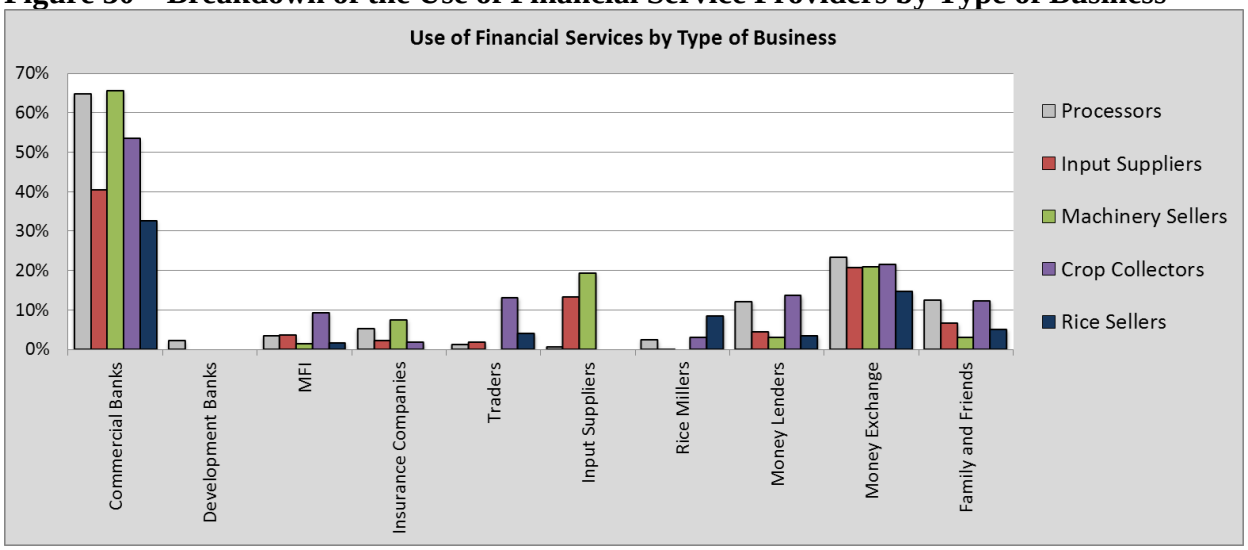

Use of Financial Services by Size of Business
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Commercial Bank
Development Bank
MFI
Insurance
Trader
Input Suppliers
Rice Millers
Money Lenders
Money Exchange
Family and Friends
Micro
Small
Medium
Large

Figure 30 – Breakdown of the Use of Financial Service Providers by Type of Business



128. With about one fifth of the respondents reporting use of money exchangers, the latter are the second most used financial providers. This is not surprising given the high level of dollarization and use of other currencies. Interestingly, money exchangers have developed largely outside of the commercial banks.

129. **Agribusiness entrepreneurs barely rely on financial services from microfinance institutions (MFIs).** The survey data show less than 5% of respondents using services from MFIs. In fact, they use money lenders and family and friends to much a greater extent (9% use) than MFIs.

130. About 5% of entrepreneurs in the survey also use financial services provided by other entrepreneurs within the agribusiness value chain (eg trader, input and machinery suppliers, and rice millers). Albeit not insignificant, this type of "intra-value chain financing" is quite small.

131. **Money lenders constitute a source of financial services for about one out of ten agribusiness entrepreneurs in Cambodia**; the main users of money lenders are crop collectors and processors. Being large does not preclude agribusiness entrepreneurs to work with money lenders. In this survey, between 11% of large units and 14% of the medium-size units have reported receiving financial services from money lenders, whereas only 8% of micro units and 6% of small units use money lenders.

132. As shown in Table 29, entrepreneurs who are formal, registered, and sole proprietors use commercial banks more than their counterparts (informal, not-registered, and family owned units).

Table 29 Percentage of Agribusiness Entrepreneurs Having Worked with …

	Commercial Banks	Rural Development Bank	MFI	Insurance Companies	Saving Groups	Trader	Input Suppliers	Miller	Money Lender	Money Exchanger	Farmers	Others
Total	51	1	4	3	0	4	4	3	9	21	0	9
By Type of Business												
Processors	65	2	3	5	-	1	1	2	12	23	0	12
Input Suppliers	41	-	4	2	1	2	13	0	4	21	1	7
Machinery Sellers	66	-	1	7	-	-	19	-	3	21	-	3
Crop Collectors	54	-	9	2	0	13	-	3	14	21	0	12
Rice Sellers	33	-	2	-	-	4	-	8	3	15	-	5
By Size of Business												
Micro	22	-	2	-	0	3	5	3	8	22	0	8
Small	45	0	6	1	0	5	4	3	6	15	0	10
Medium	70	-	5	4	0	5	5	2	14	24	-	8
Large	85	4	3	13	-	4	4	3	11	29	1	11
By Use of Banking Services												
Non-Users	-	-	-	0	0	5	4	3	10	20	0	10
Users	96	1	8	5	0	4	5	3	8	21	0	8
By Loan Takers												
No loans (Past 3 years)	23	-	0	1	0	5	6	3	5	17	0	7
Loan takers	84	1	9	5	0	4	3	3	13	25	1	11
By Legal Status												
Sole proprietor	86	5	-	14	-	5	8	4	6	27	1	6
Partnership	67	-	-	-	-	-	-	-	33	33	-	33
Family Owned	47	0	5	2	0	4	4	3	9	20	0	10
By formality												

Yes	62	1	2	5	0	2	6	2	9	22	1	10
No	42	-	7	1	0	7	3	4	8	19	0	9

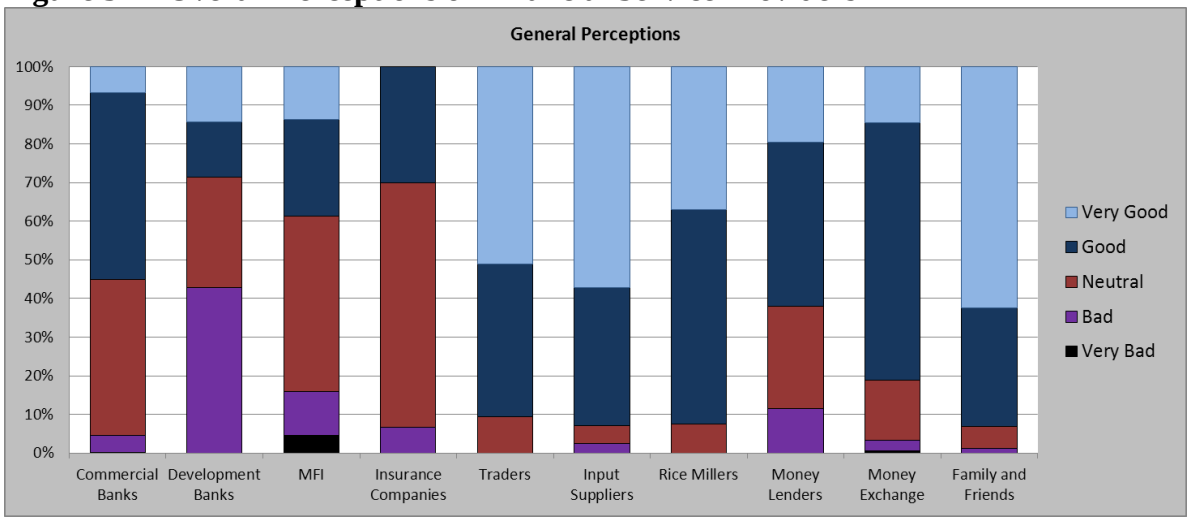
8.2. Perceptions about Financial Service Providers

8.2.1. Overall Perceptions

133. Overall perceptions of agribusiness entrepreneurs about financial service providers are based on the assessment of a number of dimensions including speed of doing business, flexibility of repayment, interest rates, fees, awareness of business needs, and staff quality.

134. **Overall, formal institutions such as banks, MFIs, and insurance companies are perceived as less satisfactory than informal providers such as value chain actors, money lenders, family and friends** (see Figure 31). Part of the reason is that relationships with informal service providers are closer and based on trust.

Figure 31 – Overall Perceptions of Financial Service Providers



135. Overall, more than four out of five agribusiness entrepreneurs perceive financial services from family and friends; from money exchanger; and from other value chain actors (traders, input and equipment suppliers, rice millers and processors) as satisfactory.

136. Agribusiness owners' general perception is more critical when working with commercial banks and money lenders resulting in relatively lower rating (a little bit over half of customers are satisfied).

137. **The finance providers with the lowest satisfaction rating include rural development banks, MFIs, and insurance companies.** With the exception of MFIs, no type of financial business provider received a "very bad" assessment.

138. High percentages of neutral responses for insurance companies (more than half) and MFIs (just below half) seem to indicate that these providers are not very well-known by

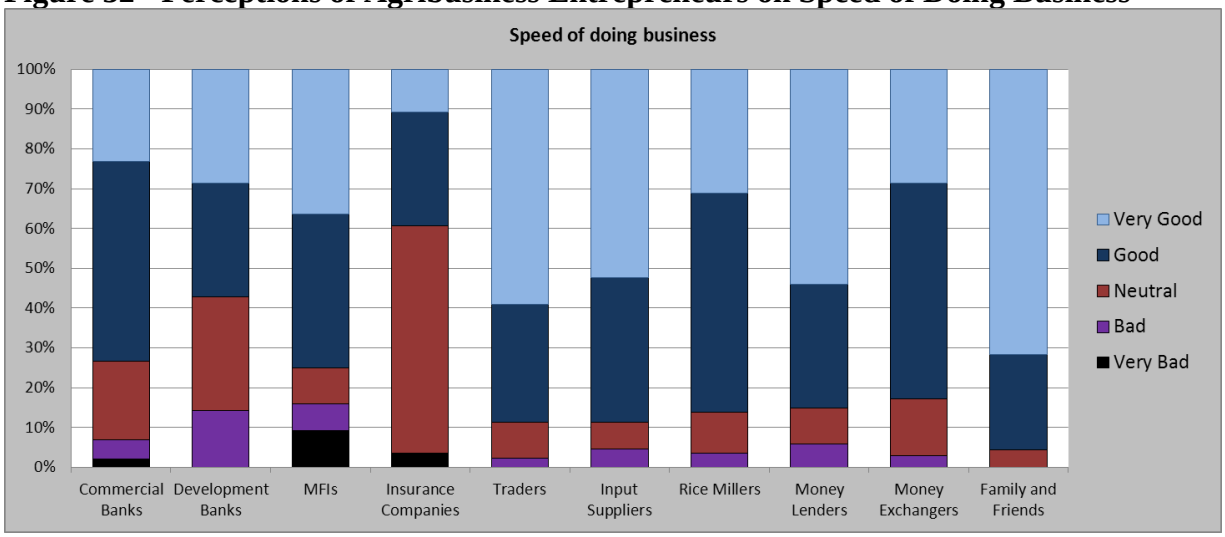
agribusiness actors, or do not provide the services needed by agribusiness entrepreneurs (Figure 31).

139. In summary, the perception of agribusiness entrepreneurs about financial service providers is mixed. When comparing to other institutions or service providers in the value chain (eg. licensing and permit authorities, registration officers, logistics operators, police, CAMCONTROL), the financial providers in Cambodia are perceived to perform better. The main exceptions to this rule are MFIs and insurance companies who need to improve their image and service with agribusiness entrepreneurs.

8.2.2. Speed of Doing Business

140. **Overall, perceptions about speed of doing business are satisfactory (see Figure 32). Commercial banks and MFIs' speed of doing business is perceived as good or very good by more than 70% of respondents**. The satisfaction is even higher with informal service providers including value chain actors (traders, input suppliers and rice millers, money exchangers, money lenders, and family and friends.

Figure 32 - Perceptions of Agribusiness Entrepreneurs on Speed of Doing Business



Note: The results are based on fractions of the 1,030 total samples since non-users of the services did not provide answers to the quality of the services[21].

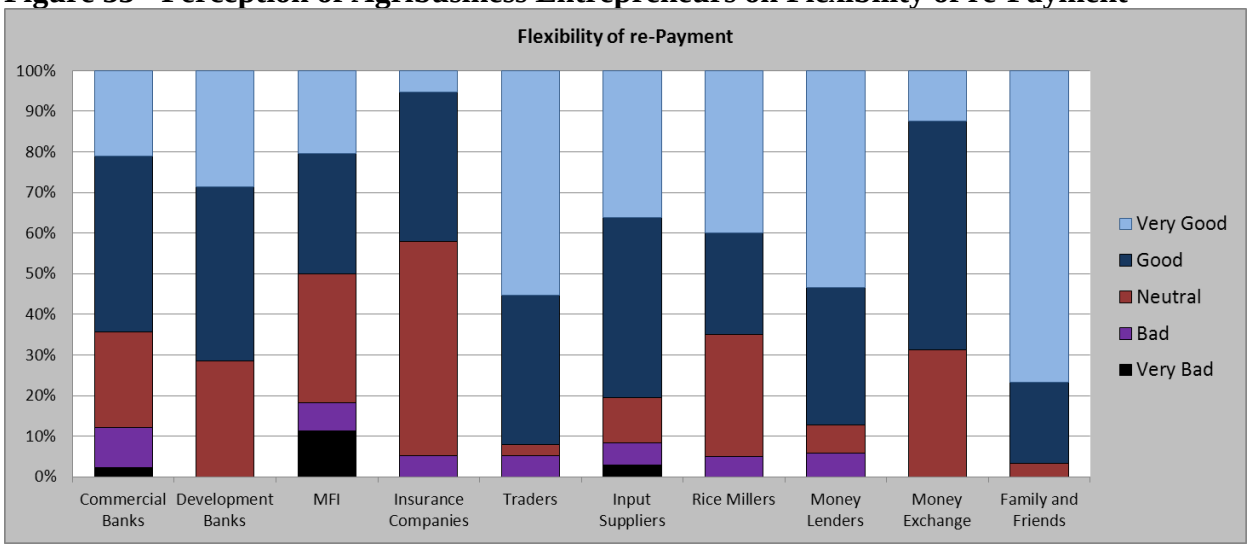
141. The major exception to this overall satisfactory assessment are insurance companies for which only 40% of agribusiness clients are satisfied; there is however a large number of respondents who use insurance provides but do not express either satisfactory nor unsatisfactory opinion related to speed of doing business, but are simply neutral.

[21] Response rates for perceptions of financial institutions: For commercial banks (530 out of 1,030); rural development bank (7); MFI (44); insurance companies (31); savings cooperative (3), trader (45), input supplier (45); miller (31); money lender (89); money exchanger (213); farmers (4), family and friends (95)

8.2.3. Flexibility of Re-Payment

142. The perception of agribusiness entrepreneurs about flexibility of repayments mirrors their response regarding speed of doing business. Overall, entrepreneurs are satisfied with repayments terms, particularly in the case of informal service providers (see Figure 33). In the case of commercial banks over 60% of respondents were satisfied with the repayment terms and for MFI the proportion is 50%. Dissatisfied respondents (those reporting "bad" or "very bad") represent 10% of responses for commercial banks and 20% for MFIs.

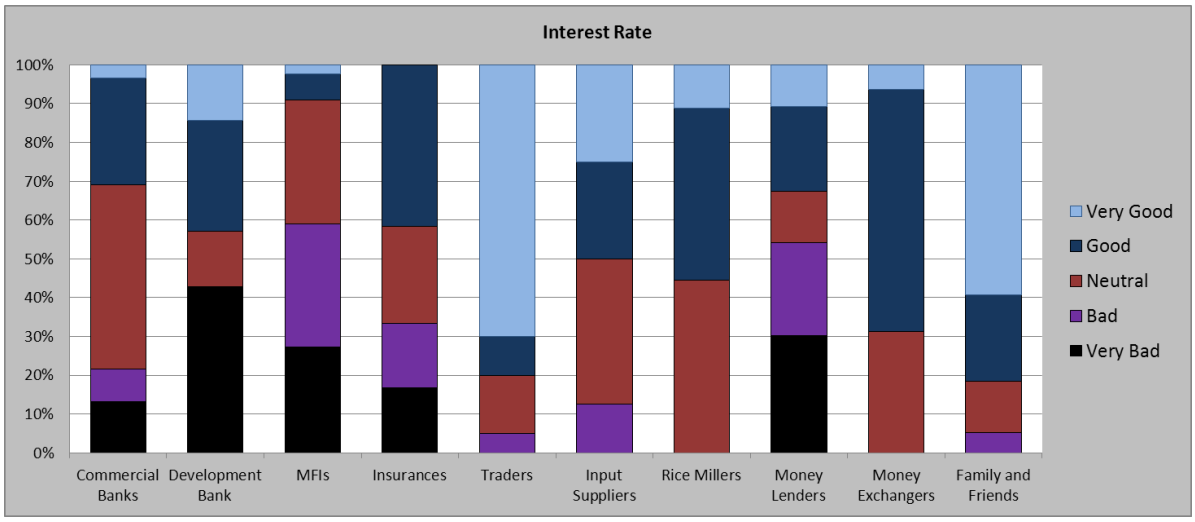
Figure 33 - Perception of Agribusiness Entrepreneurs on Flexibility of re-Payment



8.2.4. Interest Rates

The distribution of satisfied agribusiness entrepreneurs on interest rates used by financial providers presents huge disparities (see Figure 34). Generally, there are many more instances of dissatisfaction (expressed as "very bad" or "bad") than in the previous two cases of speed of doing business and flexibility of repayments. MFIs are perceived as the most expensive providers (only one out of ten satisfied and about one third qualifying MFIs interest rate as very bad) whereas friends and family are perceived as the best (two thirds of respondents are satisfied and no "very bad" rating). Commercial banks pattern reveals 30% of respondents satisfied, 20% dissatisfied, and 50% neutral opinion. Money lenders have also 30% respondents satisfied, but 50% are also dissatisfied with the offered interest rates. Interest rates offered by value chain actors (traders, input suppliers, and rice millers) are generally perceived as satisfactory. Perception of RDB is also very poor as regards interest rate. Negative perceptions (" bad" or "very bad" responses) for commercial banks total 20% of responses whereas for other financial service providers are much higher (about 60% for MFIs, more than 40% for development bank, 55% for money lenders). **So, overall perceptions about interest rates charged by commercial banks are better than for other financial institutions.**

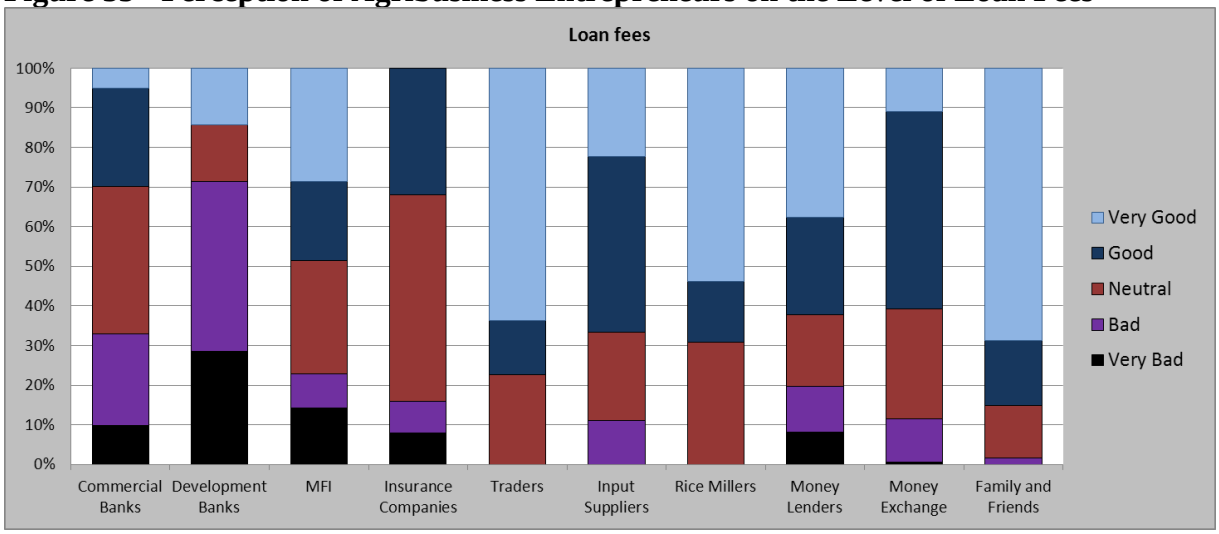
Figure 34 - Perception of Agribusiness Entrepreneurs on Interest Rate



8.2.5. Fees

143. Satisfaction rates are very high for the level of fees on financial transactions with family and friends, money exchangers, and traders; satisfaction is still over 50% with rice millers and input supplier (see Figure 35). Fees applied by commercial banks are perceived as satisfactory by 30% of their customers and only 10% of respondents are satisfied with fees set by MFI. The highest rates of dissatisfaction (as expressed by "bad" and "very bad" assessments) are with MFI (60% dissatisfied), money lenders (54% dissatisfied), and RDB (40% dissatisfied). **Dissatisfaction about bank fees is very high for development bank and MFIs (30% and 15% of respondents are very dissatisfied) whereas only about 10% of respondents are very dissatisfied with fees charged by commercial banks, insurance companies, and money lenders.**

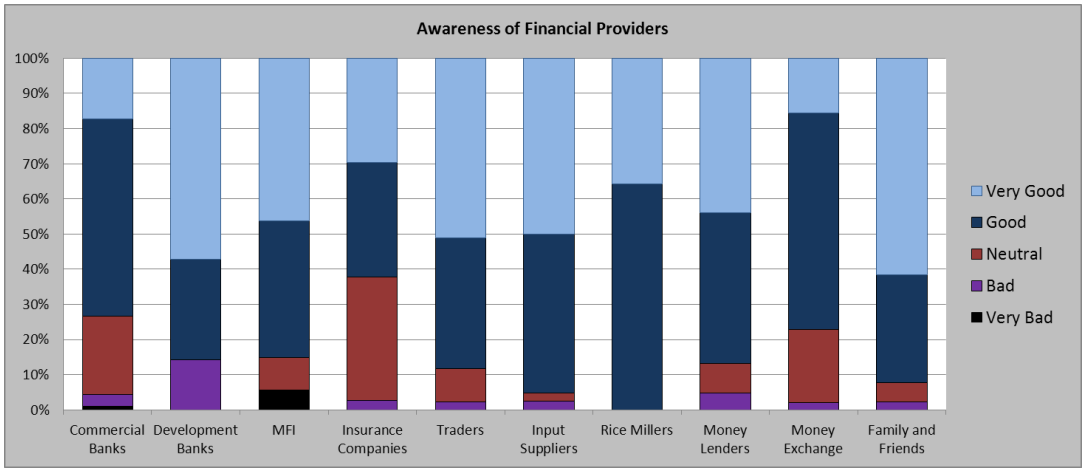
Figure 35 - Perception of Agribusiness Entrepreneurs on the Level of Loan Fees



8.2.6. Awareness of Business Needs

144. Financial services providers working with agribusiness entrepreneurs are expected to be aware of the opportunities, demand for services, and risks within the sector. **Overall, more than two thirds of agribusiness entrepreneurs were satisfied about the awareness of financial service providers on the needs of the agribusiness sector** (see Figure 36) Some pockets of dissatisfaction were with RDB, MFI, and commercial banks (the latter quite marginal).

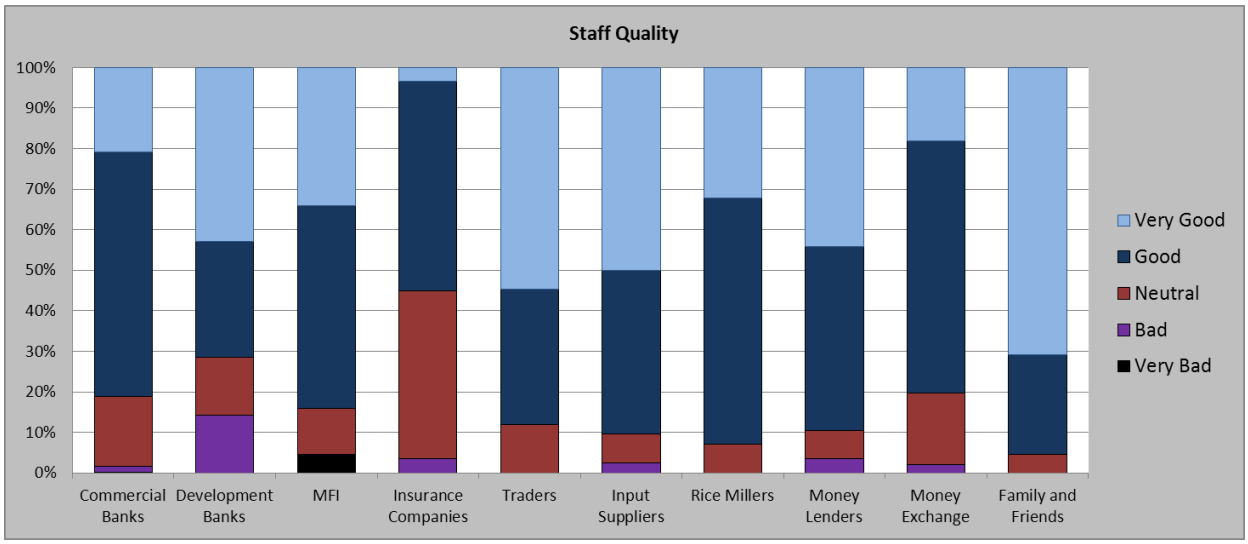
Figure 36 - Perception of Agribusiness Entrepreneurs on the Sector Needs' Awareness of Financial Service Providers



8.2.7. Financial Service Providers Staffing Quality

Perceptions of agribusiness entrepreneurs on the quality of staffing of financial providers as being respectable and trustworthy are similar to their perceptions on the awareness of financial institutions on the sector's needs. **Most survey entrepreneurs reported high satisfaction (above 70% satisfied) regarding staffing quality with any type of financial institutions except for insurance companies where only about half of respondents are satisfied** (see Figure 37).

Figure 37 - Perception of Agribusiness Entrepreneurs on the Skills and Trustworthiness of Financial Institutions Staff



8.2.8. Summary of Perceptions on Financial Service Providers

145. **Generally, agribusiness entrepreneurs are satisfied with financial service providers, particularly as regards dimensions of speed of doing business, flexibility in repayments, knowledge about sector needs, and quality of staff. They are less satisfied about interest rates and fees**.

146. Overall, entrepreneurs are more satisfied with informal service providers such as family and friends, money lenders, and value chain actors (input suppliers, traders, and rice millers) than with commercial banks, MFI, insurance providers, and RDB. **Most of their dissatisfaction is with MFI, insurance providers, and RDB**.

147. Noteworthy, **commercial banks are perceived positively in most respects by most respondents. The two areas most needed of improvement are interest rates and fees**.

8.3. Perceptions about Business Loans

148. In order to understand the perception of agribusiness entrepreneurs on access to credit, the survey asked three sets of questions related to (i) criteria to get a loan; (ii) constraints to access loans; and (iii) impact of lack of access to credit.

8.3.1. Criteria in Getting Loans

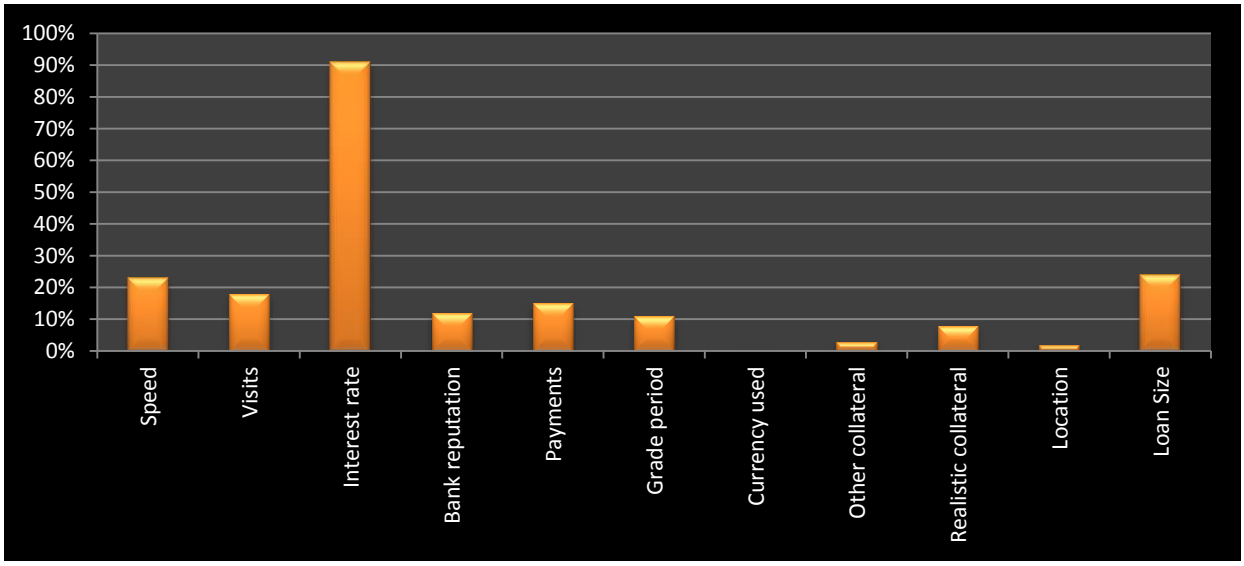
149. To assess the criteria to get loans, the survey asked the question "what are important characteristics for a loan or other form of capital for you?" Respondents could choose up to three answers among the 11 following:

- Speed of getting the loan
- Require less visits and paperwork

- Interest rate
- Bank reputation
- Payment according to income and agricultural season
- Grace period
- Currency used
- Alternative collateral
- Realistic collateral
- Convenient location
- Loan size

150. The results are detailed in Figure 38**. Nine out of ten respondents identified interest rate as the most important criterion to get credit.** Responses are basically similar across type of enterprises. Other criteria that are considered important by about 20% of respondents include speed of getting the loan, frequency of visits and the weight of paperwork, and loan size.

Figure 38 Percentage of Respondents indicating the most important Criteria to get a Loan



8.3.2. Constraints to Access Credit

151. The survey used another set of questions to assess the constraints that agribusiness entrepreneurs may face when asking for loans. The surveys identified a list of requirement that may be considered as constraints to access credit. These are:

- Having land title
- Having other assets
- Having good credit history
- Having business plan
- Having informal accounting records

- Having accounting system
- Having audited accounts

152. Table 30 shows a breakdown of the responses by "users" and "non-users" of financial services offered by banks and MFIs.

153. **Constraints linked to collateral seem not to be major problems in accessing credit**. About two third of "non-users" and three quarter of "users" affirm to completely fulfill the criterion of having land title. Only a handful of entrepreneurs reported not having such documents. For other assets, most of the respondents partially or completely fulfill the criterion.

154. **Good credit history is important.** Distributions of good credit history show different patterns for "non-users" and "users" of financial services. This latter group is more aware and more concerned about the role of credit history in getting credit. About 40% reported to somewhat fulfill and 12% completely fulfill the criterion, in contrast to 60% of "not at all" and only 1% "fulfill completely" for "non-users".

155. "**Having good business plan" is a constraint to access loans for both groups**. The distributions across the range of responses are very similar: dominance of "not at all" and very few "fulfill completely" though "users" exhibit higher rate for somewhat fulfill.

156. Based on the information in Table 30, **most of the agribusiness actors think that they will not be able to comply with the requirement of "having informal accounting records".** Only one fifth of "non-users" and two fifth of "users" will partially or completely fulfill this requirement; two fifth of non-users and one third of "users" reported neutral responses. Ratings for "not at all" or "almost not at all" are also high for both groups.

157. **The requirements of "having accounting system" and "having audited accounts" will remain difficult to attain by agribusiness actors.** There is no substantial difference across users and non-users. About eight to nine out of ten reported "not at all" meeting these requirements.

Table 30 – Assessment of Agribusiness Entrepreneurs on Some Constraints to Access Loans

		No idea	Not at all	Almost not at all	Neutral	Fulfill Somewhat	Fulfill Completely
Have land title	Non-Users	1%	0%	4%	5%	31%	60%
	Users	0%	0%	1%	2%	20%	77%
Have other assets	Non-Users	1%	9%	8%	10%	47%	25%
	Users	0%	4%	8%	10%	42%	35%
Good credit	Non-	1%	60%	14%	8%	16%	1%

history	Users						
	Users	1%	15%	13%	19%	40%	12%
Have business plan	Non-Users	1%	56%	20%	18%	5%	0%
	Users	0%	47%	25%	16%	10%	1%
Informal accounting	Non-Users	2%	13%	24%	40%	18%	3%
	Users	1%	10%	17%	29%	35%	9%
Have accounting	Non-Users	2%	95%	3%	0%	0%	0%
	Users	0%	84%	10%	2%	3%	1%
Audited accounts	Non-Users	2%	96%	1%	0%	0%	0%
	Users	0%	95%	3%	1%	1%	0%

8.3.3. Impact of Lack of Access to Credit on Business

158. In order to evaluate the opinion of agribusiness entrepreneurs on risk of lack of credit, two questions were asked:

- Has the risk of credit unavailability affected you in the past three years?
- If yes to question 1, evaluate the impact of the lack of credit on your business (scale question with 1=very low, 2=low, 3=neutral, 4=moderately high, 5=very high)

Table 31 Responses to Question 1 = Has the risk of credit unavailability affected you in the past three years: (1=yes, 0=No)

Response by type of business					**Response by size of business**	
	Yes	% Yes			Yes	% Yes
Processors	92	28%		Micro	66	30%
Input sellers	48	21%		Small	84	19%
Machinery sell	13	19%		Medium	47	22%
Crop collectors	47	20%		Large	43	27%
Rice sellers	40	22%		Total	240	23%
Total	240	23%				

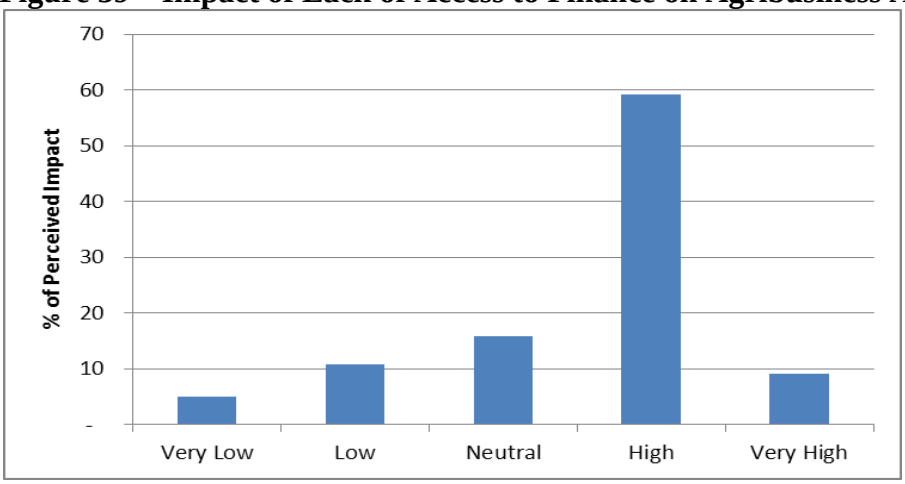
159. Overall, a quarter of agribusiness enterprises have reported that lack of credit impacted their business negatively in the past three years (see Table 31). There is no clear trend by size of business to assess whether lack of credit affected the business: it is relatively higher for micro (30%) then decreases and increases to 27% for large units. By type of

business, there is also no large statistically significant difference between the 19% (rice sellers) and 28% (processors). Maybe to some extent, processors are more concerned about the lack of credit than other value chain actors.

160. For the respondents who have indicated negative impact, the highest response is for "moderately high" at 59%. If lack of credit affects business, then the impact is moderately high. Three fifth of these respondents estimated high negative impact and one out of ten estimated very high negative impact of the lack of access to finance on the success of their business (Figure 39).

161. **Overall, one could say that only for about 14% of the respondents the lack of credit is a risk with serious impact on their business.**

Figure 39 – Impact of Lack of Access to Finance on Agribusiness Activities



8.4. Determinants of Demand for Credit

162. The previous sections on perceptions of agribusiness entrepreneurs regarding access to credit help to formulate a relationship explaining demand for credit. In the analysis below, the dependent variable is loans taken within the past three years. Explanatory variables include fixed assets, interest rates, export orientation, the type of business, the location,

formality, maturity of loans, source of loan, credit history, accounting system, business plan, and collateral (see Table 32)[22].

163. **The larger the fixed assets, the higher the demand for loans; the elasticity of demand with respect to assets is 0.6.** Processors are the type of business that has higher demand for credit; all other types are less likely to take loans, especially crop collectors and machinery sellers.

164. **As expected, interest rate has a negative effect on credit, but the elasticity is not very high (-0.32) suggesting that the demand for credit is relatively flat with respect to interest rate. Many other factors can influence such demand; for example the interaction between export orientation and fixed assets.**

165. Location factors are not very strong, with the exception of Phnom Penh location (affecting positively the demand for credit) and access to informal sources: the higher the access to loans from family and friend the lower the demand for loans from commercial bank.

166. **The main implications of this analysis are that to improve demand for credit, interest rates should be reduced and programs or policies to accelerate investment in fixed assets should be formulated**

[22] Different specifications were tried but other explanatory variable did not have any significant effect.

Table 32 - Determinant of the Amount of Credit Taken during the last Three Years

Variable	Coefficient Estimates	Sig	Std. Err.	Elasticities	Sig	Std. Err.
Asset in US Dollars	0.1	**	0.0	0.65	**	0.061
Export (1=exporter)	-1690.0		16803.8	-0.01		0.069
Exporter x Asset	0.0	**	0.0	0.06	**	0.028
Interest rate (monthly)	-27414.8	**	10824.4	-0.35	**	0.140
Formality (1=yes)	-2859.5		18482.7	-0.02		0.124
Type of business (Base =						
Input suppliers	-29033.5		21177.7	-0.04		0.033
Machinery sellers	-68510.3	**	31032.7	-0.04	**	0.017
Crop Collectors	-38155.6	*	21624.8	-0.13	*	0.072
Rice Sellers	-38536.7		27156.3	-0.04		0.026
Provinces (Base = Bantey Meanchey)						
Battambang	8762.4		28738.7	0.02		0.073
Kampong Cham	-29889.6		28988.8	-0.05		0.049
Kampong Chhnang	-10651.7		39223.1	-0.01		0.019
Kampong Thom	-15632.6		41178.9	-0.01		0.017
Kampong Speu	-12640.2		32631.5	-0.01		0.033
Kandal	-11684.5		39155.1	-0.01		0.019
Kampot	-27436.9		32399.0	-0.03		0.034
Phnom Penh	79685.3	*	41197.5	0.04	*	0.022
Prey Veng	-58255.8	*	32767.6	-0.05	*	0.030
Svay Rieng	-17409.6		34664.8	-0.01		0.024
Siem reap	2973.5		36601.1	0.00		0.025
Takeo	-7810.1		38557.9	0.00		0.021
Loan duration (months)	56.6		356.4	0.01		0.074
Source of loan (Base = Commercial Bank)						
Loan from MFI (1=yes)	-2257.9		23679.1	0.00		0.023
Loan from Other VCA	-80504.0		97389.1	0.00		0.004
Loan from friends (1=yes)	-80459.1	**	28906.5	-0.06	**	0.021
Loan from Money lender	-5925.6		31207.5	0.00		0.019
Loan from other (1=yes)	-43133.9		32152.5	-0.02		0.016
Have good credit history (Base=1 No)						
Credit history=1 (Neutral)	3630.1		20523.9	0.01		0.048
Credit history=2 (Fulfill)	178.7		18416.7	0.00		0.124
Have business Plan (Base						
Business plan =2 (Neutral)	-194.4		18387.1	0.00		0.031
Business plan =3 (Yes)	8448.1		21155.6	0.01		0.027
Have informal accounting (Base 1=No)						
Accounting=1 (Neutral)	4029.5		13645.6	0.02		0.068
Problem with collateral (Base 1=Yes)						
Collateral =2(Neutral)	-7150.8		27217.6	-0.01		0.028
Collateral = 3(No problem)	-10415.9		20393.4	-0.10		0.189
Risk						
Index of different risk	-9671.4		7758.0	0.00		0.000
Constant term	98372.7	**	41133.080			

Note: Significant results at 1% is marked with ***; at 5% with **; and at 10% with *.

8.5. Perceptions about Alternative Financial Products

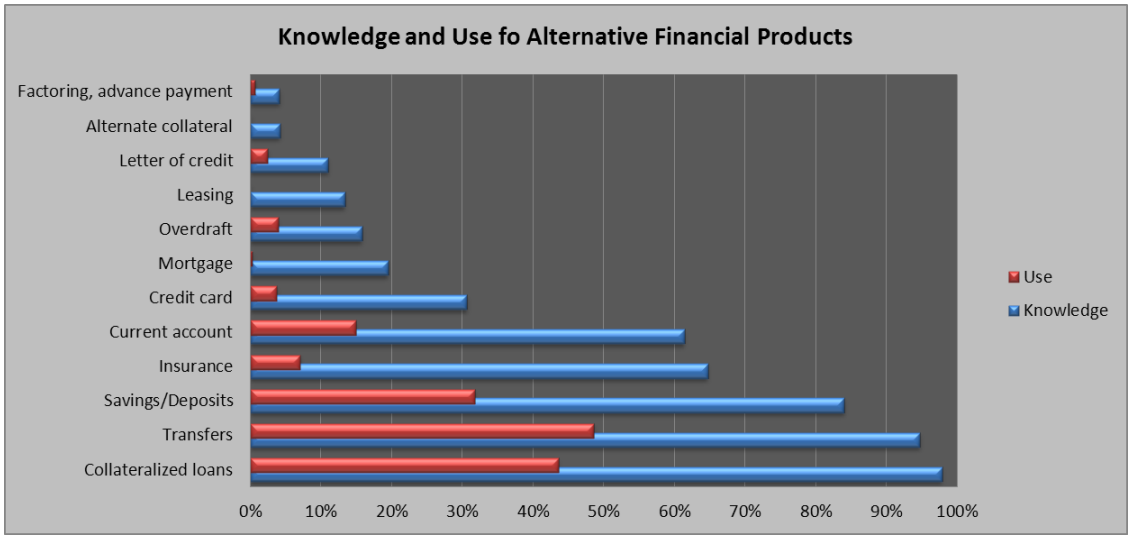
167. The survey included questions regarding knowledge, use, and experience of agribusiness entrepreneurs about alternative financial products such as:

- Collateralized loan
- Current account
- Savings/deposits
- Transfers
- Mortgage
- Insurance, including micro-insurance
- Overdraft facility
- Letter of credit
- Leasing
- Alternative collateral to loans
- Factoring, advance payment on contract
- Credit card

168. Knowledge and use of alternative financial products are summarized in Figure 40. **Knowledge of products such as collaterized loans, transfer, saving/deposit account, insurance, and current account are known by the majority of the respondents; whereas few entrepreneurs in the sample know about credit cards, mortgages, overdraft facility, leasing, letter of credit, alternate collateral, and factoring, advance payments.**

169. **Use of all financial products is relatively low, including those products that are well known. For example, only about 45% of respondents have used a collaterized loans and less than half of the respondents have made financial transfers through a financial institution. In the case of mortgage, leasing, alternate collateral, and factoring virtually nobody in the sample has used these products.**

Figure 40 – Knowledge and Use of Alternative Financial Products by Agribusiness Entrepreneurs



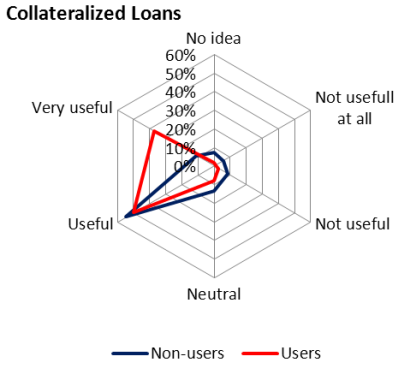
8.5.1. Collateralized Loans

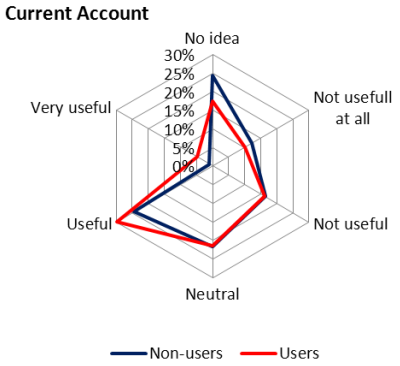
170. **Almost all agribusiness owners have knowledge of collateralized loans and there are no notable differences across type or size of business, or across characteristics of agribusiness. However, two thirds of processors and half of crop collectors use the service compared to one fourth for rice sellers and input suppliers.**

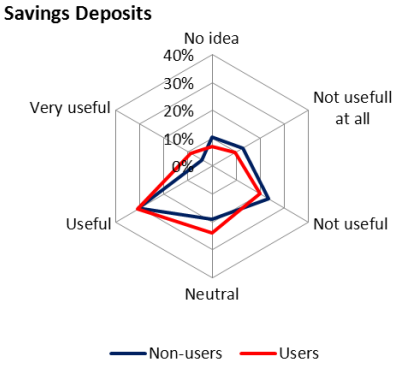
171. Use of collateralized loans increase with the size of the agribusiness enterprises: the bigger size, the higher use. About three quarters of large enterprises reported using the services, showing huge divergence with the one fifth for micro enterprises. As expected, loan takers and financial service users reported higher rate of using collateralized loans (15 times higher) than non-users and non-loan takers. Being formal and registered also increases the rate of using the service by about 15 points, up from one third.

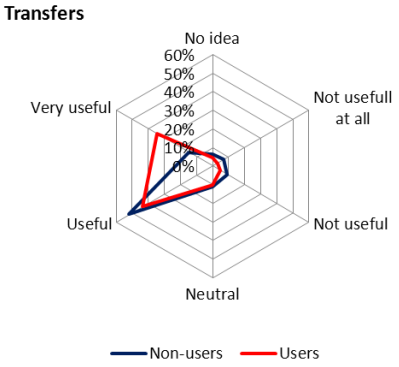
172. Figure 41 shows that both "users" and "non-users" found collateralized loans useful but more "users" scored collaterized loans "very useful" than "non-users". Both groups however shared the same opinion for other possible responses: few "neutral", very few "not useful" and "not useful at all".

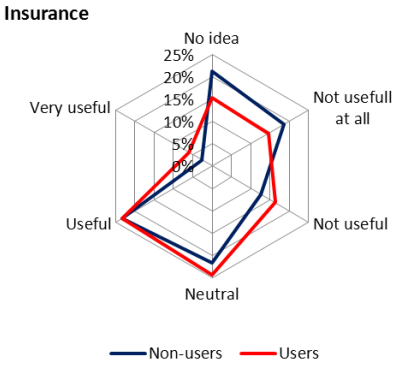
Figure 41 – Comparison across Users and Non-Users of Financial Services on the Usefulness of Alternative Financial Services

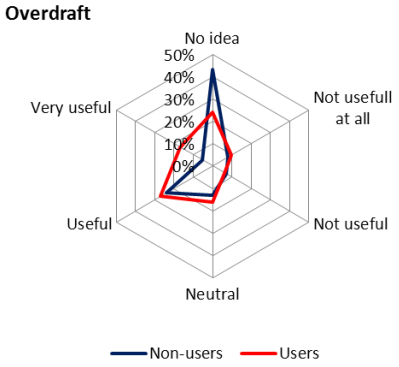


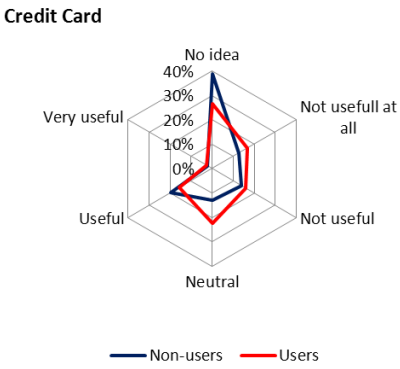


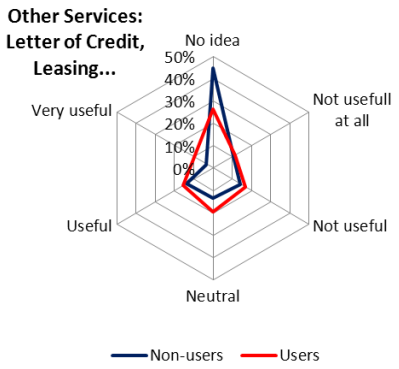












8.5.2. Current Accounts

173. **About three fifth of respondents reported having knowledge of current account services;** however, less than half of very small units have knowledge about current account. Loan takers, formal and registered enterprises reported slightly higher degree of knowledge compared to non-loan takers, informal, and non-registered units.

174. **Overall, only 15% of agribusiness entrepreneurs of the samples use current account services.** By type of business, the ranges for users vary from one out of 20 for rice sellers to about a quarter for machinery sellers.

175. Size of business greatly affects the rate of use of current account: smaller units have lower use, medium units correspond to medium use and large units have high use of the service (about ten times more than small units). The same pattern of divergence is observed

between various categories of agribusiness: formal, registered, and loan-takers exhibit higher user rate of 3 to 4 times more than their respective counterparts.

176. Comparison across "users" of "non-users" of financial services in Figure 41 show that although users are more inclined to score the service better in terms of usefulness, only few responses were recorded as "very useful". The numbers of "neutral", "not useful" and "not useful at all" remain practically the same among the two groups. Also about 15% of users and 25% of non-users answered "no idea" to this question.

8.5.3. Savings and Deposits

177. **The survey data indicate more than four out of five of the respondents are aware of the savings and deposits service offered by financial providers**. Knowledge increase with the size of the respondent's turnover; however there is no substantial difference across various characteristics of businesses (formality, registration and legal status).

178. **"Savings and deposits" is the third most used service by agribusiness entrepreneurs, with about one third of the respondents using savings and deposits.** About half of machinery sellers and processors use the service, while the percentage drops to one fifth for rice sellers. Size of business significantly affects the rate of use of savings and deposits, with gradually increasing rates of users as size increases. Non-loan takers display half the rate of use of savings and deposits compared to loan takers. Sole proprietors show 2.5 times higher user rate than family-owned business. Formal enterprises and registered enterprises are twice more inclined to use savings and deposits compared to informal and not registered.

179. Less than 10% of respondents declare having "no idea" about the usefulness of saving and deposits and the response is basically the same for the two groups of "users" and "non-users" of financial services. Proportions of other responses are comparable across "users" and "non-users", with slightly higher scoring of users on "neutral" and "useful" and inversely, higher scoring of "non-users" on "not useful" (See Figure 41). In both groups, very few respondents view savings and deposits as "not useful at all".

8.5.4. Transfers

180. **More than 95% of agribusinesses have knowledge about money transfers**. This proportion barely varies across type of business or across other characteristics of agribusiness enterprises (formality, loan taking, registration status, legal status). However, very small units exhibit slightly lower percentage of knowledge compare to large units. "Non-users" of financial services from banks and MFIS also exhibited lower knowledge compared to "users".

181. **About half of the agribusiness owners have used transfer services**. About three quarters of machinery sellers, half of processors and crop collectors, and one third of rice sellers use the service.

182. Size of business matters for the level of use of transfers, with user rate rising from a quarter for the very small units to more than four out of five for large units. "Users" of banking and MFIs services show four times more use of transfers compared to "non-users". Similar behavior is observed between loan takers and non-loan takers; between formal and informal; and between registered and not-registered.

183. Transfer services are viewed as "useful" to "very useful" by about half of agribusiness enterprises. "Users" group however perceives transfers to "very useful" more than "non-users".

8.5.5. Insurance Services

184. **Over two thirds of the respondents reported having knowledge about insurance services**. The rate of knowledge about insurance ranges from as high as three fourth for machinery sellers and for rice sellers to as low as half for crop collectors.

185. L**ess than one out of ten agribusiness entrepreneurs use insurance services.** Rates of utilization vary by type of business, ranging from almost none for rice sellers to 5% for crop collectors and input suppliers, and to 15% for processors and machinery sellers.

186. Insurance is mainly used by large units with turnover over USD 2 million. Formal, registered, loan-takers, and sole proprietor enterprises are likely to use insurance more than their opposites (not formal, not registered, …).

187. **Insurance services are not very well-known by agribusiness entrepreneurs, with about 15-20% reporting "no idea" on the usefulness of the service** (see Figure 41). "Users" slightly see insurance services as more useful than "non-users". There is dominance of "users" for neutral and positive categories of responses and inversely, dominance of "non-users" for "not useful at all".

8.5.6. Credit Card

188. **About one third of the respondents reported having heard about credit card services. However only 4% of the same respondents use the service**. Crop collectors are the least knowledgeable compared to other value chain actors. Knowledge increases slightly with size of businesses, ranging from 15% for the first quintile to half of the samples for the largest quintile. Processors and machinery sellers use credit card more than input suppliers, rice sellers, and crop collectors. About one out of ten of the largest group of enterprises use credit card. This user rate is down to near zero for small units. Being a formal, registered enterprise is 6 times more likely to use credit card than their opposites (not formal, not registered). The ratio goes to 12:1 among "users" and "non-users" and to 4:1 among loan takers and non-loan takers.

189. **A large number of respondents do not have idea about how useful credit cards are and many believe the service is not useful at all.** A few respondents think the service is useful, but nobody believes is very useful.

8.5.7. Mortgage

190. One fifth of the respondents have knowledge of mortgage services. Processors, input suppliers, machinery sellers, and rice sellers have more knowledge of the services compared to crop collectors. The percentage of large enterprises having knowledge on mortgage is twice the percentage micro enterprises. **However hardly any respondent use mortgage services**.

8.5.8. Overdraft Facility

191. **Knowledge of overdraft facility service is reported by 16% of the respondents**. Relatively high percentages are observed for processors and machinery sellers (about a quarter of responses) compared to other actors of the value chain.

192. **Very few enterprises in the sample use overdraft facility service**. Notable uses are only observed for machinery sellers and large units.

8.5.9. Leasing

193. **Less than one fifth of interviewed agribusiness entrepreneurs have heard about leasing**. **The survey did not record any agribusinesses using leasing services.**

8.5.10. Letter of Credit

194. About only one out of ten agribusiness entrepreneurs have knowledge of letter of credit. **Only 2% of respondents use letter of credit and they are large companies engaged in export**.

8.5.11. Alternative collateral and Factoring

195. Alternative collateral and factoring services are unfamiliar to agribusiness actors. Less than 5% of the respondents reported having heard about these services. Those are mostly large units. The percentage of users for these services is close to zero.

196. Comparison between "users" and "non-users" of financial services from banks and MFIs show that several alternative services are characterized by the high number of "no idea". Generally, about half of the "non-users" and about a quarter of "users" fall under this category of "no idea". For these alternative financial services, rates of responses are balanced across "not useful at all", "neutral", "useful" and "very useful" with slightly higher taking of "users" for the positive perceptions (useful and very useful).

8.6. Opinions about Finance

197. Respondents were asked to rank their opinion on the following statements:

- Access to finance is the largest constraint to my business
- My business would be much bigger if I could access finance for long-term investment
- My business cannot afford the high interest rates of the banks
- My business will always continue to use informal source of credit because they are easier and more flexible
- Getting a bank loan is too time consuming
- My main constraint to a bank is my lack of collateral
- Bank staff does not understand agricultural sector
- I regard taking a loan from a bank as a loss of face
- I cannot continue to take loans from informal sources when my business is bigger
- I rely on my business partners for some of my financing
- Due to seasonality, my business has trouble accessing finance
- I can raise enough working capital myself; I need bank loan for investment

198. Table 33 summarizes the results.

199. There is no common agreement across sampled agribusiness entrepreneurs on the "importance of access to finance as the main constraints to the success of businesses". Customers of banks and MFIs (hereafter "users") are however more disposed to agree and strongly agree with the statement compared to non-customers of banks and MFIs (hereafter "non-users"). Overall, one third of the samples did not provide their opinion.

200. There is more agreement in identifying "access to long-term investment finance as an element determining the possibility of growth of their business". Again, "users" agree more with the statement compared to "non-users". For this question however two thirds of the sample did not provide their opinions.

201. Agribusiness entrepreneurs are divided on the question on interest rate. Almost two fifths of "users" disagree with the statement "my business cannot afford high interest rate" while almost three fifths of "non-users" agrees with the statement. One third of the respondents did not provide opinions to the question.

202. More than three quarters of the respondent failed to provide interpretable responses to the statement "informal source of credit should be used because they have the advantage of being easy to get and more flexible". "Users" tend to disagree with the statement while "non-users" are split between possible responses.

203. On the statement "getting bank credit is too time-consuming", almost half of the interviewees did not provide their opinions. About two thirds of "non-users" are inclined to agree and strongly agree with the statement, likely enough to justify their reluctance to work and thus to ask loans from commercial banks. On the other side, about half of "users" are more disposed to disagree with the statement.

204. Agribusiness entrepreneurs have more common ground on the statement "my main constraint to bank loan is lack of collateral". About three fifths disagree with the statement. Based on the result, lack of collateral should not preclude most of agribusiness to get access to credit from commercial banks and MFIs. However, this result is based on one third of the total samples who provided responses beyond "I don't know".

205. Do commercial banks have the right staff to deal with agribusiness needs? Analysis of the responses of agribusiness entrepreneurs on the statement "bank staff does not understand agribusiness needs" indicate that about two thirds of "users" and more than half of "non-users" disagree with the statement and have confidence on the quality of commercial banks' staff.

206. More cultural statements such as "taking loans from bank is a loss of face" and "I cannot take loans from others if my business is bigger" do not receive agreement of more than half of agribusiness entrepreneurs. Cultural and traditional behaviors would not interfere with the decision to get loans for businesses. Nevertheless, about one quarter agrees with the statement for each group of "users" and "non-users".

207. Less than one third of agribusiness entrepreneurs provided responses to the statement related to receiving financial services from their peers. Half of "users" expressed that they will not rely on business partners for some of their financing. "Non-users" responses were split about half-half between agree and disagree. Indeed, if agribusiness entrepreneurs have financial relation with banks and MFIs, then they will also likely to rely more on these institutions for their financial needs.

208. Seasonality of income would not affect access to credit for about half of agribusiness entrepreneurs, whether they have or not financial relation with commercial banks and MFIs. Only a handful of responses strongly agree with the statement "due to seasonality, my business has trouble accessing loans". Indeed, the importance of seasonality depends on the type of businesses. Input suppliers and machinery sellers are mostly seasonal activities thus may be more vulnerable to access loans.

209. On the statement "I can raise enough capital for myself but need loans for long-term investment", responses from agribusiness entrepreneurs are very disparate. One out of ten strongly agrees with the statement, and the others are split between the four possible responses.

210. In summary, opinions **of respondents on finance issue are quite varied and there is not a strong common response**. There are however three findings that are worthwhile to highlight for their relevance to the conclusions and policy implications.

211. First, contrary to much widely held opinion[23] **access to finance does not seem to be the main constraint to business** in the view of the agribusiness entrepreneurs interviewed during the survey. Less than half of the respondents see finance as the main constraint, about

[23] IFC 2010 Understanding Cambodian Small and Medium Enterprise Needs for Financial Services and Products

two fifths disagree with the statement, and one tenth have a neutral position on the issue. This obviously does not imply that finance is not important. However, issues such as competition for raw material with neighboring countries, access to logistics, and governance of the value chains are factors that might be of even greater importance for the development of agribusiness in Cambodia.

212. Second, **the responses on the question of interest rate affordability are divided.** One third of respondents disagree, one half agree, and one fifth is neutral on the issue. Again, this does not minimize the importance of interest rates. The analysis of demand for credit reported in section 7.5.1 showed a negative elasticity of demand for credit with respect to interest rated. However, that analysis also confirmed that the credit demand curve is relatively "flat" with respect to the interest rate (elasticity equal to -0.3).

213. Third, **about three fifths of respondents disagree with the statement that lack of collateral is a main constraint to bank credit**. Even though financial institutions require collateral, entrepreneurs seem to have sufficient collateral (in the form of either land or fixed assets) that could be used to obtain loans. The analysis of demand for credit in section 7.5.1 showed that the higher the level of fixed assets, the higher is the demand for credit. However, factors such as the nature of the business, interest rates, availability of credit from family and friends, and export orientation might have a bearing on the demand for credit that mitigate the lack of collateral.

Table 33 – Opinions of Agribusiness Entrepreneurs towards some Financial Statements

	Proportion including "Don't				Proportion among		
	Non-	Users	Total		Non-	Users	Total
Access to finance is the largest constraints to my							
Don't Know	34%	35%	35%				
Strongly	7%	7%	7%		11%	11%	11%
Disagree	20%	16%	18%		31%	24%	27%
Neutral	8%	9%	8%		12%	14%	13%
Agree	23%	20%	21%		36%	30%	33%
Strongly Agree	7%	13%	10%		11%	20%	16%
My business would be bigger if I could access							
Don't Know	67%	65%	66%				
Strongly	1%	0%	1%		3%	1%	2%
Disagree	6%	3%	4%		18%	9%	13%
Neutral	8%	8%	8%		25%	22%	23%
Agree	11%	12%	12%		33%	35%	34%
Strongly Agree	7%	12%	10%		21%	33%	28%
My business cannot afford high							
Don't Know	38%	37%	37%				
Strongly	4%	4%	4%		6%	7%	6%
Disagree	12%	19%	16%		19%	30%	25%
Neutral	9%	13%	11%		15%	21%	18%
Agree	27%	15%	20%		43%	23%	33%
Strongly Agree	10%	12%	11%		16%	20%	18%
My business will always use informal							
Don't Know	75%	79%	77%				
Strongly	1%	4%	3%		5%	20%	12%
Disagree	8%	8%	8%		30%	37%	33%
Neutral	6%	4%	5%		25%	18%	22%
Agree	6%	4%	5%		25%	18%	22%
Strongly Agree	4%	1%	3%		15%	7%	11%
Getting bank credit is too time							
Don't Know	51%	37%	43%				
Strongly	2%	10%	6%		4%	15%	11%
Disagree	6%	23%	16%		13%	37%	27%
Neutral	10%	9%	10%		20%	14%	17%
Agree	20%	13%	16%		41%	20%	29%
Strongly Agree	10%	8%	9%		21%	13%	16%
My main constraints to bank loan is lack of							
Don't Know	68%	65%	66%				
Strongly	7%	7%	7%		21%	19%	20%
Disagree	13%	14%	13%		39%	41%	40%
Neutral	5%	5%	5%		15%	15%	15%
Agree	5%	4%	4%		17%	10%	13%
Strongly Agree	3%	5%	4%		8%	14%	12%
Bank staff does not understand agribusiness							
Don't Know	40%	46%	44%				
Strongly	5%	12%	9%		9%	23%	16%
Disagree	29%	22%	25%		48%	41%	44%
Neutral	5%	5%	5%		8%	10%	9%
Agree	17%	10%	13%		29%	19%	24%
Strongly Agree	3%	4%	4%		6%	7%	7%
Taking loans from bank is a loss of							
Don't Know	68%	65%	66%				
Strongly	9%	16%	13%		26%	46%	37%
Disagree	13%	14%	14%		41%	40%	40%

	Proportion including "Don't				Proportion among		
	Non-	Users	Total		Non-	Users	Total
Neutral	4%	2%	3%		13%	6%	9%
Agree	5%	2%	3%		15%	6%	10%
I cannot take loans from other if my business is							
Don't Know	45%	50%	48%				
Strongly	9%	12%	11%		16%	25%	21%
Disagree	20%	13%	16%		36%	26%	31%
Neutral	13%	10%	11%		23%	19%	21%
Agree	11%	12%	12%		20%	25%	23%
Strongly Agree	2%	3%	2%		4%	5%	5%
I rely on my business partners for some of my							
Don't Know	71%	69%	70%				
Strongly	2%	6%	4%		6%	19%	14%
Disagree	9%	11%	10%		31%	36%	34%
Neutral	6%	5%	6%		21%	17%	19%
Agree	9%	7%	8%		31%	23%	26%
Strongly Agree	3%	2%	2%		11%	5%	8%
Due to seasonality, my business has trouble							
Don't Know	69%	66%	67%				
Strongly	3%	8%	6%		8%	25%	18%
Disagree	12%	13%	12%		37%	38%	37%
Neutral	8%	6%	7%		27%	19%	22%
Agree	7%	4%	5%		21%	12%	16%
Strongly Agree	2%	2%	2%		7%	6%	7%
I can raise enough capital for myself but need loans							
Don't Know	70%	67%	68%				
Strongly	3%	10%	7%		10%	29%	21%
Disagree	9%	7%	8%		29%	22%	25%
Neutral	7%	7%	7%		24%	22%	23%
Agree	8%	7%	7%		26%	19%	22%
Strongly Agree	3%	3%	3%		10%	8%	9%

9. CONCLUSIONS

9.1. Key Findings

215. The main findings reported in the preceding chapters are summarized in the following sections.

A. The Modern Agribusiness Sector is Emerging

216. Most agroenterprises in Cambodia are family-owned and relatively young (less than 10 year old and 30% have been constituted over the past 3 years). Women own or manage almost 50% of these enterprises (albeit women tend to manage and own smaller enterprises than men). More formal corporate structures like private limited companies and joint stock companies are emerging but they are still a marginal share of the total. The agribusiness sector is not yet generating much employment, and even large enterprises employ a small number of employees (a dozen on average).

217. Most agricultural commodities (with the exception of paddy) are hardly processed. There is some processing in maize and cassava (for feed and starch) but is still limited; rubber plantations are increasing and export of latex is picking up. The fishing sector is more advanced with shrimp and crabs factories involved in exports. However, entire sectors rely on export of raw material to neighboring countries for value addition and further exporting. Cashew nuts are entirely exported in raw form to Viet Nam. Even in the case of paddy, large amounts are sent abroad for milling and exports of paddy are estimated between 2 and 3 million tons[24]. In the survey itself, it was found that only 36% of commodities go through processors.

218. The main types of surveyed agribusiness enterprises include crop collectors, rice sellers, processors, input sellers, and machinery sellers. Crop collectors and rice sellers operate still in a largely traditional manner, with minimum formality, using very little fixed assets and technology, and limiting themselves to basic trading activities with rudimentary postharvest and quality assurance systems. Apart from basic postharvest activities such as grading, storing, and shipping, this "traditional" sector based on trade adds little value to agricultural commodities.

219. A "modern" sector related to value addition (processing) or higher farm productivity (inputs and machinery seller) is emerging. The recent rice policy with the target of 1 million rice export by 2015 has encouraged investment in the sector by both domestic and foreign investors. According to rice analysts[25] "the milling capacity of the larger mills has nearly quadrupled since mid 2009, reaching an estimated 350 tons/hr. Further, this subsector's capacity may double over the next eighteen months". In recent years, a number of initiatives

[24] Francesco Goletti 2010, Emerging Dynamics in the Rice Sector in Cambodia and Implications for Viet Nam, Agrifood Consulting International.
[25] Tom Slayton & Sok Muniroth 2012, Turning Rice Into "White Gold".

by the government and development partners are focusing on the rice milling industry[26], food safety and quality assurance systems[27], postharvest systems[28], and value chain development[29].

220. So, in spite of a still largely underdeveloped agroindustry and little value added produced in Cambodia, the agribusiness sector is taking off. Technologies are introduced and opportunities are studied and increasingly seized. One of the most visible signs of the taking off of the agroindustry in Cambodia is evidenced in the survey by the dynamism of modern sector and medium and large enterprises.

B. Dynamism in the Modern Sector and Medium-Large Enterprises

221. The data indicated a growth of the agribusiness sector turnover of about 6% between 2010 and 2011. In fact most of this growth is due to the "modern sector" including processors, inputs suppliers, and machinery sellers. The "traditional" (trading) sector has hardly contributed to any growth.

222. The growth dynamism is further differentiated. It is mostly the medium (turnover between $0.5 and $2 million) and large enterprises (turnover more than $2 million) who contribute to the growth of the sector. Their contribution is not just in terms of growth but also in terms of employment and turnover. For example medium and large enterprises represent 36% of the total enterprises, but contribute 61% to total employment, 93% to turnover, and 93% to growth from 2010 to 2011.

C. Weaknesses in Value Chain Linkages

223. The number and strength of value chain linkages is limited in the agribusiness sector of Cambodia. Linkages of small enterprises hardly go beyond their immediate and local commercial and financial network. As size of the business increases, new linkages are formed with commercial banks, exporters, and a range of actors with a broader geographical and functional outreach. More linkages increase the opportunities of enterprises to benefit from the exchange of goods, access to finance, market intelligence, and networking.

224. There are however two major weaknesses in the current system of value chain linkages of the agribusiness sector in Cambodia. First, there are hardly any farmer organization well integrated in the system of agricultural value chain exchange; as a consequence the opportunity of realizing economies of scale and improving quality and consistency of raw material is largely lost. Second, processors are the only business with some horizontal coordination through rice miller associations. However, there are indications that governance in these associations is poor[30].

[26] As part of the activities under the EU/IFC trust fund for the development of SME in agroindustry.
[27] As part of the ADB funded Improved Sanitary and Phytosanitary Handling in Greater Mekong Subregion Trade Project
[28] IRRI-MAFF postharvest project
[29] CAVAC project funded by AusAID; USAID-funded MSME project and HARVEST.
[30] Goletti 2010 Emerging Dynamics in the Rice Sector in Cambodia and Implications for Viet Nam.

225. The survey indicated a strong dissatisfaction with Rural Development Bank. The bank has been charged with the allocation of finance to rice miller associations with the objective of promoting investment in the processing sector. However, poor governance in the industry has created animosities within the association and with other associations that have not benefitted from the program[31].

226. Microfinance institutions have also a poor reputation among agribusiness entrepreneurs. While the operational mode of MFIs might not be appropriate for agribusiness enterprises (at least not for medium and large enterprises), they might still have a role to play in providing services to micro enterprises and farmers and their organizations, particularly in those locations where commercial banks are not easily accessible.

D. Low Use of Financial Services and Products

227. Only 44% of surveyed agroenterprises have a bank account. Most payments are in cash, and enterprises largely self-finance their working capital and investment needs. The three main financial services used by enterprises which have bank accounts are loans, transfers, and currency exchange. Few enterprises know and even fewer enterprises use a variety of financial products that could meet client needs. Enterprises are not really sure about the advantages and disadvantages of several financial products since there is not much awareness about the benefit of these financial products.

E. Constraints to Credit and Demand

228. Agribusiness enterprises have indicated a number of factors that in their view affects their access to bank finance. Econometric analysis has quantified the impact of all these factors and identified those which are statistically significant. The statistically significant factors of demand for credit include fixed assets, interest rates, export orientation (when combined with higher assets), type of business (for example processors), and availability of informal sources of credit (family and friends).

F. Opinions of Agroenterprises about Finance

229. Contrary to much widely held opinion access to finance does not seem to be the main constraint to business in the view of the agribusiness entrepreneurs interviewed during the survey. The survey shows that less than half of the respondents see finance as the main constraint. This obviously does not mean that finance is not important. However, it suggests that other issues such as competition for raw material with neighboring countries, access to logistics, and governance of the value chains are factors that might be of even greater importance for the development of agribusiness in Cambodia.

9.2. Policy Implications

A. Consolidation of the Industry: Promising Clientele for Commercial Banks

[31] Goletti 2010

230. As mentioned above, growth in the modern sector is stronger than in the traditional sector. Moreover, growth of medium and large enterprises is stronger than micro and small enterprises. If the trend observed in the survey were to continue, a concentration and consolidation of the industry might occur. Given that medium and large enterprises are the ones that contribute most to growth, employment, and value addition, the consolidation trend would promise well for growth, employment and value addition in the country and rural areas. It would also have an important implication for commercial banks.

231. As noted in the analysis of the survey data, larger enterprises and "modern sector" enterprises tend to have higher demand for credit and a variety of financial services (checking and saving accounts, money transfers, letters of credit, loans, payments of employees and suppliers, leasing, insurance, factoring). Larger and modern enterprises also have higher fixed assets and closer linkages with commercial banks and other actors in the value chain. These enterprises could be a primary customer for the banking sector. The working capital and fixed assets investment requirement will increase both for the enterprises already in existence and for new companies entering the industry. The banking industry should closely monitor the trend in the agribusiness sector and get ready to meet the growing demand of agribusiness enterprises for credit and other financial services.

232. Monitoring the growth of the agribusiness sector should also be a priority of the government not only to assure that its rice export goal is achieved, but also to ensure that the pattern of growth based on medium and large enterprises results in greater productive employment and sustainable income growth.

B. Value Chain Development

233. Continued growth of the modern agribusiness sector requires the development of institutional mechanisms that could strengthen value chain linkages both vertically and horizontally. Farmer organizations are largely missing in the existing value chains. This seriously constrains the opportunity for improving quality of products and consistency of supply. Trade and industry associations are also weak and poorly governed. The opportunity of benefiting from organized training and capacity building and access to programs and credit is also constrained.

234. Suggested improvements might include: the formation of value chain development committees with representatives of processing industry, farmers, traders, and financial institutions to identify common strategies for strengthening value chain linkages; innovative contract farming arrangements; and expansion of business linkages to other sectors outside of agribusiness such as agricultural research institutes, logistics operators, quality control service providers, packaging and equipment suppliers with the objective of lowering transportation cost and improving quality.

C. Meeting the Increasing Demand for Credit and Financial Services of the Agribusiness Sector

235. The main implications of the credit demand analysis are that to improve demand for credit, financial institutions should make an effort at finding mechanisms to reduce interest rates and accelerate investment in fixed assets; they should also focus on processors, input suppliers and machinery sellers.

236. The survey has also shown some economies of scale in lending and interest rates: larger loans are usually matched with lower interest rates.

237. This suggests a strategy of credit pooling to ensure that larger loans are disbursed with lower interest rates. Credit pooling could be directed to associations of enterprises, provided that good governance of these associations is in place.

238. An alternative strategy is to use value chain financing: banks provide finance to a large enterprise in the value chain (for example to a processor) which in turns can extend credit to crop collectors, farmers, and rice sellers. These linkages among value chain actors already exist and partial or full credit is already given, albeit to a limited extent.

239. The credit demand analysis has quantified the effect of fixed assets on demand for credit. It has also shown that most of the investment in fixed assets is financed by own sources. Acceleration of fixed assets investment could be obtained through tax incentives (eg accelerated depreciation)

D. Major Effort in Capacity Building and Awareness

240. To realize the opportunities offered by the expanding finance needs of the agribusiness sector, the financial sector will require to engage in a major effort at capacity building and awareness activities. This effort should be based on joint forces of the banking sector and business development service (BDS) providers. Financial literacy of agroenterprises has to improve. A number of financial products (eg letter of credits, credit cards, overdraft facilities, line of credit, leasing, mortgages, factoring) are not clearly understood by enterprises. Accounting systems have to be consistent with generally acceptable practices. Business plans and strategic plans of agribusiness enterprises need to be formulated to improve not only operations and performance, but also to improve access to finance. Value for money spent on financial services and financial products has to be assessed and clearly communicated to agribusiness enterprises.

241. The four main commercial banks currently used by agribusiness enterprises (ACLEDA, CANADIA, ANZ Royal, and CAMPU) need to expand their outreach (currently only 44% of enterprises have a bank account and about 60% have linkages with banks) and make their products more competitive as well as better understood. Promotion campaigns will be crucial to capture the promising agribusiness enterprise market.

APPENDIX

APPENDIX 1. TURNOVER IN 2011

Table 34 - Sample Size and Breakdown

Numbers in the Sample

	Micro	Small	Medium	Large	Total
Processors	43	133	92	62	330
Input Suppliers	98	96	22	11	227
Machinery sellers	10	32	12	13	67
Crop collectors	20	76	69	63	228
Rice sellers	54	99	19	6	178
Total	225	436	214	155	1030

Shares in the Sample

	Micro	Small	Medium	Large	Total
Processors	13.0%	40.3%	27.9%	18.8%	100.0%
Input Suppliers	43.2%	42.3%	9.7%	4.8%	100.0%
Machinery sellers	14.9%	47.8%	17.9%	19.4%	100.0%
Crop collectors	8.8%	33.3%	30.3%	27.6%	100.0%
Rice sellers	30.3%	55.6%	10.7%	3.4%	100.0%
Total	21.8%	42.3%	20.8%	15.0%	100.0%

Table 35 - Breakdown of 2001 Turnover ('000 USD) by Size and By Type of Business

	No	Average	Standard Dev.	Median	Sum	Min	Max
Micro							
Processors	42	22.5	13.8	17.1	943	5	49
Input Suppliers	97	25.0	12.5	26.0	2,421	6	49
Machinery sellers	10	28.8	8.7	28.7	288	12	40
Crop collectors	20	24.6	11.7	27.4	492	6	44
Rice sellers	54	24.5	11.9	25.6	1,321	5	49
Total micro	223	24.5	12.4	25.4	5,466	5	49
Small							
Processors	133	193.8	114.1	160.0	25,770	50	464
Input Suppliers	96	186.1	110.8	158.8	17,864	51	429
Machinery sellers	32	175.5	127.3	133.4	5,616	50	500
Crop collectors	76	241.1	139.5	196.1	18,326	56	500
Rice sellers	99	193.9	122.1	157.8	19,197	50	500
Total small	436	199.0	122.1	164.7	86,773	50	500
Medium							
Processors	92	1,085.7	424.9	1,000.0	99,882	504	2,000
Input Suppliers	22	973.7	343.9	905.0	21,422	515	1,680
Machinery sellers	12	1,058.5	367.2	1,013.0	12,702	560	1,800
Crop collectors	69	1,062.8	388.5	1,000.0	73,332	521	2,000
Rice sellers	19	937.6	399.7	780.0	17,814	592	1,971
Total medium	214	1,052.1	399.7	998.3	225,152	504	2,000
Large							
Processors	63	5671.9	5479.5	4170.0	357,330	50	31,500
Input Suppliers	12	6895.5	5117.5	5300.3	82,746	50	17,250
Machinery sellers	13	5160.1	3468.6	4500.0	67,081	2,142	15,000

Crop collectors	63	8321.6	7500.9	4807.5	524,262	2,063	30,683
Rice sellers	6	5290.1	5515.1	3065.9	31,740	2,079	16,330
Total large	157	6771.7	6308.9	4396.6	1,063,160	50	31,500
Total Processors	330	1,466.4	3172.0	393.9	483,926	5	31,500
Total Input suppliers	227	548.3	1902.9	75.5	124,454	6	17,250
Total Machinery sellers	67	1,278.9	2453.7	247.1	85,687	12	15,000
Total Crop collectors	228	2,703.6	5259.2	749.2	616,412	6	30,683
Total Rice sellers	178	393.7	1338.7	105.1	70,073	5	16,330
Total Sample	1030	1,340.3	3393.9	241.0	1,380,551	5	31,500

APPENDIX 2. GEOGRAPHICAL DISTRIBUTION OF ENTERPRISES

Table 36 Geographical Distribution of the Sample (% by province)

Survey Location	Processors		Input Suppliers		Ag. Machinery Sellers		Crop Collectors		Rice Sellers		Total	
	No	% Prov	No	% Prov	No	% Prov	No	% Prov	No	% Prov	No	%
Banteay Meanchey	34	52.3%	9	13.8%	4	6.2%	18	27.7%	0	0.0%	65	100%
Battambang	75	46.3%	26	16.0%	5	3.1%	41	25.3%	15	9.3%	162	100%
Kampong Cham	71	45.8%	27	17.4%	13	8.4%	29	18.7%	15	9.7%	155	100%
Kampong Chhnang	9	18.8%	11	22.9%	3	6.2%	22	45.8%	3	6.2%	48	100%
Kampong Speu	12	27.3%	8	18.2%	0	0.0%	8	18.2%	16	36.4%	44	100%
Kampong Thom	13	18.8%	24	34.8%	2	2.9%	25	36.2%	5	7.2%	69	100%
Kampot	10	20.8%	17	35.4%	0	0.0%	15	31.2%	6	12.5%	48	100%
Kandal	35	39.8%	24	27.3%	2	2.3%	6	6.8%	21	23.9%	88	100%
Phnom Penh	5	5.0%	9	8.9%	21	20.8 %	3	3.0%	63	62.4%	101	100%
Prey Veng	24	35.3%	18	26.5%	3	4.4%	12	17.6%	11	16.2%	68	100%
Siem Reap	32	47.1%	13	19.1%	4	5.9%	8	11.8%	11	16.2%	68	100%
Svay Rieng	9	17.0%	15	28.3%	5	9.4%	16	30.2%	8	15.1%	53	100%
Takeo	1	1.6%	26	42.6%	5	8.2%	25	41.0%	4	6.6%	61	100%
Total	**330**	**32.0 %**	**227**	**22.0%**	**67**	**6.5%**	**228**	**22.1 %**	**178**	**17.3 %**	**1030**	**100%**

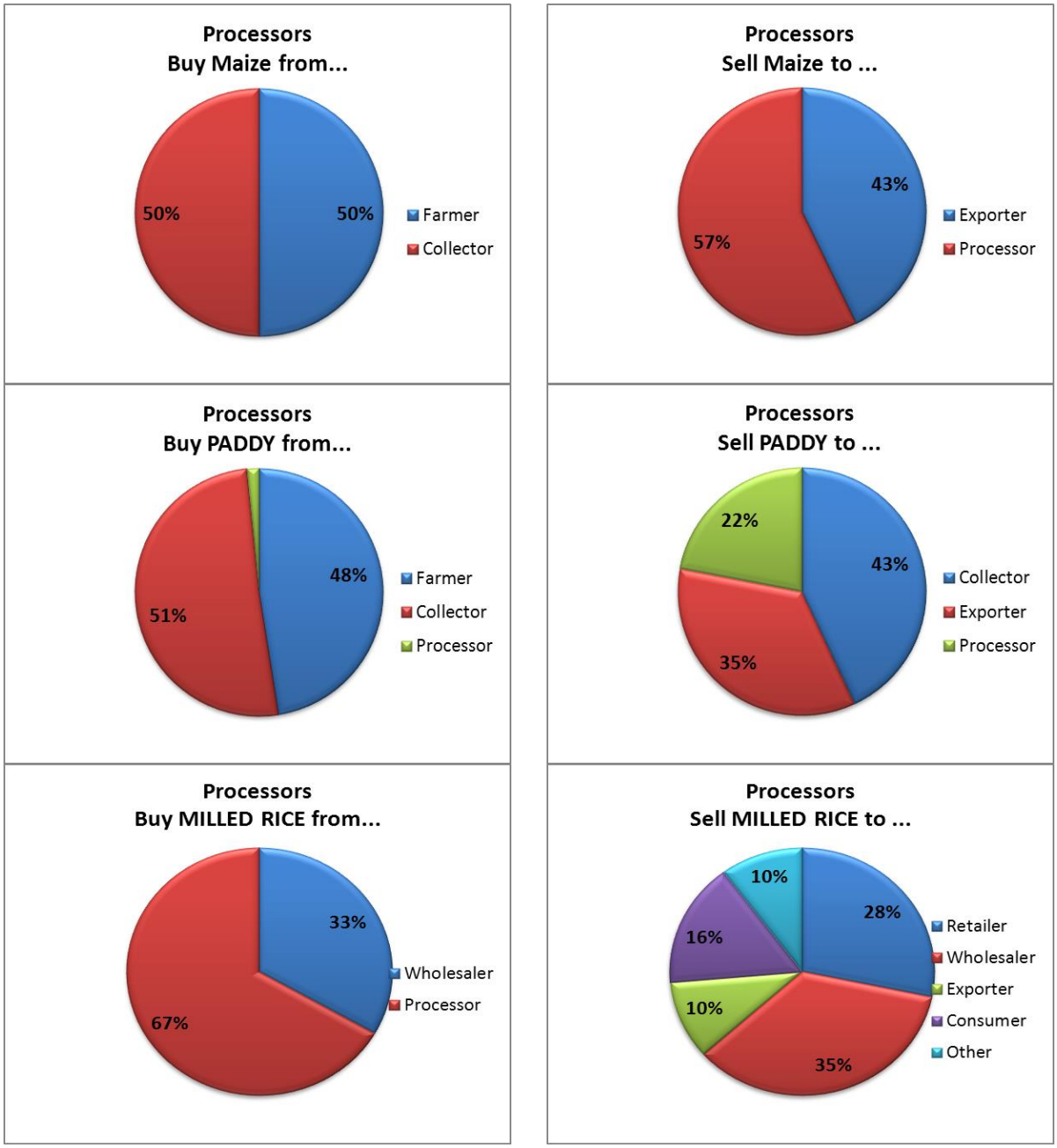
Table 37 Geographical Distribution of the Sample (% by Total)

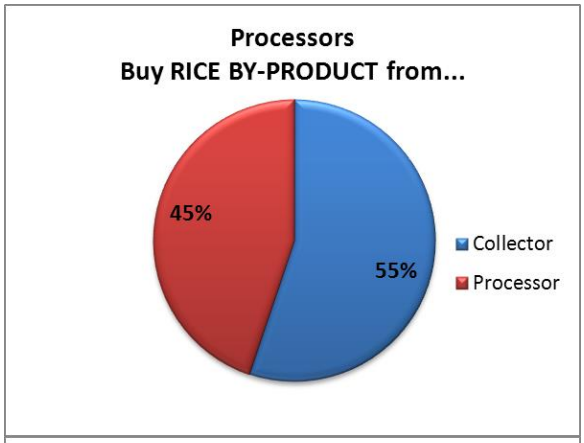
Survey Location	Processors		Input Suppliers		Ag. Machinery Sellers		Crop Collectors		Rice Sellers		Total	
	No	% Total	No	% Total	No	% Total	No	% Total	No	% Total	No	% Total
Banteay Meanchey	34	10.30 %	9	3.96%	4	5.97%	18	7.89 %	0	0.00 %	65	6.31%
Battambang	75	22.73 %	26	11.45 %	5	7.46%	41	17.98%	15	8.43 %	162	15.73%
Kampong Cham	71	21.52 %	27	11.89 %	13	19.40 %	29	12.72%	15	8.43 %	155	15.05%
Kampong Chhnang	9	2.73%	11	4.85%	3	4.48%	22	9.65 %	3	1.69 %	48	4.66%
Kampong Speu	12	3.64%	8	3.52%	0	0.00%	8	3.51 %	16	8.99 %	44	4.27%
Kampong Thom	13	3.94%	24	10.57 %	2	2.99%	25	10.96%	5	2.81 %	69	6.70%

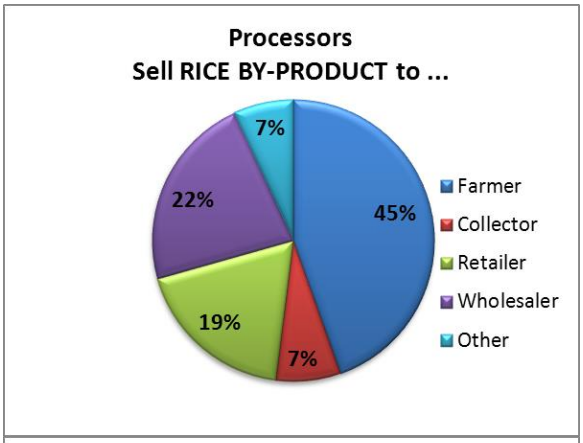
Kampot	10	3.03%	17	7.49%	0	0.00%	15	6.58 %	6	3.37 %	48	4.66%
Kandal	35	10.61 %	24	10.57 %	2	2.99%	6	2.63 %	21	11.80 %	88	8.54%
Phnom Penh	5	1.52%	9	3.96%	21	31.34 %	3	1.32 %	63	35.39 %	101	9.81%
Prey Veng	24	7.27%	18	7.93%	3	4.48%	12	5.26 %	11	6.18 %	68	6.60%
Siem Reap	32	9.70%	13	5.73%	4	5.97%	8	3.51 %	11	6.18 %	68	6.60%
Svay Rieng	9	2.73%	15	6.61%	5	7.46%	16	7.02 %	8	4.49 %	53	5.15%
Takeo	1	0.30%	26	11.45 %	5	7.46%	25	10.9 6%	4	2.25 %	61	5.92%
Total	**330**	100.00 %	**22 7**	100.00 %	**67**	100.00 %	**228**	100. 00%	**17 8**	100.0 0%	**1030**	100.00 %

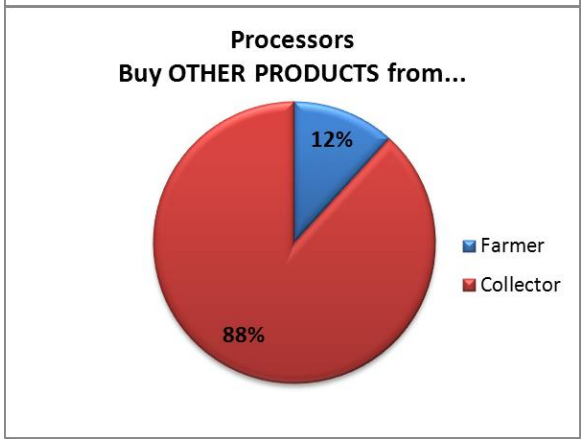
APPENDIX 3. SOURCE OF PURCHASE AND DESTINATION OF SALES

Figure 42 - Source Of Purchases And Destination Of Sales For Processors




Processors
Buy RICE BY-PRODUCT from...
45%
55%
Collector
Processor


Processors
Sell RICE BY-PRODUCT to ...
7%
22%
45%
19%
7%
Farmer
Collector
Retailer
Wholesaler
Other


Processors
Buy OTHER PRODUCTS from...
12%
88%
Farmer
Collector

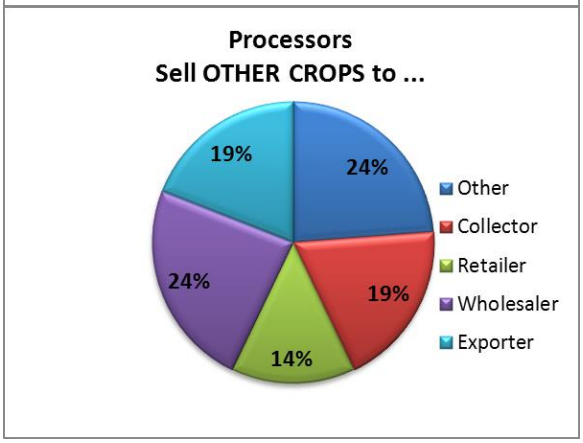

Processors
Sell OTHER CROPS to ...
19%
24%
24%
19%
14%
Other
Collector
Retailer
Wholesaler
Exporter

Figure 43 - Source Of Purchases And Destination Of Sales For Input Suppliers

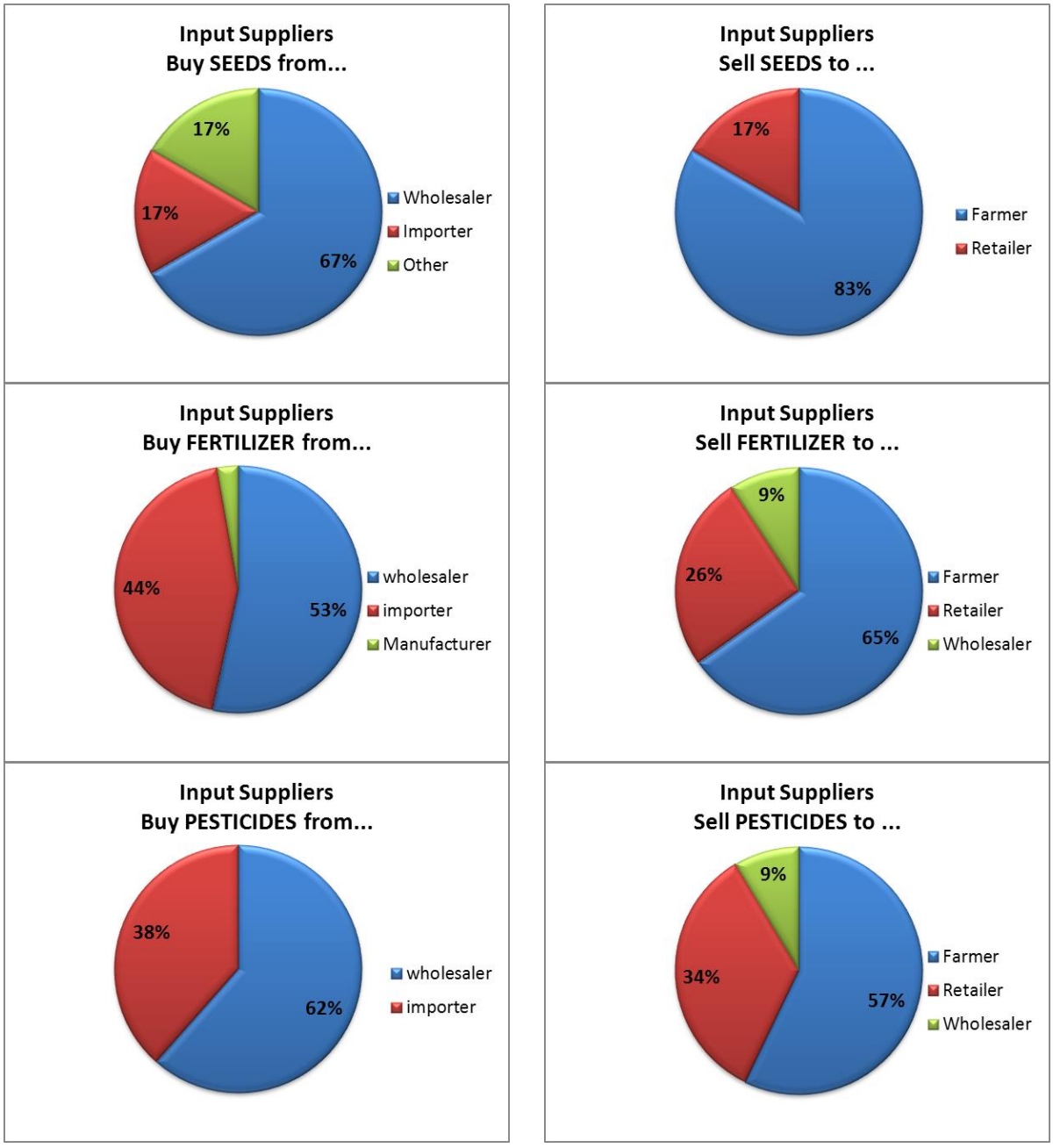
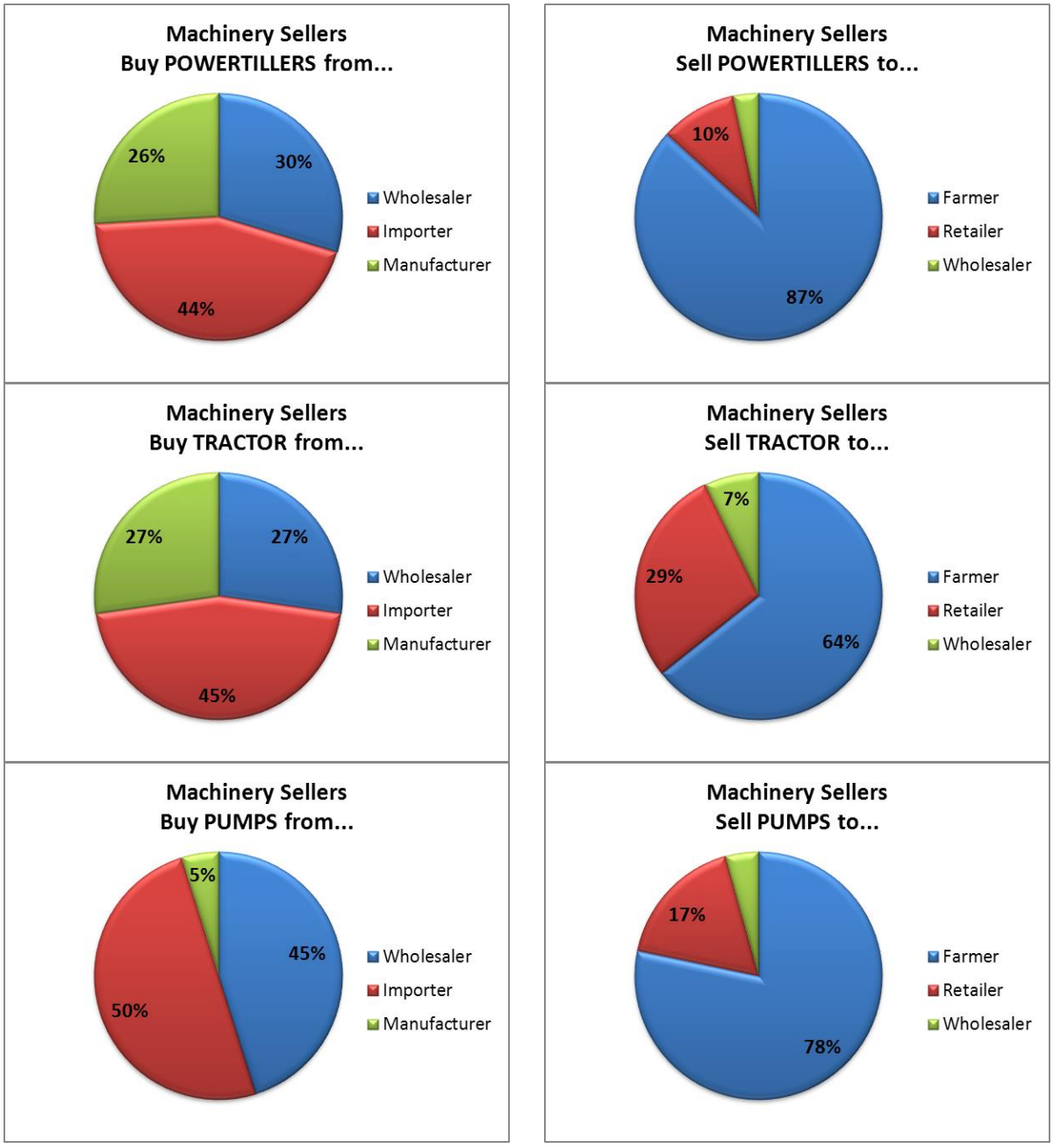
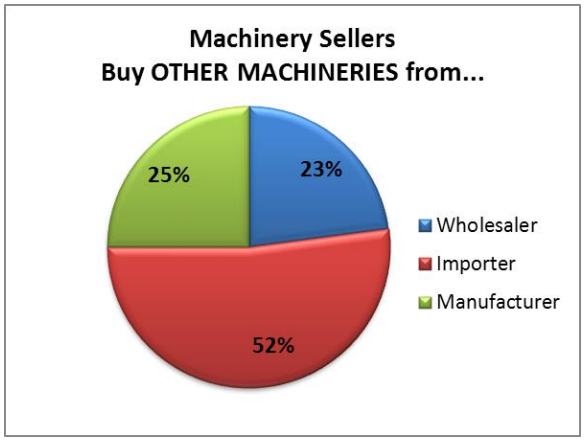


Figure 44 - Source Of Purchases And Destination Of Sales For Machinery Sellers





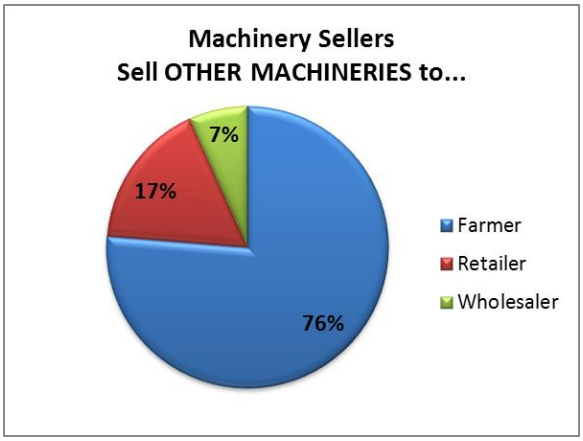
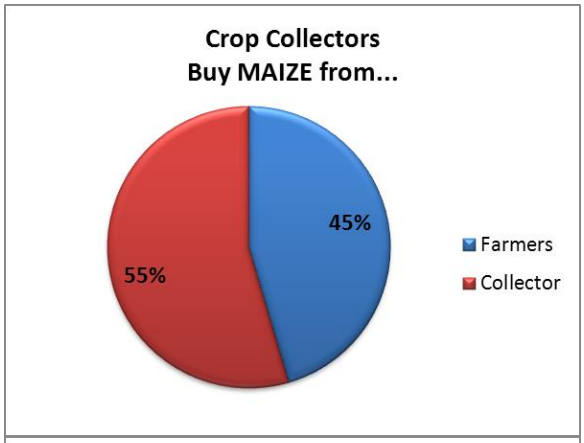
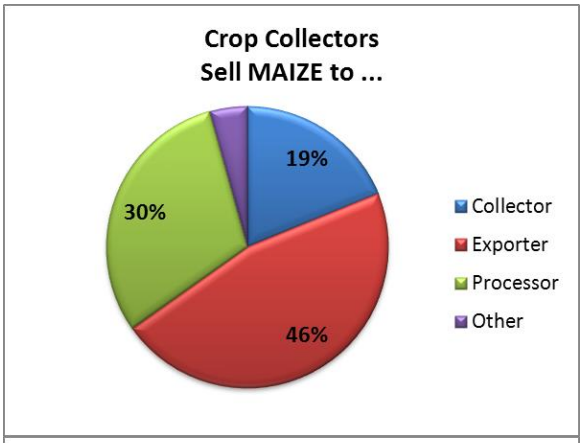
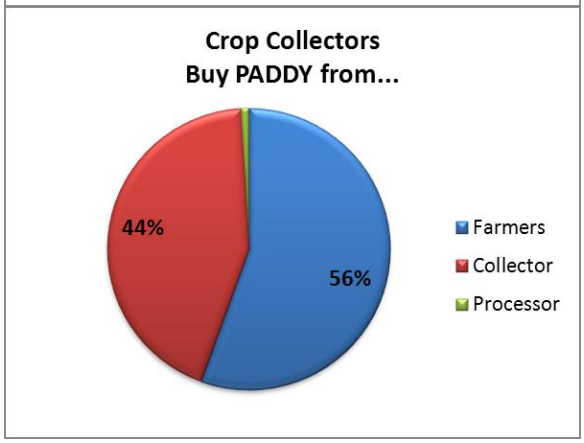
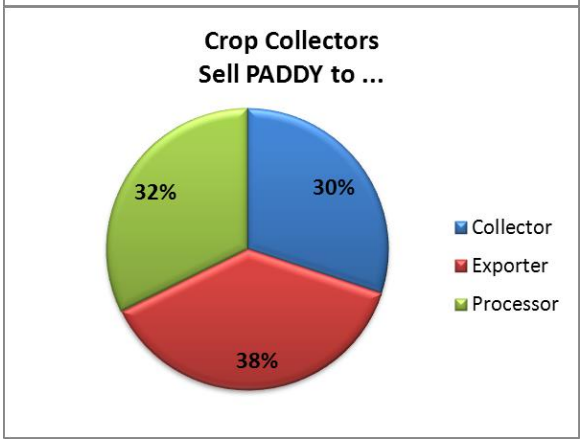


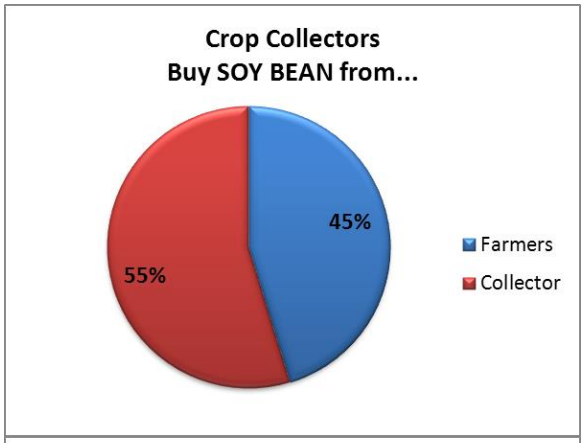
Figure 45 - Source Of Purchases And Destination Of Sales For Crop Collectors

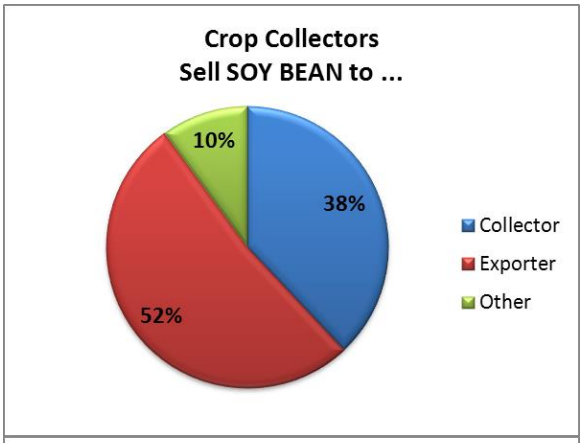


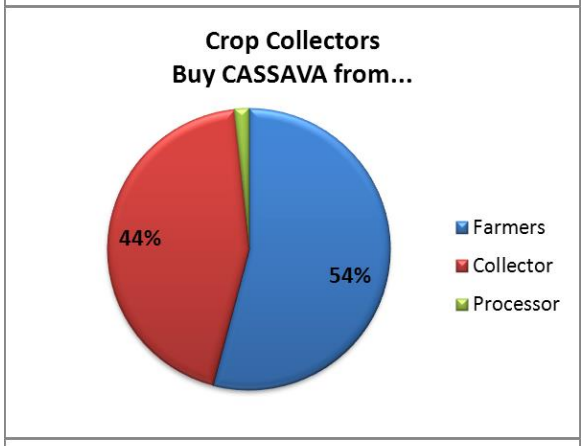


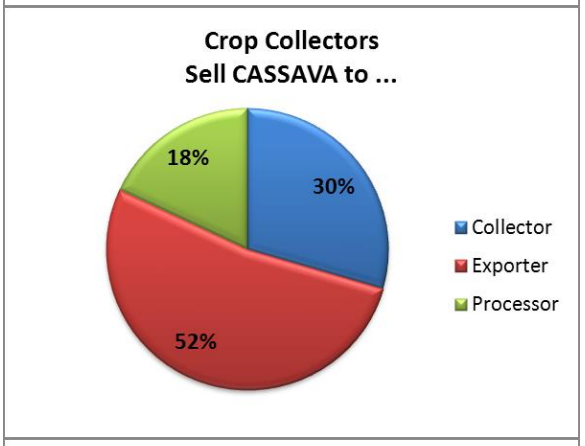


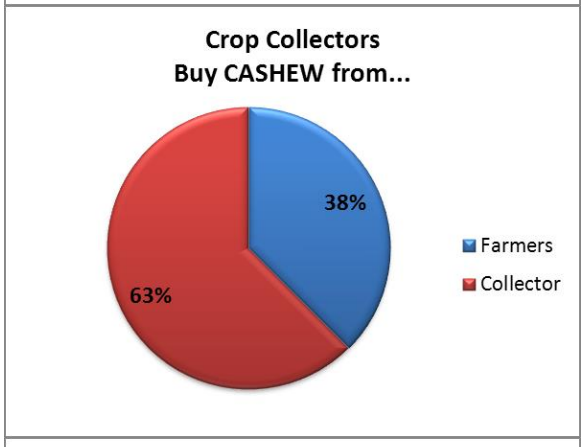


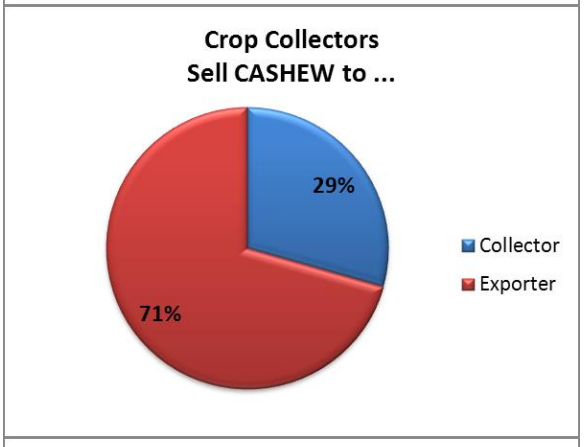

Crop Collectors
Buy SOY BEAN from...
45%
55%
Farmers
Collector

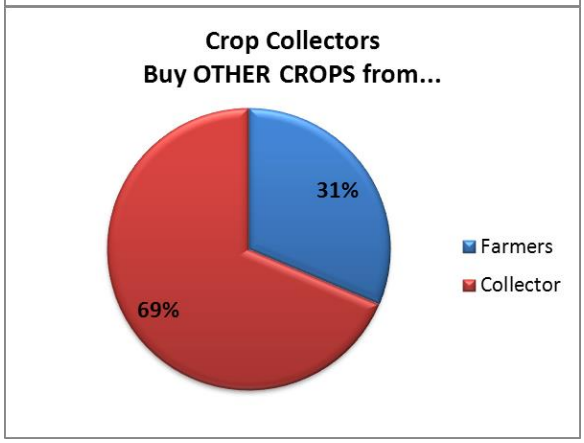

Crop Collectors
Sell SOY BEAN to ...
10%
38%
52%
Collector
Exporter
Other


Crop Collectors
Buy CASSAVA from...
44%
54%
Farmers
Collector
Processor


Crop Collectors
Sell CASSAVA to ...
18%
30%
52%
Collector
Exporter
Processor


Crop Collectors
Buy CASHEW from...
38%
63%
Farmers
Collector


Crop Collectors
Sell CASHEW to ...
29%
71%
Collector
Exporter


Crop Collectors
Buy OTHER CROPS from...
31%
69%
Farmers
Collector

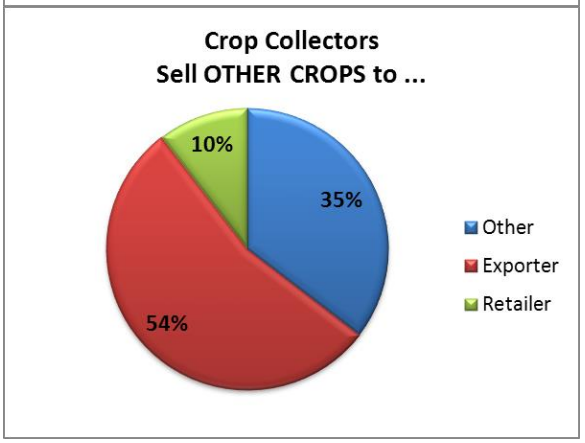
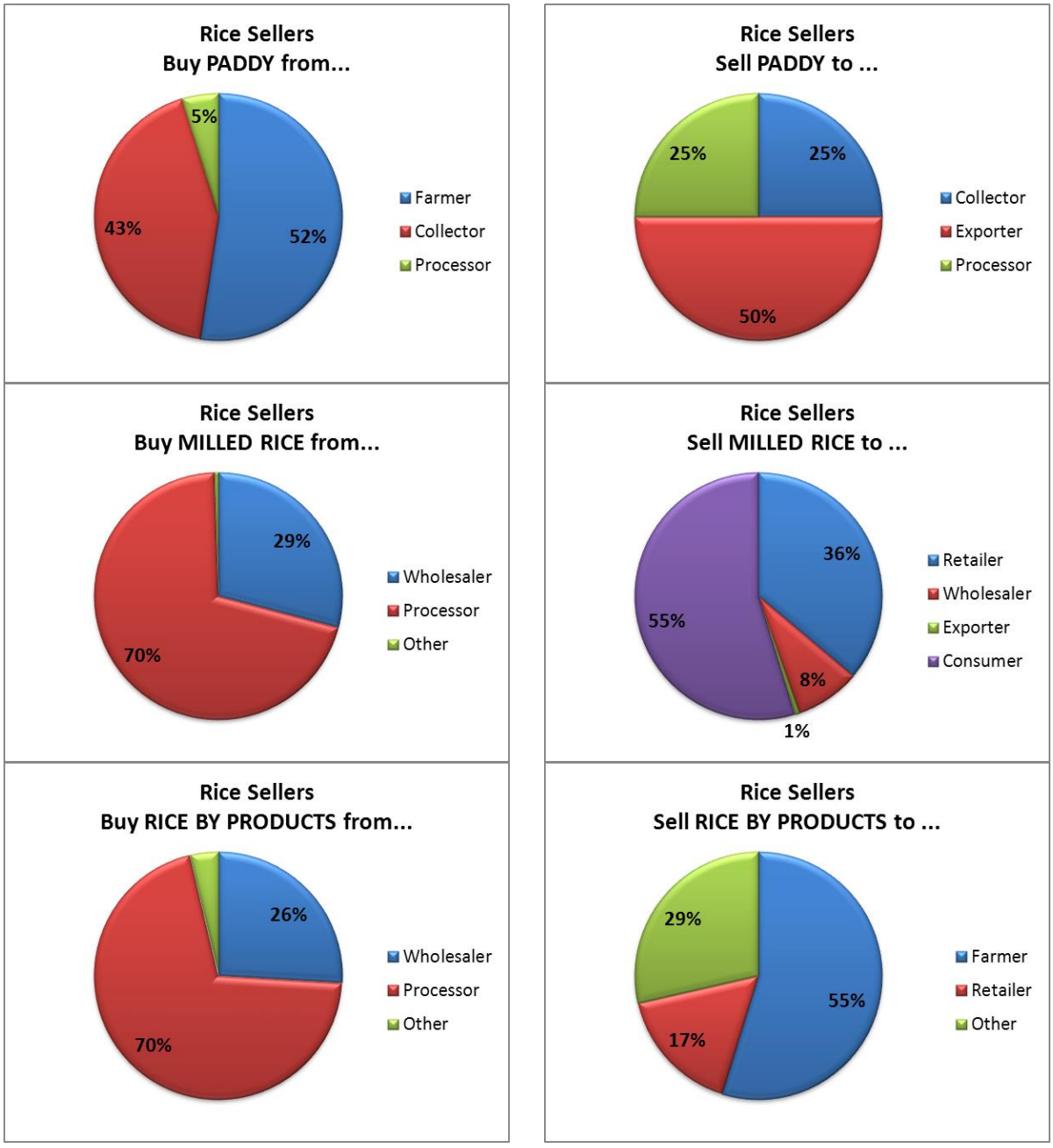
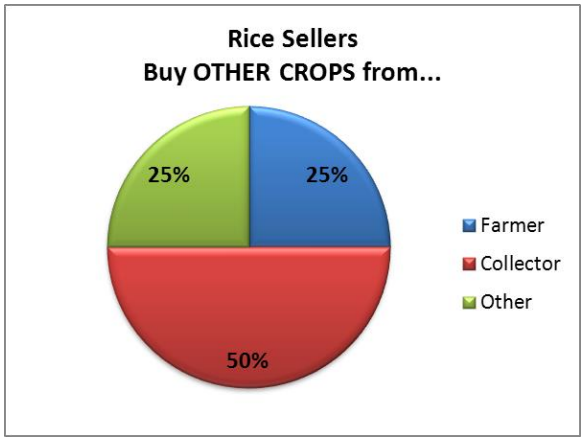
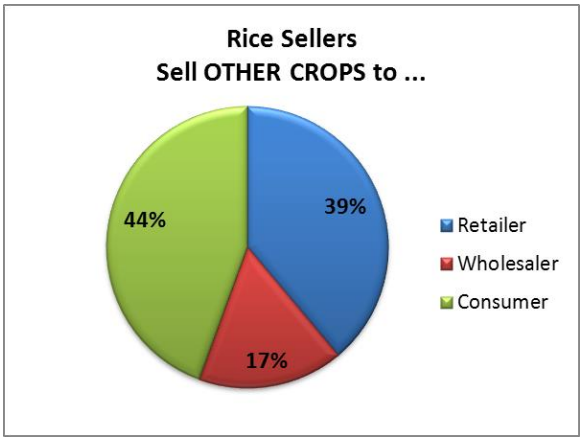

Crop Collectors
Sell OTHER CROPS to ...
10%
35%
54%
Other
Exporter
Retailer

Figure 46 - Source Of Purchases And Destination Of Sales For Rice Sellers




Rice Sellers
Buy OTHER CROPS from...
25%
25%
50%
Farmer
Collector
Other


Rice Sellers
Sell OTHER CROPS to ...
39%
17%
44%
Retailer
Wholesaler
Consumer

APPENDIX 4. FORMALITY AND HAVING BANK ACCOUNT

Percentage of having Bank Account and Loan Taker: Breakdown by Type, Size, and Formality of Businesses

Processors	Informal (N)	% of Informal	% of Informal Having bank account	% of Informal taking loan	Formal (N)	% of Formal	% of Formal having bank account	% of Formal Taking Loan	Total (N)	% of Total having bank account	% of Total Taking Loan
Micro	14	33%	14%	7%	28	21%	25%	21%	42	21%	17%
Small	24	18%	13%	25%	109	37%	38%	40%	133	33%	35%
Medium	3	3%	0%	67%	89	70%	73%	70%	92	71%	70%
Large	1	2%	100%	100%	62	84%	94%	84%	63	94%	84%
	42	**13%**	**14%**	**24%**	**288**	**56%**	**59%**	**57%**	**330**	**54%**	**52%**
Input Suppliers											
Micro	41	42%	20%	15%	56	58%	16%	13%	97	18%	13%
Small	13	14%	15%	38%	83	86%	45%	22%	96	41%	24%
Medium	3	14%	33%	33%	19	86%	74%	32%	22	68%	32%
Large	0				12	100%	75%	42%	12	75%	42%
	57	**25%**	**19%**	**21%**	**170**	**75%**	**41%**	**21%**	**227**	**35%**	**21%**
Machinery Sellers											
Micro	8	80%	25%	0%	2	20%	100%	50%	10	40%	10%
Small	15	47%	53%	20%	17	53%	71%	35%	32	63%	28%
Medium	4	33%	75%	25%	8	67%	100%	63%	12	92%	50%
Large	0				13	100%	100%	54%	13	100%	54%
	27	**40%**	**48%**	**15%**	**40**	**60%**	**88%**	**48%**	**67**	**72%**	**34%**
Crop Collectors											

Micro	19	95%	11%	16%	1	5%	0%	0%	20	10%	15%
Small	68	89%	22%	31%	8	11%	50%	25%	76	25%	30%
Medium	65	94%	37%	35%	4	6%	75%	75%	69	39%	38%
Large	52	83%	67%	60%	11	17%	91%	82%	63	71%	63%
	204	**89%**	**37%**	**38%**	**24**	**11%**	**71%**	**58%**	**228**	**41%**	**40%**
Rice Retailers											
Micro	48	89%	8%	15%	6	11%	17%	33%	54	9%	17%
Small	80	81%	26%	15%	19	19%	47%	16%	99	30%	15%
Medium	11	58%	64%	27%	8	42%	63%	50%	19	63%	37%
Large	4	67%	50%	50%	2	33%	100%	0%	6	67%	33%
	143	**80%**	**24%**	**17%**	**35**	**20%**	**49%**	**26%**	**178**	**29%**	**19%**
Total											
Micro	130	58%	14%	13%	93	42%	20%	17%	223	17%	15%
Small	200	46%	25%	24%	236	54%	44%	29%	436	35%	27%
Medium	86	40%	41%	35%	128	60%	74%	63%	214	61%	51%
Large	57	36%	67%	60%	100	64%	92%	73%	157	83%	68%
	473	**46%**	**30%**	**27%**	**557**	**54%**	**55%**	**43%**	**1030**	**44%**	**36%**