

Sep
2016



Supreme National Economic Council (SNEC)

**SUPPORT TO THE
COMMERCIALIZATION OF
CAMBODIAN RICE PROJECT**

(AFD Grant - CKH-1077-01-S
and CKH-1077-02-T)

**REVIEW OF THE RICE
POLICY (2010-2015)
Final Report**

Phnom Penh, 4 September 2016

Prepared for
SNEC-AFD

by

Francesco Goletti
Srey Chanthy



TABLE OF CONTENTS

EXECUTIVE SUMMARY	5
1 INTRODUCTION	8
1.1 Objectives	8
1.2 Methodology for the Review	8
1.3 Organization of the Report	9
2 BACKGROUND ON THE RICE SECTOR	10
3 REVIEW OF POLICY MEASURES RELATED TO PRODUCTION	13
3.1 Increase Productivity by using high yield seed and modern farming techniques	13
3.2 Continue to Expand Irrigation	20
3.3 Continue to Build and Maintain Rural Roads	23
3.4 Promote Micro-Credit for Agriculture	24
3.5 Improve productivity and crop intensification	25
3.6 Promote implementation of national policy on rural electrification	28
3.7 Promote and establish farmer Organizations	29
3.8 Promote and encourage the implementation of policy on sustainable use of agriculture land	30
4 REVIEW OF POLICY MEASURES RELATED TO COLLECTION AND PROCESSING	33
4.1 Encourage participation of the private sector in paddy rice processing and milled rice export	33
4.2 Continue financing for paddy-rice collection	35
4.3 Provide support and strengthen the Rice Miller Association	37
4.4 Create new financial instruments and leverage mechanism for financing	38
4.5 Develop Open Paddy Rice market	40
4.6 Reduce electricity price and extend coverage areas	40
5 REVIEW OF POLICY MEASURES RELATED TO LOGISTICS	43
5.1 Enhance trade facilitation, reduce informal fees and eliminate illegal check points	43
5.2 Implement single-stop service for export processing	45
5.3 Address grading and quality standards in compliance with internationally recognized standards ...	45
5.4 Encouraging the construction of Phnom Penh Port and bonded warehouse	46
5.5 Formulating strategic and legal framework with a special focus on sanitary and phytosanitary (SPS) standards	46
5.6 Invest in necessary infrastructure to reduce the costs of export	47
5.7 Make financing easy for export	49
5.8 Make financing easy for infrastructure development	49
6 REVIEW OF POLICY MEASURES RELATED TO MARKETING	51
6.1 Explore export opportunities in regional and global markets	51
6.2 Establishing a Rice Market Intelligence Unit	52
6.3 Develop arrangements for information sharing with stakeholders in domestic market	52
6.4 Prepare a Strategic Penetration Plan and Cambodia's position to compete in regional and global markets	53
7 CONCLUSIONS ON THE REVIEW OF THE POLICY	56
8 TOWARD A NEW RICE POLICY	58
8.1 Principles of the New Rice Policy: Competitiveness and Sustainability	58
8.2 Learn Everything you can about your Customers and Competitors	59
8.3 Build a Shared Vision based on High Quality Fragrant Rice and Increased Value	59
8.4 Focus not just on yield and production but on TFP and Innovation	60
8.5 Modernize the Rice Milling Industry through Enhanced Supply Chain Management	62
8.6 Build a Participatory Platform for Effective Formulation and Monitoring of Policy	63
8.7 Improve the Rice Value Chain Infrastructure through Cost-effective Investments	64
8.8 Translate the Policy into Harmonized Joint Master Plans that are Adequately Funded	64
9 ANNEX LIST OF MEASURES IN THE RICE POLICY 2010	66

LIST OF TABLES

Table 1 Policy Measures in Rice Policy 2010.....	11
Table 2 Measures under Category 1 (Productivity) of the Production Component	13
Table 3 List of the 10 rice varieties developed by CARDI.....	16
Table 4 Measures under Category 2 (Irrigation) of the Production Component	20
Table 5 Gross Margins and Return to Labor for Selected Crops.....	22
Table 6 Measures under Category 3 (Rural Road) of the Production Component.....	23
Table 7 Measures under Category 4 (Micro-credit) of the Production Component.....	24
Table 8 Measures under Category 5 (Crop Intensification) of the Production Component	25
Table 9 Number of Agricultural Extension Workers (2015)	28
Table 10 Measures under Category 5 (Rural Electrification) of the Production Component.....	29
Table 11 Measures under Category 7 (Farmer Organizations) of the Production Component.....	29
Table 12 Measures under Category 8 (Land) of the Production Component	30
Table 13 Measures under Category 1 (Encourage private sector) of the Collection and Processing Component	33
Table 14 Measures under Category 2 (Financing Paddy-rice Collection) of the Collection and Processing Component	35
Table 15 Measures under Category 3 (Rice Miller Association) of the Collection and Processing Component.....	37
Table 16 Measures under Category 4 (Financing) of the Rice Policy.....	38
Table 17 Measures under Category 5 (Open Paddy Market) of the Collection and Processing Component.....	40
Table 18 Measures under Category 6 (Electricity Price) of the Collection and Processing Component.....	40
Table 19 Measures under Category 1 (Trade Facilitation) of the Logistics Component	43
Table 20 Comparison of Costs and Time for Export between 2012 and 2013	43
Table 21 Logistic Performance Index.....	44
Table 22 Measures under Category 2 (Single-stop Service for Export) of the Logistics Component.....	45
Table 23 Measures under Category 3 (Standards) of the Logistics Component	45
Table 24 Measures under Category 4 (Phnom Penh Port) of the Logistics Component.....	46
Table 25 Measures under Category 5 (SPS) of the Logistics Component	46
Table 26 Measures under Category 6 (Infrastructure for Exports) of the Logistics Component.....	47
Table 27 Prices of Rice at Different Levels by Country	48
Table 28 Measures under Category 7 (Financing for Exports) of the Logistics Component	49
Table 29 Measures under Category 8 (Finance for Infrastructure) of the Logistics Component	49
Table 30 Measures under Category 1 (Export Opportunities) of the Marketing Component	51
Table 31 Measures under Category 2 (Rice Market Intelligence Unit) of the Marketing Component	52
Table 32 Measures under Category 3 (Information sharing) of the Marketing Component	52
Table 33 Measures under Category 4 (Market Strategy) of the Marketing Component.....	53
Table 34 Policy Measures Achievement by Category	56

LIST OF FIGURES

Figure 1 Trends of Global Prices of Rice.....	12
Figure 2 Evolution of the Quantity of Imported Fertilizers in 2011 - 2015	14
Figure 3 Evolution of the Quantity of Imported Agricultural Machineries in 2010 – 2015.....	15
Figure 4 Rice Seed Supply and Demand (2015).....	18
Figure 5 Investment on Agricultural Research (2010)	19
Figure 6 Number of Agricultural Researchers (2010)	20
Figure 7 Total Production and Cultivated Areas (Dry and Wet Seasons).....	25
Figure 8 Expected and Actual Cultivated Areas and Yields	26
Figure 9 MOWRAM Budget.....	27
Figure 10 Formal Export of Rice	34
Figure 11 Change in Source of Electricity.....	41
Figure 12 Policy Measures Achievement from 2010 to mid-2016	56

ABBREVIATIONS

ACI	Agrifood Consulting International
ASEAN	Association of Southeast Asian Nations
CDC	Council for Development of Cambodia
CRF	Cambodian Rice Federation
ELC	Economic Land Concessions
EU	European Union
MAFF	Ministry of Agriculture, Forestry, and Fisheries
MEF	Ministry of Economy and Finance
MIME	Ministry of Industry, Mines and Energy
MOC	Ministry of Commerce
MOL	Ministry of Labor
RGC	Royal Government of Cambodia
SLC	Social land Concessions
SPS	Sanitary and Phyto-Sanitary

EXECUTIVE SUMMARY

1. This review of the 2010 National Rice Policy “Promotion of Paddy Production and Rice Export” (henceforth the “Rice Policy”) is the first evaluation of the achievement of Cambodia related to the targets set in 2010 for the rice sector. The Rice Policy included 73 policy measures, from production to marketing, through collection and processing and logistics. Out of these 73 measures; 37% were implemented; 41% were partially achieved and ongoing; and 22% were not implemented.

2. The Rice Policy has facilitated the dramatic increase in private sector investment in milling and the emergence of the Cambodian Rice Federation (CRF) as a major player. The capacity of rice milling in Cambodia rose from 96 tons per hour in mid-2009 to 829 tons per hour in 2015. Similarly, the capacity for rice polishing increased by more than 7 folds from 72 tons per hour in mid-2009 to 520 tons per hour in 2014. CRF was established in 2014, and is becoming the champion in promoting the rice sector.

3. Between 2009 and 2015; formal export of rice has increased by a factor of 44 from below 12,163 tons to 538,396 tons. Indeed, the target of 1 million tons by 2015 was not achieved but this does not offset the relative success of the Policy. The target of 1 million rice exports was perhaps too ambitious given the initial low development of the milling industry.

4. Rice is produced by millions of smallholders all across the country. None of the rice milling units has established a solid supply chain management system. Currently, the capacity of millers in supply chain management is still at a nascent stage. Difficult access to finance is often reported by some rice millers as a constraint; however, it is not clear how binding is the finance constraint for the rice milling industry. There is no evidence that the banking sector is biased against rice milling or rice exports. Other constraints like lack of liquidity to service debt, lack of collateral, and the level of interest rates are constraining the capacity of the industry to access finance.

5. A major concern is the fact that productivity in rice farming has remained stagnant in the past 5 years. Statistics from the Ministry of Agriculture, Forestry, and Fisheries (MAFF) show stagnant yield of 3.1 tons per hectare between 2011 and 2015. The analysis of the public investment in research and extension estimated at 0.18% of the agricultural GDP in 2013 does not indicate strong engagement from the Government to increase productivity; this in turn affects the availability and thus the adoption of innovative technologies required to boost productivity. Productivity at the farm level and rice farmers’ income have remained low in spite of the higher use of inputs such as fertilizers and farm equipment, increased investments in irrigation, enhanced access of farmers to credit, investment in rural roads and electricity infrastructure, and the enactment of new regulations for cooperatives and contract farming.

6. The Rice Policy implementation has witnessed improvement in Cambodian logistics between 2009 and 2015. Export procedures were streamlined and the costs of logistics reduced. Transport infrastructure including railways between Poipet and Phnom Penh and Phnom Penh and Sihanoukville, and the port of Sihanoukville were upgraded. New sanitary

and phytosanitary regulations and SPS capacity have been improved. However, Cambodia still lags behind its neighboring countries in the logistic aspects and SPS compliance.

7. The Rice Policy was formulated without sufficient consultations with the private sector and farmer and did not establish an independent and regular monitoring and evaluation system. The Policy has not provided a clear vision encompassing sustainability of the sector and targets for values of exports, value added, and farm income.

8. In spite of increased production and exports, there is no evidence that farmers' income has improved. Rice millers have benefited from high prices in the few years after the food crisis, but recently, as prices are moving towards a long-term negative trend, the industry is under considerable stress. On the other hand, input suppliers (particularly equipment and fertilizer suppliers) have been major beneficiaries of increased production.

9. The Rice Policy 2010 was organized around 73 measures related to four components: Production, Collection and Processing, Logistics, and Marketing.

10. The main findings on the "Production" component of the policy are:

- In spite of progress on the use of inputs (fertilizer and farm machinery), irrigation, credit to farmers, infrastructure (rural roads and electrification), and regulations (cooperatives, contract farming), **the productivity at the farm level has remained low.**
- **Rice Farmers' income** has remained stagnant; the attractiveness of rice farming itself has not been sufficiently addressed.
- **Innovation** in rice farming (eg water use management, new rice varieties, contract farming, sustainable use of land) is limited and **investment in research and extension is low** and insufficient to meet the aspiration of Cambodia to become a rice basket and a major exporter of milled rice.
- **The impact of irrigation on productivity and profitability of the rice sector is well below its potential.** There is the need to improve water use management and irrigation investment efficiency.

11. The main findings on the "Collection and Processing" component of the Policy are:

- **There has been a major progress by establishing CRF** as the leading rice industry platform for the rice private sector and farmers to dialogue with the government.
- It is yet not clear **how binding is the finance constraint** for the rice milling industry. Even with additional access to finance, it is doubtful that supply chain management constraints (eg. Long lags between orders and delivery, reliability of supplies, quality of paddy, management of stocks in warehouses, multiple intermediaries in the value chain, absence of contracts) might be resolved.
- There is no clear reference in the policy to **supply chain management** capacity of the rice milling industry.

12. The main findings on the "Logistics" component of the Policy are:

- There has been some progress in **simplifying export** procedures and reducing logistics cost. However, Cambodia still lags behind competitors in streamlining processes and reducing logistics costs.
- Although more remains to be done, there has been progress on establishing **standards and improvement of port and railway infrastructure**.
- **SPS regulations and capacity** have improved but work is ongoing on the regulatory side and on improving capacity.
- **There were no actions in increasing the number of financing institutions for infrastructure and export– import.**

13. The main findings on the “Marketing” component of the Policy are:

- There has been some Progress on **establishing relations with importing** countries
- **More information is available on rice markets** internationally, but there is not yet a Market Intelligence Unit and a process for dissemination of information
- **There is yet no clear strategic orientation** of Cambodia in international markets penetration.

14. The Cambodian rice sector has been successful in generating rice supplies sufficient to meet the food requirements of the country and a surplus for export. The main challenge in the future is to become competitive internationally, while continuing to meet the food security requirements of the nation and providing sufficient incentives to farmers and private enterprises to engage in the sector on a sustainable way.

15. In the formulation of a new rice policy, two key principles should be considered: competitiveness and sustainability. Competitiveness will ensure a key presence of Cambodia in the global rice trade. Sustainability will ensure that rice farmers use scarce natural resources (land and water) effectively and efficiently, rice farmers learn to be resilient to climate change, and both rice farmers and rice enterprises (millers, traders, exporters, services providers) make reasonable profits.

16. The competitiveness and sustainability principles of the new Rice Policy should be articulated into a number of specific policy measures and processes. To facilitate the formulation of the new Rice Policy, the report makes six recommendations:

- Learn Everything you can about your **Customers and Competitors**
- Build a **Shared Vision** based on High Quality Fragrant Rice and Increased Value
- Focus not just on yield and production but on **Total Factor Productivity (TFP) and Innovation**
- Modernize the industry through enhanced **Supply Chain Management**
- Build a **Participatory Platform** for Effective Formulation and Monitoring of Policy
- Translate the Policy into **Harmonized Joint Master Plans** that are adequately funded

1 INTRODUCTION

17. The Royal Government of Cambodia (RGC) developed a policy on “Paddy Rice Production and Promotion of Milled Rice Export” in 2010, aiming to achieve a paddy rice production surplus of 4 million tons and milled rice exports of at least 1 million tons by 2015 by investing in irrigation facilities, encouraging private sector investment in paddy rice processing and export, and improving procedures for export and transport facilitation. The policy resulted in increased investment in the rice milling sector and exports of milled rice.

18. By 2015, the milling industry had dramatically changed since 5 years earlier, with a number of modern mills and capacity of processing over 2 million tons of milled rice. The total exports of milled rice however was only about 500,000 tons, clearly missing the 1 million ton target of the 2010 policy. On the other, the surplus of 4 million tons of paddy was achieved.

19. It is therefore timely to review the achievements and gaps of the 2010 policy in order to understand the challenges ahead. The Royal Government of the Kingdom of Cambodia (via the Supreme National Economic Council - SNEC) is now considering an assessment of the achievements of the past 5 years, with the objective of considering either and extension of the current policy or a formulation of a new rice policy.

20. In addition to SNEC, the Cambodian Rice Federation established in 2014 with a mission of representing the economic stakeholders of the rice industry, will associate in this policy review.

1.1 Objectives

21. A team of rice policy specialists has been engaged by the *Support to the Commercialization of Cambodian Rice Project* to conduct the Rice Policy Review. The objectives of the assignment to be carried out by the consultants are:

- a. To review the implementation and achievement of the Cambodian Rice Policy and
- b. To draft a revised Rice Policy that will be further internally discussed and validated by the Cambodian Government.

1.2 Methodology for the Review

22. The methodology for the review has been detailed in the Inception Report¹ and consists in the implementation of the following processes:

- i. Compilation of relevant data, review of documents and summaries of key findings for relevant aspects (e.g., production, processing, financing, logistics, ...)
- ii. Identification of key questions about policy matrix
- iii. Meetings and consultations with relevant stakeholders

¹ NIRAS 2016, Support to the Cambodia Rice Policy Review. Inception Report. Prepared by Francesco Goletti and Srey Chanthay for the Support to the Commercialization of Cambodian Rice Project, Agence Française de Développement (AFD), Grant agreements No CKH-1077-01-S and CKH-1077-02-T, April 2016.

- iv. Preparation of draft policy review
- v. Consultation on draft review and potential directions
- vi. Preparation of Draft New Rice Policy
- vii. Consultation on Draft New Rice Policy
- viii. Preparation of Revised Draft New Rice Policy

1.3 Organization of the Report

23. This draft Report includes the review of the Rice Policy 2010 and outlines the key elements of the new Rice Policy. The review is organized around the four main pillars of:

- Production
- Collection and Processing
- Logistic
- Marketing

24. Each pillar of the policy includes several measures that are reported in the ANNEX.

25. The report includes 7 chapters are follows:

- | | |
|-----------|--|
| Chapter 1 | Introduction |
| Chapter 2 | Background on the Rice Sector |
| Chapter 3 | Review of Policy Measures related to Production |
| Chapter 4 | Review of Policy Measures related to Collection and Processing |
| Chapter 5 | Review of Policy Measures related to Logistics |
| Chapter 6 | Review of Policy Measures related to Marketing |
| Chapter 7 | Towards a New Rice Policy |

2 BACKGROUND ON THE RICE SECTOR

26. In 2015, the agricultural sector contributed 28.7% of Cambodian GDP, estimated at USD 18.05 billion². This is a decrease from the 34.6% share in 2011. However, in terms of change between these two years, the agricultural sector GDP increased by 17%, from USD 4.44 billion to USD 5.18 billion. Rice plays also a key role in employment and food security as it is mostly grown by smallholders. More than 2.9 million households are involved in rice production, with average farm size of 1.64 hectare; and about 45% of the farms are below 1 hectare³.

27. Total production has increased but at lower pace in the past five years compared to the 37% growth between 2005-2010 (from 5.98 million tons to 8.25 million tons). Between 2010 and 2014, the increase of the rice cultivated area slowed down; yet yield was increasing less than cultivated area. Growth of production still relies more on area expansion rather than on yield increase. In 2015, total rice production is similar to the 2014 figure (9.33 million tons vs. 9.32 million tons). Production suffered from drought in some areas. Overall, in the past three years, average rice yield stagnated around 3.1 tons per hectare in Cambodia.

28. Following the global economic crisis that began in 2008/2009, the Royal Government of Cambodia took a bold step in crafting the Policy Paper on the Promotion of Paddy Production and Rice Export. The policy was approved by the Council of Ministers in July 2010. The policy aimed to make more rice available for domestic consumers and earn foreign currencies through export, contributing to higher economic growth and poverty reduction.

29. The policy vision was to transform Cambodia into a rice basket and key milled rice exporting country in the global market. The policy envisioned that by 2015 (a) Cambodia would have a paddy production surplus of over 4.0 million tons and milled rice export of at least 1.0 million tons, and (b) Cambodian rice would have been internationally recognized.

30. The policy followed two approaches. The first, for the immediate and short term, promoted paddy rice production to meet market demand and export of milled rice by shifting from the informal export of paddy rice to a formal export of milled rice anchored on (1) continued investment in and expansion of irrigated areas; promoting the use of water, seeds, fertilizers and appropriate technologies; and providing credit to rice producers; (2) encouraging private sector investment in paddy rice processing and export of milled rice, especially by solving the issues of shortage of credit for buying and processing paddy rice as well as trade credit by recapitalizing state-owned financial institutions and by providing incentives to commercial banks to increase loan portfolio for agriculture, including the development of credit guarantee schemes and risk-sharing instruments; and (3) coordinating and fast-tracking rice export through improvement in procedures for export and transport facilitation, and elimination of informal fees.

² \$US Current, Data from <http://data.worldbank.org/country/cambodia>, retrieved on August 11, 2016

³ 2013 Agricultural Census

31. The second approach, for the medium and long term, enhanced competitiveness in rice export through promotion of (1) production technology, management of soil fertility, management of water, use of seeds and fertilizers; (2) organization of farmer associations; (3) rice processing quality; (4) physical infrastructure, including roads, railways, seaports, energy; (5) improved land use and management; (6) short- and long-term credit as well as (7) trade facilitation and exploring market opportunities.

32. In order to realize the policy target and implement the two approaches the Policy included 73 policy measures:

Table 1 Policy Measures in Rice Policy 2010

Policy measures related to:	No of Measures
Production	27
Collection and Processing	15
Logistics	21
Marketing	10
Total	73

33. Specifically, the 2010 Rice policy targeted 5% increase in cultivated areas and 12% increase in total production between 2010 and 2015. Performance according to statistics from MAFF however show higher increase (9%) in cultivated area and lower increase on total production (8%). For dry season rice, the 2010 policy aimed at 4% increase in land with 4.5% increase in yield, thus resulting in 8.5% increase in total production. Data collected by MAFF show different patterns: 4.2% increase in land; only 1.5% increase in yield resulting in 5.7% total increase in dry season production. For the wet season rice, yield is at 2.8 tons/ha, low compared to the dry season.

34. Wet season rice dominates the production in Cambodia, with 75% of total production. From the 2013 Agricultural census, about 285,740 hectares which represent 11.8% of total agricultural land were cultivated with fragrant rice, with the highest share in Tonle sap area at 17.6% and the lowest in the Coastal Zones at 1.0%. The ratio may go as high as 42.4% in Pailin province; 36.0% in Preah Vihar; and 30.0 in Pursat. Glutinous rice occupies 18,480 hectares and the remaining 2.11 million hectares are cultivated with non-aromatic rice.

35. The 2008 food crisis was a major incentive for the Government to focus on the rice sector. Between 2006 and 2008, the global prices of different types of rice increased by around 100%, resulting in worldwide food crisis. In 2008, Cambodia had 3.2 million tons of paddy available for export⁴, most of it going through informal channels to Thailand and Vietnam. To better organize the sub-sector, the Government had tasked a group of experts to draft the 2010 Rice Policy.

36. After the 2008 peak, the prices of rice remained above the pre-crisis level; the price of fragrant rice even continue to remain beyond \$1,000 per ton for some years. However,

⁴ MAFF Statistics, Rice Balance

since 2013, the prices started to decline and reverse to trend, resulting in a substantial threat to the sustainability of the rice sector in Cambodia. During the same three years, rice production has also stagnated around 9.2 million tons.

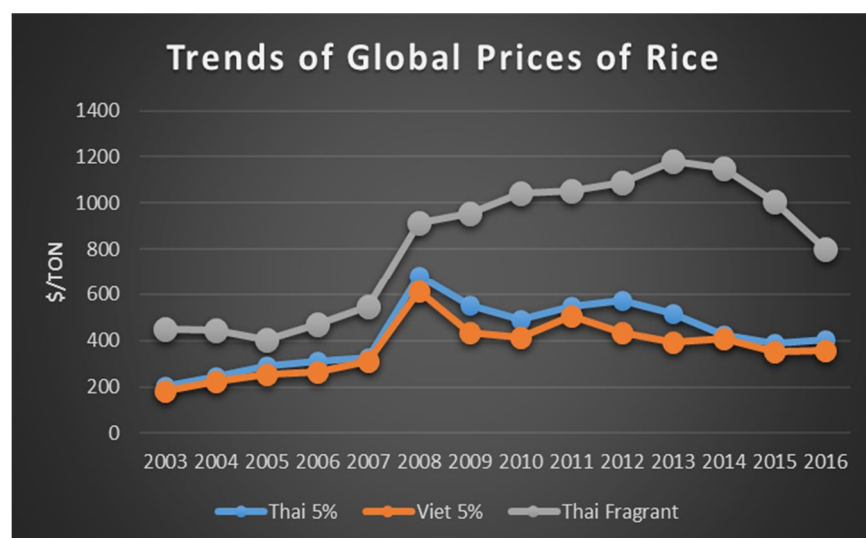


Figure 1 Trends of Global Prices of Rice

Source: www.fao.org – Retrieved on August 8, 2016

37. In 2016, there is a looming crisis in the rice milling industry due to the substantial investment made by the private sector after the 2010 Rice Policy engagement by the Government.

38. The review document will analyze individual policy measures, and provide the status of achievement following the four categories identified in the 2010 Rice Policy: Production; Paddy Collection and Processing; Logistics; and Marketing.

3 REVIEW OF POLICY MEASURES RELATED TO PRODUCTION

39. There are eight categories of policy measures under Production:
- i. Increase **productivity** by using high yield seed and modern farming techniques
 - ii. Continue to Expand **Irrigation**
 - iii. Continue to build and maintain **rural roads**
 - iv. Promote **Micro-Credit** for Agriculture
 - v. Improve Productivity and **Crop Intensification**
 - vi. Promote Implementation of the National Policy on **Rural Electrification**
 - vii. Promote and Establish **Farmers Organizations**
 - viii. Promote and Encourage implementation of Policy on **Sustainable Land Use**

3.1 Increase Productivity by using high yield seed and modern farming techniques

40. Category 1 of Productivity includes six measures. Their status is summarized in the following table.

Table 2 Measures under Category 1 (Productivity) of the Production Component

No	Measure	Status
1.1.1	Facilitate import clearance procedures for rice seeds, fertilizers, agricultural inputs and machinery	Partially Done
1.1.2	Continue providing tax incentives to encourage imports of materials and equipment	Done
1.1.3	Determine the number of prioritized rice varieties to be promoted and disseminated by the end of 2010	Done
1.1.4	Prepare legal framework and mechanism to promote seed production and distribution by the end of 2010	Partially Done
1.1.5	Further strengthen and expand the capacity of the CARDI, Agricultural Experiment Station, Agricultural Development Center and Center for Seed Production, Research and Technical Training.	Partially Done
1.1.6	Review the framework of agriculture extension	Done

Assessment of 1.1.1: Facilitate import clearance procedures for rice seeds, fertilizers, agricultural inputs and machinery

41. The incentives to facilitate import of agricultural inputs have resulted in increased supply of fertilizers. In 2012, there were about 20 private firms importing fertilizers, of which five were very active with countrywide distribution capability. Import almost doubled

from 433,120 tons in 2011 to 797,955 tons in 2015 (Figure 2). On the other hand, this measure did not bring improvement on the availability of seeds.

42. Most fertilizers are imported from Vietnam and Thailand and high prices are often reported by farmers as the main constraint. ADB (2014) reported that 15% of farmers indicated prices as limiting factor to access modern inputs. Again in 2014, Vuthy et al found that the prices farmers pay for fertilizer is a major determinant of fertilizer use. Nonetheless, there was a steady increase in total fertilizer consumption for all crops though the average application over the total cultivated land rate remains low compared to neighboring countries (average 14 kg/ha in Cambodia; 167 kg/ha in Thailand and 374 kg/ha in Vietnam according to FAO estimated fertilizer consumption per arable land). For the dosage, farmers apply 180-240 kg/ha in the dry season rice vs. 80-120 kg in the wet season.

43. A second big issue is the quality of fertilizers. CRDI and ANZ (2013) reported that agricultural production is hindered by costly and poorly regulated farm inputs. Ineffective regulation has resulted in low entry barriers, which lead to the distribution of poor quality fertilizers. They found that up to 10% of fertilizers in their study area was counterfeit. They've also calculated that the application of fake or adulterated inputs can reduce profit by \$285-350 per farm per year, hitting the poorest the most. In addition, there is a gap on the skills and technical knowledge on the adequate use of fertilizers. Some farmers apply fertilizers at the wrong time, use the wrong quantity or wrong mixtures/formulation. For instance, some farmers are using growth stimulants that may negatively interact with fertilizer nutrients.

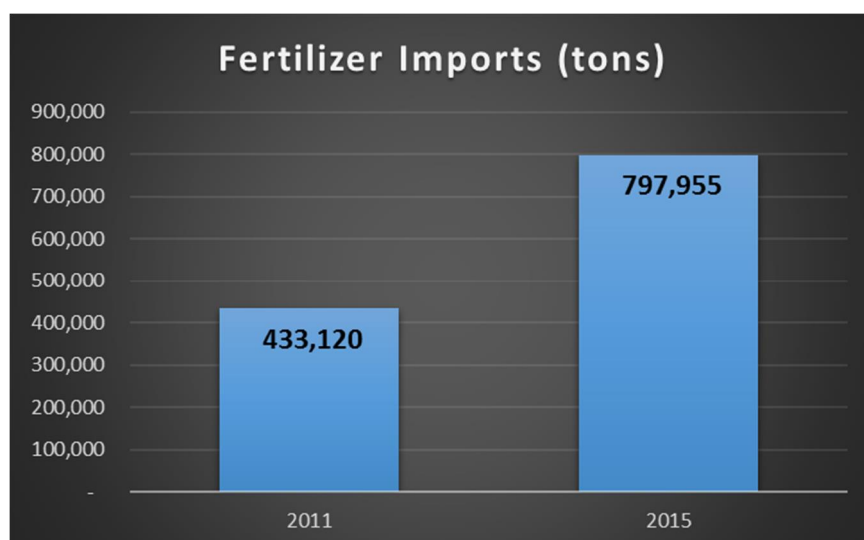


Figure 2 Evolution of the Quantity of Imported Fertilizers in 2011 - 2015

44. The import process is still characterized by inconsistent and restrictive regulatory systems, which in turn are hindering the market⁵:

- Non-transparent licensing process which could lead to rent-seeking and illegal import.

⁵ Vuthy et al, 2014.

- Tonnage restriction for fertilizer by MAFF, which limit the maximum per importer to 30,000 tons per year.
- Poor and inconsistent quality control and inspection at border: unclear line of responsibility between CAMCONTROL (MoC) and DAL (MAFF) technical control. This later cannot proceed to any verification at the border while staff from MOC do not have enough skills to assess the quality of the import at the border.
- No control and lack of regulations for the domestic market which led to high risk of fraud through re-packaging and then falsely re-labeling to quality products.

45. For seeds, availability remains the largest problem. A 2015 World Bank study estimated that only about 20% of Cambodian total paddy land is cultivated using quality seeds. There is huge gap between the supply and the demand of rice seed, estimated around 30,000 to 32,000 tons. A 2013 study by CDRI and ANZ advanced very similar findings, and attributed the low level of satisfied demand to the difficulty in accessing rice seeds. So far, farmers-to-farmers is the most important method to disseminate information about quality and availability of seeds. There is lack of wide and clear information dissemination mechanism on the type of seeds required by the global market at the time of planting rice.

Assessment of 1.1.2

- Continue providing tax incentives to encourage imports of materials and equipment

46. Tax incentives measures to boost the import of agricultural equipment has resulted in significant changes on the availability of agricultural machineries in Cambodia. This shift from the labor-oriented techniques has been also intensified by other factors such as labor availability and costs. Agriculture is competing with the industry and service sectors as employment opportunities; and the latter sectors provide relatively higher wages. As a result, labor is moving out of agriculture in rural Cambodia to urban centers. Also, labor mobility is freer as Cambodia becomes well integrated with the regional economies, and job opportunities in more advanced neighboring countries pay better wages.

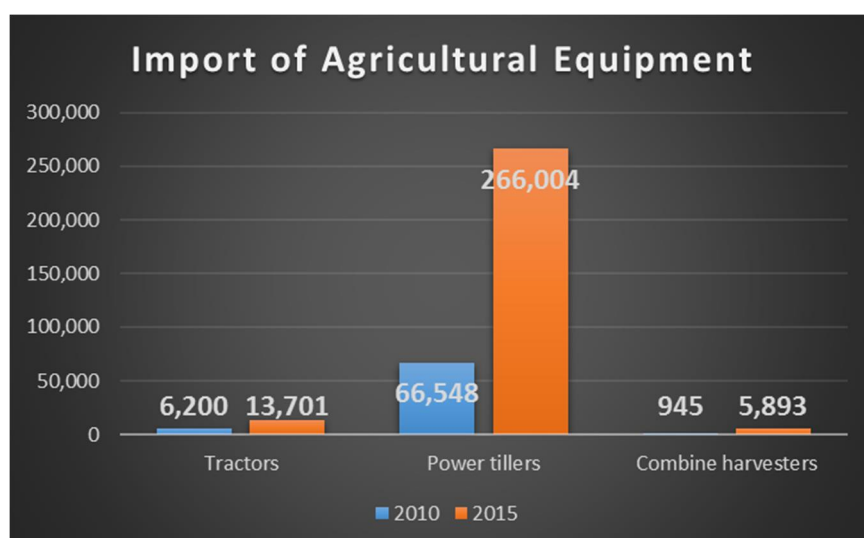


Figure 3 Evolution of the Quantity of Imported Agricultural Machineries in 2010 – 2015

Source: DAE Report, 2016

47. A coping mechanism to labor shortage adopted by most farmers is mechanization; implying increasing use of agricultural machineries. However, maintenance remains expensive due to the costs of spare parts and scarcity of repair services. Very few agricultural machine workshops are available in each province and most are located far from the farms. Service providers also reported that Government institutions involved in tax collection cannot distinguish between agricultural and non-agricultural machinery spare parts, thus some imported agricultural spare parts do not benefit from the tax benefits.

Assessment of 1.1.3

- Determine the number of prioritized rice varieties to be promoted and disseminated by the end of 2010

48. In 2010, CARDI released and promoted 10 varieties, of which three are fragrant (Phkar Rumduol, Phkar Romeat, Phkar Rumdeng). At the time of identification of these varieties, Cambodia rice strategy has put high priority on food security; thus the selection criteria related to high productivity, as well as the ability of the varieties to grow under the country's natural environment particularly the lack of irrigation, and their capacity to withstand drought and flooding, and tolerance to pest and disease attacks.

Table 3 List of the 10 rice varieties developed by CARDI

Name	Parentage	Type & Length	Characteristics
Cholasar	IR28239-94-2-3-6-2 /IR24632-34-2	Non-fragrant, long grain (6.8mm), #2	Short duration, non-photosensitive, average yield 4tons/ha
IR66	IR13240-108-2-2-3	Non-fragrant, long grain (7.2mm), #2	Short duration non-photosensitive, average yield 4tons/ha
Sen Pidoa	NA	Fragrant, long grain (7mm), premium	Short duration, non-photosensitive, medium duration, average yield 3.5tons/ha
Phka Romdoul	Pure line: Somaly	Fragrant, long grain (7.5mm), premium	Medium duration, photosensitive, sustain 13 days in flood, average yield 3.5tons/ha
Phka Rumdeng	NA	Fragrant, long grain (7.2mm), premium	Medium duration, photosensitive, sustain 13 days in flood, average yield 3.5tons/ha
Phka Romeat	NA	Fragrant, long grain (7.1mm), premium	Medium duration, photosensitive, average yield 3.5tons/ha
Phka Chan Sensor	NA	Fragrant, long grain (7.2mm), #1	Medium duration, photosensitive, sustain 7 days in flood, average yield 3.5tons/ha
Reang Chey	Pure line: Mohaphal	Non-fragrant, medium grain (6.5mm), #1	Long duration, photosensitive, sustain 7 days in flood, average yield 3.5tons/ha
CAR 4	Pure line: Changkom Ropeak	Non-fragrant, medium grain (6.4mm), #1	Long duration, photosensitive, sustain 10 days in flood, average yield 3tons/ha
CAR 6	Pure line: Seo Nam'ng	Non-fragrant, medium grain (6.6mm), #1	Long duration, photosensitive, sustain 10 days in flood, average yield 3.5tons/ha

Source: CARDI

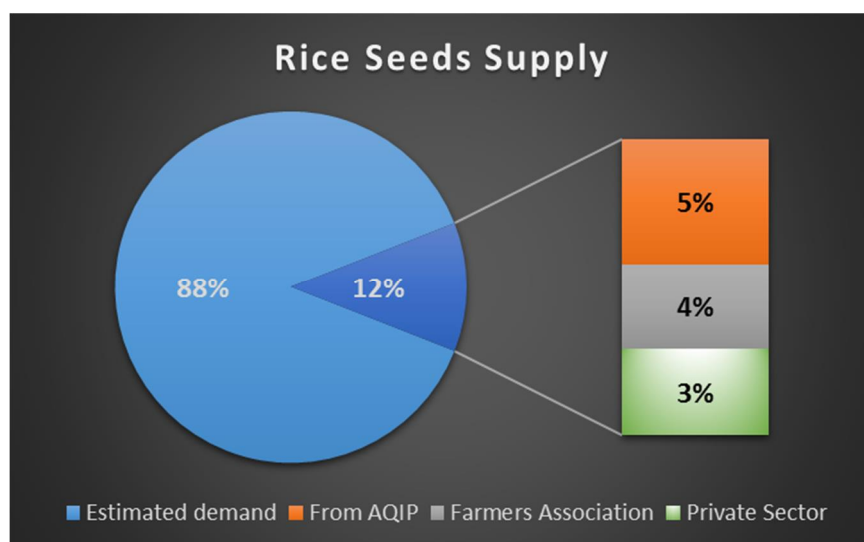
49. When Cambodia started to enter the global market of rice, some millers and exporters indicated that most of these varieties do not meet the characteristics of the demand from international consumers. Some farmers also complained on the photo-sensitivity of the aromatic varieties, precluding them from their cultivation during the dry season. Currently, there is a common indication from commercial rice stakeholders that CARDI should further do research on non-photosensitive fragrant varieties such as Sen Krao Be.

50. In the 2013 census data, fragrant rice covers 13.6% of the agricultural land; non-aromatic rice including as well brown rice are cultivated of 85% of the land; and the remaining are for glutinous rice. Aromatic rice is grown in all provinces, but Kandal and Pailin. There is potential for expanding fragrant rice cultivation providing that a number of conditions are met: farmers received adequate return; quality seeds of both photosensitive varieties (for wet season production) and non-photosensitive varieties (for dry season production) are available at competitive prices; irrigation water is available, and farm credit is affordable.

51. In general, the policy measure to promote seed production has not been successful. Seed production is still largely insufficient to meet the demand and the requirements of the sector. In addition to AQIP (the main rice seed company), very few new seed producer companies such as LBN in Kampong Thom and Eng Dypo in Kandal have emerged. The total production of seeds remains far below the estimated demand. In 2015, the supply was estimated at 5,200 tons constituted by seeds from AQIP, private companies, and seed producer associations⁶. Supply is also unstable as seed producers are facing several common issues such as lack of water control, difficulty to find skilled labor, and lack of mechanization. For example, in 2015; AQIP targeted 4,500 tons of seeds but was only able to produce 2,200 tons due to drought and flooding. On the demand side, the potential was estimated at 38,500 tons of seeds representing 7.5 folds of the total supply in 2015. However, this quantity is likely to drastically increase in near future due to the higher adoption of broadcast method to plant rice. This will result in doubling the demand for seeds in the coming years since the average needs for transplanting is about 55 kg/ha vs. 100 kg/ha for direct seeding. To temporarily solve the shortage, farmers are importing seeds “illegally” from Vietnam and Thailand. Based on the information at hand, only 12% of the demand is from the formal supply channel; with AQIP providing 5% (Source: ??

52. Figure 4).

⁶ World Bank 2015



Source: ??

Figure 4 Rice Seed Supply and Demand (2015)

53. There was also report of the lack of information of seed producers related to the demand resulting in mismatch between the varieties produced and the needs. For example, in 2015, about half of the AQIP production was Phkar Romduol seed while the demand seems to be higher for Sen Krao be seed, which price is 50% higher (3,100 vs. 2,000 rials/kg). There is also confused signal from farmers due to the lack of knowledge of the exact name of the varieties required by the market.

Assessment of 1.1.4:

- Prepare legal framework and mechanism to promote seed production and distribution by the end of 2010

54. The legal framework for seed is under development by the Government. The Seed Law was approved in 2004. Regulations and policies to implement the Seed Law are expected to be finalized by 2016 including: the Seed Policy; the Action Plan for Seed Policy Implementation; the Seed certification sub-decree; the Seed standards sub-decree; DUS guidelines; Regulations on mislabeling, and breaches of quality. The Action Plan aims at increasing the quality seed production and improving the consultation with the private sector led by the Cambodian Rice Federation (CRF). One of the main objectives CRF is to adequately respond to the market preference for specific seeds suitable for export, along with the development of the “Quality Cambodia rice” label in the global market.

55. A number of information needs continue to be lacking. For example, there is no monitoring of seed supply chain, from the production level and including stock by varieties, imports, prices, and an estimation of the orders for the next season. The cost and benefit associated with seed production is also missing. There is no careful feasibility analysis, specifically looking at profitability of seed production in order to ensure sustainable

production; and looking at the willingness to pay for improved seeds by farmers. Private sector is not eager to enter the rice seed business production.

Assessment of 1.1.5

- Further strengthen and expand the capacity of the CARDI, Agricultural Experiment Station, Agricultural Development Center and Center for Seed Production, Research and Technical Training

56. The capacity of CARDI has changed very little over the past few years⁷. Previous international support to the agricultural research including CARDI and GDA rice department has invested in the required equipment and staff to conduct varietal research. For rice seed production, CARDI produces and distributed foundation seeds; produces and distributes limited quantity of registered seeds but only with advance order due to lack of working capital. CARDI provides training to farmers groups and private sector entities on rice seeds selection and production.

57. CARDI is suffering from a lack of support from the Government. The budget for agricultural research amounts to \$22.4 million in 2010, representing 0.18% of the agricultural GDP. As benchmark, Vietnam spend \$136 million on research and Thailand spends more than \$430 million in 2010. In terms of number of agricultural researchers, Cambodia also lags behind with 13 times less researchers compared to Vietnam.

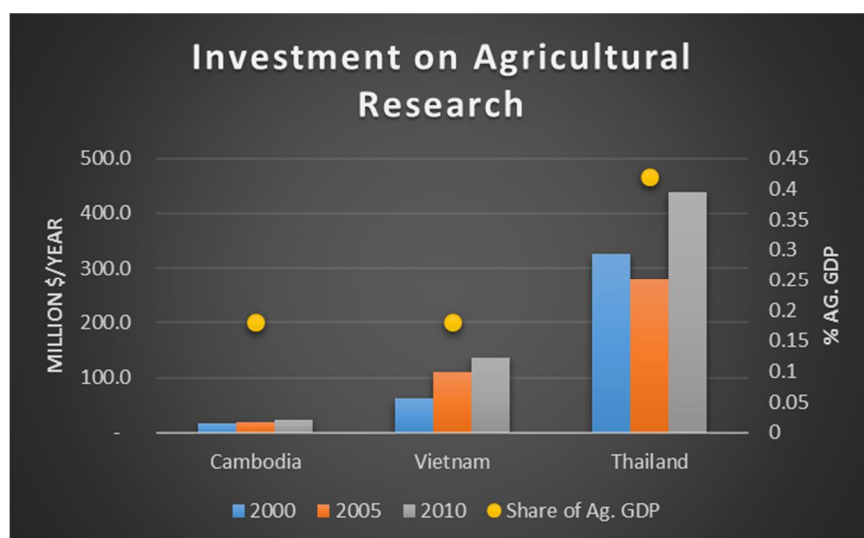


Figure 5 Investment on Agricultural Research (2010)

Source: www.asti.cgiar.org

⁷ asti.cgiar.org

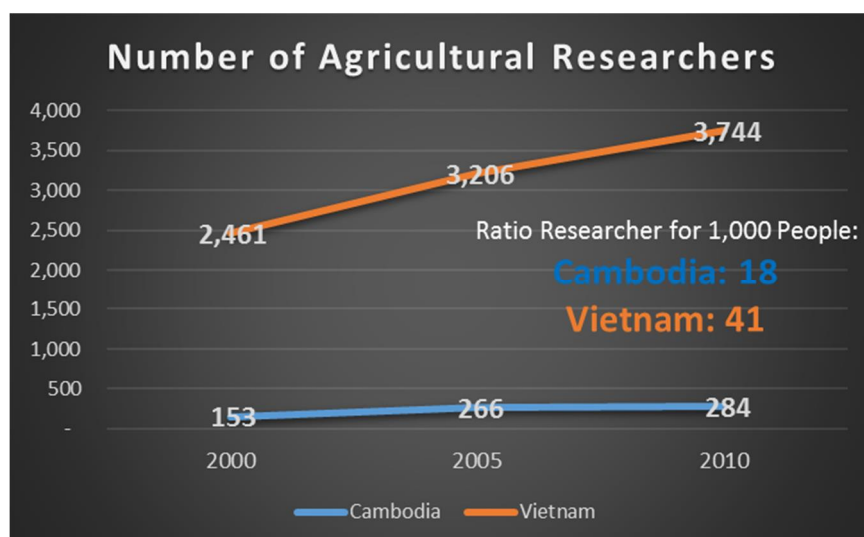


Figure 6 Number of Agricultural Researchers (2010)

Source: www.asti.cgiar.org

Assessment of 1.1.6

- Review the framework of agriculture extension**

58. The agricultural extension policy was drafted in early 2015 by a core team at GDA; approved by MAFF in April 2015, and launched in May 2015. The goal is to “improve the effectiveness and efficiency of access to new agricultural knowledge, information and technologies by farmers and farming communities for enhancing agricultural productivity by promoting diversification, commercialization and sustainable natural resource management.” The policy looks at the roles and responsibilities of public extension services; the roles and responsibilities of private companies, development partners; NGOs, farmers’ organization; and the priority focus for Cambodia.

59. Specific objectives of the policy include (i) improvement of extension systems; (ii) building capacity of extension workers; (iii) developing and disseminating appropriate technologies; (iv) packaging extension material for effective adoption and use; and (v) delivering extension services to all farmers and farming communities.

3.2 Continue to Expand Irrigation

60. Category 2 of Production includes five measures. Their status is summarized in the following table.

Table 4 Measures under Category 2 (Irrigation) of the Production Component

No	Measure	Status
1.2.1	Make full use of the existing water resources	Partially Done
1.2.2	Select investment projects that are economically viable	Partially Done
1.2.3	Invest in small scale irrigation system to get water from existing dams and major canals to farms	Partially Done

1.2.4	Encourage NGOs and charitable person to build small scale irrigation canals	Not Done
1.2.5	Strengthen institutional capacity for maintenance and management of water user community	Partially Done

Assessment of 1.2.1, 1.2.2, and 1.2.3 on Irrigation

- Make full use of the existing water resources
- Select investment projects that are economically viable
- Invest in small scale irrigation system to get water from existing dams and major canals to farms

61. These policy measure related to irrigation were partially done. The challenges include excessive focus on rehabilitating primary irrigation infrastructure and neglect of secondary and tertiary systems, a lack of maintenance of irrigation, and the slow pace of developing or adopting new technologies to reduce future maintenance costs⁸. CRF and farmer cooperatives expressed their views along the same line. The lack of investments on secondary and tertiary systems that deliver water from the main systems to farmer fields affect the effectiveness of the investment on irrigation.

62. Water and irrigation is critically important for agriculture, especially, rice that consumes the most water during its growth and development⁹. However, the economic performance of the sector remains well below its potential. The World Bank (2011) found the benefit cost ratio for irrigation remained close to 1; suggesting that irrigation is performing well below its potential. This is a major concern, and MOWRAM needs to devote more attention to prioritizing its investment activities by correctly selecting the schemes, designing them well and properly maintaining them.

63. The economic viability of investment projects is hampered by the inefficiencies in existing use of water resources due to lack of innovative management practices, lack of operation and maintenance, and disrepair in tertiary canals. The benefit/cost of existing irrigation system is low. The water productivity (kg of paddy from 1% increase in the amount of water used leads to 0.06% increase of rice yield in the wet season and 0.12% during the dry season in Cambodia¹⁰. An ADB study in 2008 questioned the economic viability of irrigation. Several reasons for the low efficiency include poor design and maintenance.

64. A study conducted in 2010 by CEDAC stressed the problems of poor design and poor quality of infrastructure construction. Out of 2,525 irrigation schemes, the study found that only 6% are functioning well, 32% are functioning partially, and large numbers 62% can be considered as non-functioning. Several irrigation systems in Takeo, Battambang, Banteay

⁸ World Bank, 2011

⁹ Chapagain and Hoekstra (2010), using data from 13-rice producing countries, calculated that, on average, rice production requires 1,025 m³ for one ton of paddy produced.

¹⁰ Wokker et al, 2014

Meanchey, Kampong Cham are also identified by CRF and farmer cooperatives as poorly constructed. MOWRAM acknowledges that there are issues on irrigation infrastructure but the extent of the problems is reported to be lower than in the CEDAC study.

65. The comparative advantage of growing rice during the dry season on irrigated land depends on profitability and the efficiency of the value chain. So far in 2015¹¹, dry season rice competes with non-rice crops in terms of return to labor but its expansion is constrained by limited irrigation; wet season rice provides only about half of the return to labor from other crop production.

Table 5 Gross Margins and Return to Labor for Selected Crops

Crop	Gross Margins (\$/ha)	Return to labor (\$/day)
Cassava	506	9.4
Maize	303	8.8
Vegetable production	1,393	7.2
Wet season rice	245	4.6
Dry season rice	296	9.6

Source: World Bank 2015

66. There is a high need for improving the efficiency of the investments. So far, there is no investment analysis ex-ante and ex-post to compare expected cost-benefit ratios of investing in irrigation for rice versus alternatives including non-rice activities and institutional investment. A thorough financial and economic assessment including impact on the environment and the population and cost benefit analysis is missing.

Assessment of 1.2.4

- Encourage NGOs and charitable person to build small scale irrigation canals

67. So far, there is no visible impact on NGO and charitable persons building small scale irrigation canals. Rice production could not be competitive compared to other crop requiring good irrigation system. Private investment in irrigation is mainly focused in higher value products, rather than rice and using systems other than surface schemes e.g. drip irrigation for vegetable production.

Assessment of 1.2.5

- Strengthen institutional capacity for maintenance and management of water user community

68. MAFF is promoting Farmers Water User Associations (FWUCs), but the experience has not been very positive. The maintenance and management of water use communities is weak because of several reasons, among them:

- The lack of financial capacity: Inability to maintain the physical system
- The lack of planning and coordination at scheme level
- Under-developed participation and lack of ownership
- Uncertainty and conflict over institutional roles

¹¹ The World Bank, 2015

69. FWUC is not functioning as illustrated by the findings from a 2009 survey: out of 230 FWUCs, less than 2% functions well; one third could function; about two third do not function at all. Exception however exists, such as the small schemes associations working with the CAVAC project in Kampot province.

70. A thorough review of FWUC is necessary to highlight lessons and clearly determine the level of involvement of government, communes and farmers or farmers' association on the maintenance of water infrastructure; associated with increased awareness of farmers on the costs of providing water irrigation.

3.3 Continue to Build and Maintain Rural Roads

71. Category 3 of Production includes one measure. The status is summarized in the following table.

Table 6 Measures under Category 3 (Rural Road) of the Production Component

No	Measure	Status
1.3.1	Further focus on constructing and maintaining rural roads connecting rice production areas to markets	Done

72. Feeder roads are very important in improving access to agricultural inputs and output markets, other transportation activities, and the overall economic growth. Rural road connectivity to national roads and economic corridors in the GMS is crucial to improve linkages to markets. This could have positive impact on yields and productivity but the magnitude is not yet well-known. So far, the government focuses on constructing and maintaining rural roads connecting rice production areas to markets. In addition, regional programs (eg GMS corridors) are integrating regional roads and improving connectivity. Rural roads connecting farmers to regional corridors could further enhance connectivity.

73. The ministry of Rural Development is the main agency responsible for the tertiary and sub-tertiary road networks. National and provincial roads are under the responsibility of the Ministry of Public Works and Transport. In 2010, there were about 5,263 km of national roads; 6,441 km of provincial roads; and more than 33,000 km of rural roads in Cambodia. However, only 1.7% of the rural roads are paved compared to about 99% for national and 66% for provincial roads.

74. A study by ACI (ACI, 2013) indicated transportation costs for rice around \$10-13 per 100 km per ton. There was improvement compared to an estimated \$15 in 2009 (ADI 2010) but it is still higher than in neighboring countries such as Vietnam where it is about \$7/100km and Thailand where it is around \$5/100 km. Additionally, both Vietnam and Thailand rely significantly on river transport for moving rice, which is significantly cheaper. Using its waterways, Vietnamese transport costs are only \$3/ton compared to \$15-17 to move the same distance by truck in Cambodia¹².

¹² Alliance of Rice Producers and Exporters of Cambodia [ARPEC] study, June 2012

75. Cambodia is not yet using its potential on waterways and other type of transportation, which could provide the services at lower costs (investment and maintenance). Operation and Maintenance cost is still a major issue that requires government support.

3.4 Promote Micro-Credit for Agriculture

76. Category 4 of Production includes one measure. Its status is summarized in the following table.

Table 7 Measures under Category 4 (Micro-credit) of the Production Component

No	Measure	Status
1.4.1	Review measures to facilitate and encourage commercial banks and other finance institutions to provide more credits to farmers	Partially Done

77. Following the adoption of the rice policy in 2010, the financial sector has expanded significantly. The numbers of microfinance institutions (MFIs) increased from 18 to 39 during 2009-2014 and rose to about 70 in 2016. Total outstanding loan in the whole financial sector had risen from \$2.4 billion to \$11.5 billion between 2009 and 2014. Generally, banks earmark 10-20% of their portfolio for agriculture and agribusiness, while MFIs allocate 35-50% of their portfolio to agriculture. Interest rates declined from 11.68% to 7.28% for \$ denomination and from 12.66% to 10.25% for Riel denomination. However, most producers are complaining about high interest rates because the rates used by MFIs are much higher (ranging from 8% to 23%) compared to the rates used by commercial banks. MFIs remain the major credit service available to individual farmers. MFIs are providing credit related to financing inputs; highly relevant to yield increase. The high cost of credit reduces gross margins.

78. New financial products have also been emerging such as the WING fast payments. Despite these improvements, the banking sector is still hesitant to provide credit to the agricultural business involved in production.

79. Farmers' cooperatives may get loan from the Rural Development Bank (RDB) with lower interest rates, ranging from 11.5 to 12%. However, only two cooperatives had access to RDB loans so far since the difficulty to provide the required collaterals. Support from AFD-funded project using guarantee scheme had allowed these two cooperatives to get loans from RDB (under the Support to the Commercialization of Cambodian Rice Project).

80. RDB does not also have branches in the provinces. The perception of the cooperative members is that RDB discriminates against them in favor of millers and exporters. On the bank sides, it is too risky to lend money to cooperatives because of the lack of maturity in their management capacity and the missing business plans.

3.5 Improve productivity and crop intensification

81. Category 5 of Production includes four measures. Their status is summarized in the following table.

Table 8 Measures under Category 5 (Crop Intensification) of the Production Component

No	Measure	Status
1.5.1	Prepare Plan for water resources management for 10-20 years and introduce concrete measures.	Done
1.5.2	Determine investment in irrigation and water management systems as priority for the government.	Done
1.5.3	Increase investment to rehabilitate agricultural development stations and centers, and agricultural farms to support research and development, and the transfer technology to support agriculture production.	Partially Done
1.5.4	Expand agricultural extension services to commune level.	Not Done

82. These are medium to long-terms policy measures, and the current situation slightly deviates from the 2010 Policy projection. Rice yields have been stagnant at about 3.1 tons per hectare in the past three years while the 2010 Policy envisioned continuous increases from 2.9 tons/ha to 3.45 tons/ha; with dry season yield peaking at 5.5. tons/ha and wet season yield at 3.04 tons/ha. The 2015 total production was estimated by MAFF at 9.3 million tons, which is about 6% lower than the policy targets. The big difference came from the areas of cultivated land. While the policy aimed at low increase rate for rice land at 5.5% in five years; the actual situation shows a total increase of 12.1% pulled by wet season rice (9.4% vs. expected 2.1%). Between the same period (2010-2015); dry season land availability for rice increased by 26-28%.

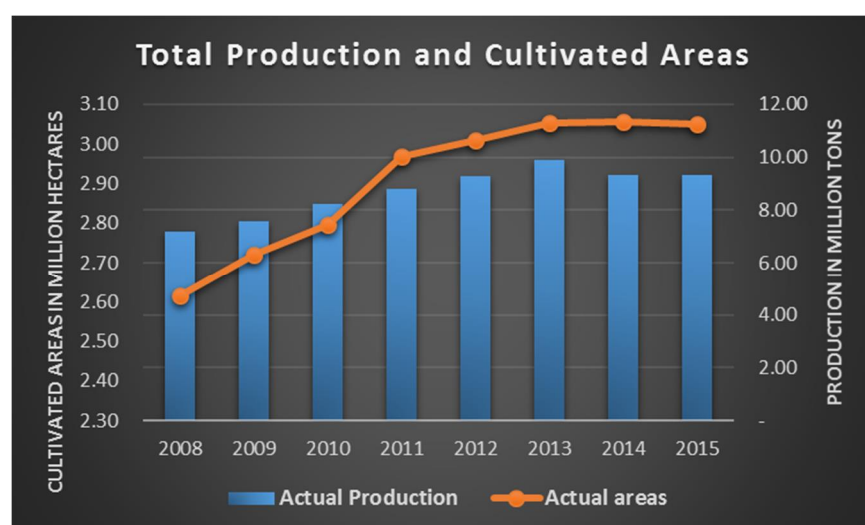


Figure 7 Total Production and Cultivated Areas (Dry and Wet Seasons)

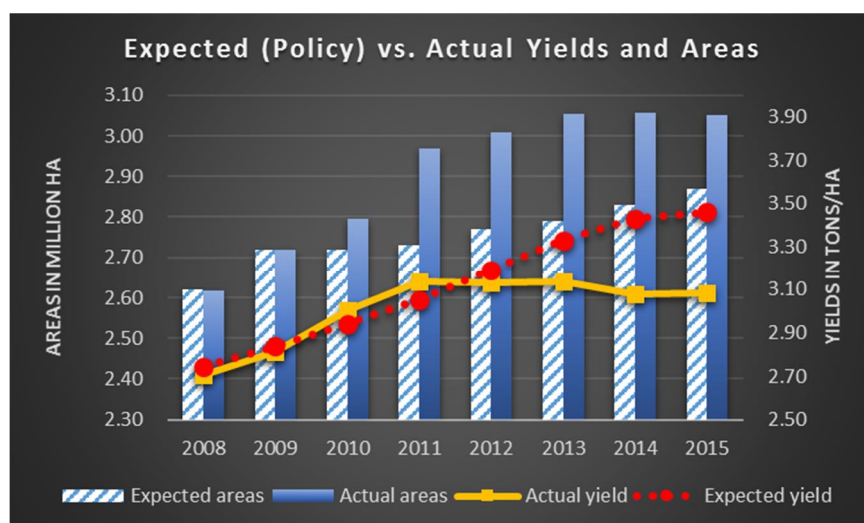


Figure 8 Expected and Actual Cultivated Areas and Yields

Assessment of 1.5.1 and 1.5.2

- Prepare Plan for water resources management for 10-20 years and introduce concrete measures.
- Determine investment in irrigation and water management systems as priority for the government.

83. Irrigation is the major investment used to increase rice production in Cambodia. Improved irrigation is expected to increase productivity (higher yield) and crop intensity (multiple crops per year). Irrigation however needs huge investment and high-cost maintenance. The budget for the Ministry of Water (MoWRAM) increased from \$274.45 million in 2010 to \$322.32 in 2013. Water resource and irrigation system rehabilitation, development and management for agriculture have been one of the main policy focus of the RGC at least since 1999 when MoWRAM was created.

84. With significant spending and budget, MoWRAM was able to rehabilitate and build a lot of irrigation schemes over the past terms of the RGC. During 2004-2008, 141 irrigation scheme rehabilitation and construction projects were implemented (MoWRAM 2010). Against this background, MoWRAM (2010) noted that the irrigation systems were able to provide water for 827,373 ha under both supplementary and full irrigation statuses. It estimated that this was equivalent to 31.6% of rice cultivated areas of 2,615,741 ha. The potential of the existing irrigation systems was up to 1,120,246 ha. However, there is no reliable statistics for irrigation. Even the statistics that the ministry used was derived from studies of the potential of water sources and reservoirs. Actual potential of the irrigation systems may be much less. According to the World Bank (2015) just 8% of Cambodia's arable land is estimated to be irrigated during the dry season (the lowest rate in Asia); the country's agriculture is still largely dependent on rainfall and quite vulnerable to climatic event.

85. In 2012, MoWRAM had planned to fund maintenance and creation of small-scale irrigation infrastructure for \$260 million with support from external partners. For large scale

irrigation, MoWRAM had committed to additional funding of \$868 million¹³. At the commune level, agricultural water management infrastructure has been identified however, with limited funding commitment.

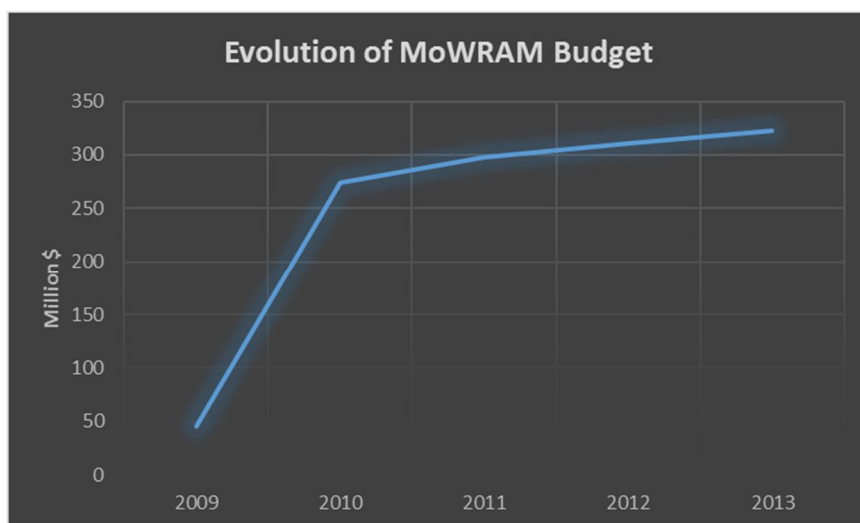


Figure 9 MOWRAM Budget

Assessment of 1.5.3

- Increase investment to rehabilitate agricultural development stations and centers, and agricultural farms to support research and development, and the transfer technology to support agriculture production.

86. In the medium-to-long term, the activities of CARDI should be diversified with more projects directly targeting the needs of farmers at the provincial and regional level. In such cases, research results can be directly used by farmers in specific intervention zones. In addition to seeds and input uses, there are several topics that need to improve such as soil fertility, plant disease tolerance, and post-harvest techniques.

Assessment of 1.5.4

- Expand agricultural extension services to commune level.

87. So far, the expansion of the extension service down to the commune level has not been achieved. Extension service for food crop is challenging for the private sector since it is characterized by the difficulty to ensure return to investment due to high risk of side-selling on the farmers' side or change on the terms of the contract (eg prices) on the buyers' side.

88. Currently, Cambodian agricultural extension system is undermanned and underfunded, and has to depend on volunteers. There are 4-5 extension workers for each district covering about 10 communes (100 villages with about 10,000 households) on average (UNCDF, 2010). At the commune and village levels, extension services are based on volunteers and yet, their number is not enough (MAFF and KOICA, 2013). This gap results in insufficient number of visits conducted by extension agents. Frequent visit would help farmers as they mention gradual improvement on their knowledge and skills from repeated

¹³ International Water Management Institute, 2012

discussions with agricultural extension agents. Farmers want extension agents to follow-up and monitor their adoption after the initial visit.

Table 9 Number of Agricultural Extension Workers (2015)

	# unit	# Extension Officer	# Extension Worker	Average Number of Agricultural Extension Agents
National	1	74		
Province	24	263		11
District	183	959		5
Commune	1,609		350	0.2
Village	13,406		7,336	0.5

Source: MAFF, 2013

89. Agricultural extension encompasses several dimensions, including educational components such as change of behavior on farmers; economic dimension such as increase of farming income, agricultural productivity, farm financial management, food preservation; and social dimension such as improvement of the health of family members, and leadership.

90. Many donors and NGO projects have been working in agriculture and provided agricultural extension services. As a result, access to extension services seems to widen. Nonetheless, the 2013 census show that only 27% of the extension service was provided by the Government. The remaining was left to the responsibility of volunteers at the commune levels, or the private sector. The inability of farmers to use modern inputs and technologies is constrained by the lack of confidence and knowledge. For example, inaccurate application of fertilizers demonstrates a lack of appropriate knowledge, which is a reflection of weak agricultural extension system and service.

91. However, there was positive change in past years. Government and NGO extension agents were providing technical advice. Commercial firms are also present but to less an extent. Farmers' perception is that private agents focus more on commercial activities rather than dissemination of technical messages. Complaints are on the type of messages, which in some cases are too focused on selling products. Some respondents even reported that they feel they are obliged to buy the product after the meeting with these agents. Some farmers requested Government interventions for the case when the performance of the products sold by extension agents is not effective.

92. Breadth and quality of extension service remains an issue. ADB (2014) concluded that most extension services are narrowly focused on crop cultivation despite indication of high demand for post-harvesting and marketing services. There is also the issue of matching advice with access, eg advice promoting the advantage of specific new variety of crops is not followed by activities aiming at making available the required seeds.

3.6 Promote implementation of national policy on rural electrification

93. Category 6 of Production includes two measures. Their status is summarized in the following table.

Table 10 Measures under Category 5 (Rural Electrification) of the Production Component

No	Measure	Status
1.6.1	Implement the existing National Policy on Rural Electrification	Done
1.6.2	Design a new project to facilitate electricity transmission and distribution to rural areas for pumping water to irrigate agricultural crops	Not Done

94. The Government has published its rural electrification strategy and implementation in 2009. Between 2010 to 2013, the national electricity coverage increased from 24.7% to 35.2% of the households. However, the gap on energy supply remains especially in rural areas.

95. In 2010, the proportion of households with access to electricity grid in rural areas was estimated at 5%. The objective of the rural electrification strategy is to increase the access rate to 70% of households by 2030; and to reach 100% grid-equivalent supply coverage for all communes by 2020.

96. This strategy is critical for providing affordable cost of electricity to reduce the costs of pumping water irrigation using motor pump, and to promote rural industrialization through off-farm activities that will affect poverty alleviation at the household level. Currently, urban consumers pay between \$0.08 to \$0.25/kWH for EDC-provided electricity grid compared to \$0.4 to \$0.8 for rural consumers.

3.7 Promote and establish farmer Organizations

97. Category 7 of Production includes three measures. Their status is summarized in the following table.

Table 11 Measures under Category 7 (Farmer Organizations) of the Production Component

No	Measure	Status
1.7.1	Prepare plan to support the establishment of Farmers' Organization	Done
1.7.2	Strengthen its role in coordination, resolving production issues, needs and the concerns, as well as strengthen the ownership of farmers	Not Done
1.7.3	Strengthen capacity of farmers and agriculture communities in borrowing and effectively utilizing loans from the financial institutions	Not Done

Assessment of 1.7.1 and 1.7.2

- Prepare plan to support the establishment of Farmers' Organization
- Strengthen its role in coordination, resolving production issues, needs and the concerns, as well as strengthen the ownership of farmers

98. The law on cooperatives was enacted in 2013. However, most agricultural cooperatives are still weak in their management. They have not been able to provide a truly autonomous and effective management of their organizations. For example, interview with the Federation of Cambodian Farmers Organization for Development (FCFOD) comprising 70 organizations with more than 5,000 members in five provinces highlighted that they have technical issues in accessing quality seeds, having irrigation, dealing with rice diseases; and governance issues related to distrust between farmers and their partners such as millers. In past months, FCFOD established relationship with some millers with support from AFD. The results are not promising because of distrust related to rice quality and prices between the two entities. In addition, some of its members are still aiming to achieve food security so that commercialization is not yet a priority.

Assessment of 1.7.3

- Strengthen capacity of farmers and agriculture communities in borrowing and effectively utilizing loans from the financial institutions

99. On the financing aspect, so far, RDB does not support FOs without warranty. In 2015, only two cooperatives were able to fulfil the collateral requirement through the use of credit guarantee scheme from AFD. RDB is assessed as discriminatory toward millers in providing loan for agricultural production. From the bank perspectives, however, the decision is related to the higher risk for production compared to trade and processing.

3.8 Promote and encourage the implementation of policy on sustainable use of agriculture land

100. Category 8 of Production includes five measures. Their status is summarized in the following table.

Table 12 Measures under Category 8 (Land) of the Production Component

No	Measure	Status
1.8.1	Give high priority to delivering land titles in potential rice production areas	Done
1.8.2	Prepare land use zoning and widely disseminate this information to farmers	Partially Done
1.8.3	Draft a Law on Agriculture Land Use and Management aiming at ensuring sustainable and efficient use of agricultural land	Partially Done
1.8.4	Conduct national agriculture census once in 10 years. Based on the census results, develop a Land Use Map	Partially Done

1.8.5	Draft a Law on Agriculture Community and a sub-degree on contract farming	Done
-------	---	------

Assessment of 1.8.1

- Give high priority to delivering land titles in potential rice production areas

101. Cambodia has a large tract of land for agriculture. It has at least 3.7 million hectares (FAO 2014); equivalent to 0.24 ha/capita. Rice production occupies the largest share of the agricultural land. The first agricultural census of Cambodia (2013) showed that more than 2.41 million hectares of agricultural land were devoted to rice.

102. The paddy land spreads across the country. However, most (95.3%) concentrate in 17 provinces, including Kampong Cham, Tbong Khmoum, Prey Veng, Svay Rieng, Kandal, Takeo, Kampot, Kampong Thom, Siem Reap, Oddar Meanchey, Banteay Meanchey, Battambang, Pursat, Kampong Chhnang, Kampong Speu, Preah Vihear and Kratie. Most of these provinces are located in the lowland and midland regions surrounding the Tonle Sap Lake and the Plain agro-ecological zones.

103. About 30% of farming land does not have valid land certificates or rental agreements; about 40% does not hold explicit national or local government land titles (ADB, 2014). However, RGC land titling program is going on in some provinces such as Battambang, Prey Veng, Takeo, Kampong Cham, Svay Rieng, Banteay Meanchey and Kampong Chhnang.

104. However, one farmers' organization reported that indeed, their lands are not often titled (nearly none in Srey Veng; over 60% in Kampong Thom; over 70% in Takeo; over 90% in Battambang and Prey Veng) but this does not preclude them from investing in their land. It seems that access is more important than titling for these farmers.

Assessment of 1.8.2

- Prepare land use zoning and widely disseminate this information to farmers

105. The sub-decree on land use zoning is under preparation at MAFF and will be finalized by 2016. The dissemination of the information to farmers is planned later.

Assessment of 1.8.3

- Draft a Law on Agriculture Land Use and Management aiming at ensuring sustainable and efficient use of agricultural land

106. The law on Agricultural Land Use and Management is drafted and expected to be submitted to Council of Ministers in late 2016.

107. Land expansion has been a major factor of agricultural production growth in Cambodia. Over the decade 2003-2012, cultivated land has increased by a factor of 2 for maize and by a factor of 13 for cassava. Even in the case of rice, where the increase of land

has been more modest (33%), the contribution of rice cultivated land growth to rice production growth has been over 40%¹⁴.

108. Land use and land management is critical for the sustainability of agricultural production. In 2014, ADB conducted farm surveys and found that nearly 84% of surveyed farmers indicate that access to agricultural land, not intensification, is the main constraint to increasing production. The findings concur with the statistics from MAFF showing that extensive agricultural practices still prevail in rural Cambodia i.e. increase in production is fueled by land expansion. Indeed, landless farmers will argue access to land and in the past, the RGC with support from donors had established social land concession projects.

Assessment of 1.8.4

- **Conduct national agriculture census once in 10 years. Based on the census results, develop a Land Use Map**

109. The agricultural census was completed in 2013, and the data from the census were made available to the public. However, there is little progress in using the data from the census to inform land use Map. There was no secondary data analysis to provide operational tools for development.

Assessment of 1.8.5

- **Draft a Law on Agriculture Community and a sub-decree on contract farming**

110. The law on Agricultural cooperatives was enacted in 2013, as well the sub-decree on contract farming. However, there is the need for policy, strategy, and guidelines for implementation.

111. Contract farming in rice is marginal. Several contract farming pilots have been promoted (eg by Support to Rice Commercialization project) with mixed results. Several stakeholders complain about the difficulty in establishing contract farming in Cambodia. Some farmers' organization had entered in contract farming with millers but the results were mitigated due to technical issues on both sides: millers did not provide adequate seed quality; farmers were not able to produce the expected quantity due to drought.

¹⁴ World Bank, 2014

4 REVIEW OF POLICY MEASURES RELATED TO COLLECTION AND PROCESSING

112. There are six categories of policy measures under Collection and Processing:
- Encourage **participation of the private sector** in paddy rice processing and milled rice export
 - Continue **financing** for paddy-rice collection
 - Provide support and strengthen the **Rice Miller Association**
 - Create **new financial instruments** and leverage mechanism for financing
 - Develop **Open Paddy Rice market**
 - Reduce **electricity price and extend coverage areas**

4.1 Encourage participation of the private sector in paddy rice processing and milled rice export

113. Category 1 of Collection and Processing includes two measures. Their status is summarized in the following table.

Table 13 Measures under Category 1 (Encourage private sector) of the Collection and Processing Component

No	Measure	Status
2.1.1	Continue the implementation of the Investment Law, the Law on Amendment to the Law on Financial Management 2009 and related regulations	Done
2.1.2	Improve the legal framework for investment and other related regulations if necessary	Partially Done

Assessment of 2.1.1 and 2.1.2

- Continue the implementation of the Investment Law, the Law on Amendment to the Law on Financial Management 2009 and related regulations
- Improve the legal framework for investment and other related regulations if necessary

114. The implementation of different investment laws combined with the willingness of the Government to promote rice export has resulted in huge increase in investment in post-production activities. Between 2009 and 2015; formal export of rice has increased by a factor of 44 from 12,163 tons to 538,396 tons. Indeed, the target of 1 million tons by 2015 was not achieved but this does not offset the relative success of the Policy. Official statistics show that Cambodia exported 538,396 tons of rice in 2015, which represent about 54% of the goal. The 1 million ton target perhaps was too ambitious given the initial low development of the milling industry in 2009. The private sector has been the main driver behind the export growth.

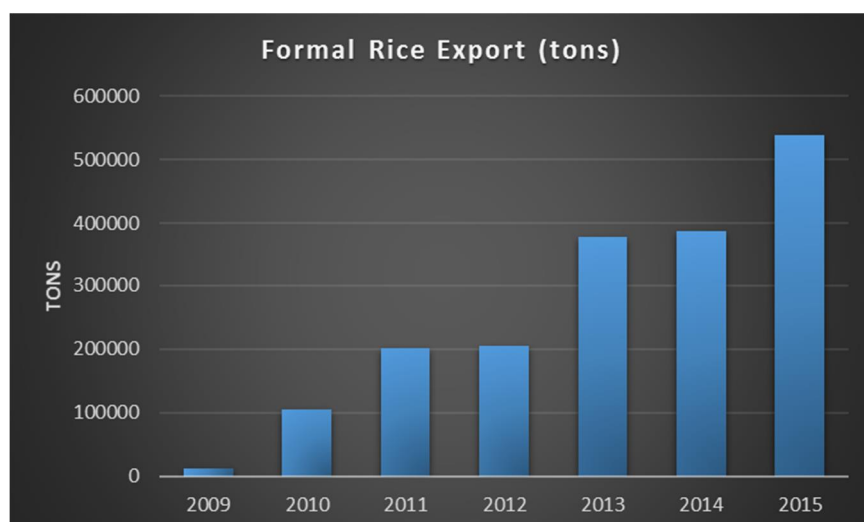


Figure 10 Formal Export of Rice

115. The Policy has facilitated the increase of private sector investment in milling and the emergence of the Cambodian Rice Federation (CRF) as a major player in the rice sector. The capacity of rice milling in Cambodia rose from 96 tons per hour in mid-2009 to 829 tons per hour in 2015. Similarly, the capacity for rice polishing increased by more than 7 folds from 72 tons per hour in mid-2009 to 520 tons per hour in 2014. Additional capacities were expected in 2015 and 2016. These mills are mainly small and medium in size, which have been set up to serve generally rice export business. With these processing capacities, Cambodia could mill nearly 1.5 million tons of paddy annually producing close to 1.0 million tons of milled rice for export.

116. Interviews with millers and exporters indicate that there is imbalance between milling and drying capacity. Recent data (CRISIS group, 2016) from 25 major millers/exporters show that they do not have storage facilities. However, most have huge drying capacity; altogether their drying capacity is 2.5 times higher than their milling capacity. Overall, these 25 units have milling capacity of 873,600 tons per year (260 work-day) and more than 2.2 million tons per year drying capacity. Storage capacity however is left to none or very limited (some have few silos, many store in bags). This possibly reflects the imbalanced, unplanned investments made in the post-production sub-sector. There is excessive investment in drying capacity in some regions of Cambodia; underinvestment in milling capacity; and limited or no investment in storage facilities.

117. World Bank (2014) stresses the lack of working capital for these millers/exporters for their operations. Although capacity of rice mills has increased considerably, capacity utilization is very low (20-30%) due to nonexistent/poor supply management system. In sum, the processing capacity is there but formal export does not follow, hindered by the lack of other post-harvest operations such as drying and storage; and the lack of capacity of millers and exporters to ensure adequate supply due to lack of working capital and organization.

118. Using the 2010-2015 trend, the target of 1 million tons will be achieved between 2017 and 2021 depending on the trend of the growth: linear or exponential. So far export,

the country exported 234,328 tons in the first 5-month of 2016, which is slightly lower (3.5%) compares to the same period in 2015.

119. The success of the policy is however demonstrated by the roles of the private sector as the main driver behind export growth. The World Bank (2013) attributes the growth to the “increasing attractiveness of Cambodia’s rice business and the increasing trust of banks on asset investment”. Other driving forces include the non-intervention of the government on rice business adopted by Cambodia in the 2010 rice policy, and the problem from Thailand’s rice pledging scheme which resulted in increased Thai investment on rice mills in Cambodia. About 35% of Cambodia’s rice milling capacities are joint-venture with foreign investors. These mills are generally set up to serve rice export businesses.

4.2 Continue financing for paddy-rice collection

120. Category 2 of Collection and Processing includes four measures. Their status is summarized in the following table.

Table 14 Measures under Category 2 (Financing Paddy-rice Collection) of the Collection and Processing Component

No	Measure	Status
2.2.1	Recapitalize RDB with an additional amount of 7 million by the end of 2010 or, at the latest, in early 2011	Done
2.2.2	Double the capital of ADSF from 18 million USD to 36 million USD, at the latest, in 2011	Done
2.2.3	Develop a Credit Guarantee Scheme to guarantee loans from commercial banks to companies and paddy rice collectors at the latest in 2011	Done
2.2.4	Set up Risk Sharing Facility to encourage commercial banks to extend loans to agriculture processing activities and small and medium enterprises (SMEs) in general, at the latest in 2011	Not Done

Measure 2.2.1

- Recapitalize RDB with an additional amount of 7 million USD by the end of 2010 or, at the latest, in early 2011

121. The Rural Development Bank (RDB) was established in 1998; and aims to be the “wholesaler for the financial sector”. It receives funds from the National Budget; Government funds based on agreement with international donors such as ADB, AFD, IFAD; loans from commercial banks; and deposits. RDB provides long-term financing, institutional credit, short term credit, credit line, and secondary loans. “The RDB’s main objective is to service and refinance loans to licensed financial institutions, commercial banks, specialized

banks, micro-finance institutions, associations, development communities, and small and medium enterprises (SMEs) that take part in rural development in Cambodia.”¹⁵

122. RDB capital was increased with additional amount of \$7 million in 2011. In 2014, the share capital of RDB amounted to \$20.47 million. However, some stakeholders assessed that the capitalization made a very little dent in the total credit needed by the rice industry. RDB support focused mostly on milling and exports, leaving the supply side untapped. In 2014, the funds used by RDB reaches \$100 million, including the \$26 million new funds from the Government.

123. The outstanding loans provided RDB increased from \$29.8 million in 2010 to \$52.3 million in 2014; after peaking at \$61.5 million in 2013¹⁶. As of 2013; RDB provided loans to four microfinance institutions; eight provincial rice mill associations; four agricultural development communities; and households growing rubber. When compared to over \$700 million of commercial credit banks to agricultural sector in 2014, the contribution of RDB to total agricultural credit is very small.

Assessment of 2.2.2

- **Double the capital of ADSF from 18 million USD to 36 million USD, at the latest, in 2011**

124. From the RDB website, the capital of the Agricultural Development and Support Funds (ADSF) gradually increased from \$2 million in 2005, at the onset of the project to \$18 million in 2010. An additional \$18 million has been added to the capital of ADSF in 2011, resulting in overall capital of \$36 million per recommendation of the 2010 Rice Policy. The funds are used to grant short-term working capital to rice miller associations and companies; and long-term investment capital to strengthen, expand, and modernize drying and processing machines.

Assessment of 2.2.3

- **Develop a Credit Guarantee Scheme to guarantee loans from commercial banks to companies and paddy rice collectors at the latest in 2011**

125. The implementation of credit guarantee schemes is ongoing with AFD/ARIZ and USAID/DCA but yet limited to guarantee loans requested by MFI from commercial banks. In 2014, AFD signed a \$1.5 million guarantee to Foreign Trade Bank, a Cambodian commercial bank to finance AMRET, the second largest micro-finance institution in Cambodia. The goal is to expand and increase access to credit through risk-sharing to provide loans for agriculture and rural development through AMRET. Similarly, USAID, through the Development Credit Authority office had established guarantee scheme for Thaneakea Phum Cambodia (TPC), the fifth largest MFIs in Cambodia through Canadia Bank, for up to 50% guarantee. TPC is expected to loan \$2.71 million to underserved farmers and MSM agricultural enterprises operating in the provinces of Battambang, Kampong Thom, Pursat, and Siem Reap.

¹⁵ <http://rdb.com.kh/profile/about-rdb/> - retrieved on August 8, 2016

¹⁶ RDB 2014 Annual report

126. However, it is quite difficult to have effective credit guarantee schemes. In the presence of risk averse banking system, credit guarantee will have little contribution to the expansion of the collection and processing of rice. They either add cost to credit (already high) or worse they have a moral hazard problem (only problem lenders are in the program). In the presence of risk averse banking system, credit guarantee will have little contribution to the expansion of the collection and processing of rice.

127. Participant's comments during the workshop pointed out that the credit guarantee scheme did not work, so that the project had to re-program the funds allocated as additional collateral to borrowers onto different projects.

Assessment of 2.2.4

- **Set up Risk Sharing Facility to encourage commercial banks to extend loans to agriculture processing activities and small and medium enterprises (SMEs) in general, at the latest in 2011**

128. There is no much progress in implementing risk sharing facilities. It would be better to invest in information services to allow banking sector and business sector to assess and evaluate risk (eg market intelligence desk, price analysis).

4.3 Provide support and strengthen the Rice Miller Association

129. Category 3 of Collection and Processing includes one measure. Their status is summarized in the following table.

Table 15 Measures under Category 3 (Rice Miller Association) of the Collection and Processing Component

No	Measure	Status
2.3.1	Provide special treatment to the Rice Miller Association in the same way that it has supported GMAC	Done

130. The Government supported the Rice Miller Association in promoting post-production of paddy, especially rice milling to increase formal export of rice. The goal is to provide special treatment to the Rice Miller Association in the same way that the government has supported the Garment Manufacturer Association in Cambodia (GMAC).

131. In 2014, the Cambodian Rice Federation (CRF) emerged as the largest entity to promote the interests of rice industry stakeholders, including rice millers. In 2016, CRF published its five-year strategy focusing on improving the productivity of farming and milling industry; lowering the costs of production and export processes; and upholding a code of conduct that values impact investing and practices the highest ethical standards (CRF, 2016). The association has held election twice since its constitutions and regular meeting.

132. However, the CRF is not yet fully representative and does not have a unified voice. Its capacity needs to be build. Supports requested by CRF include assisting its members in

developing business competency and proficiency; developing program to improve rice milling industry; developing audit, certification and accreditation to grade millers; developing financial training manual for rice millers; developing online platform for paddy purchase and selling.

4.4 Create new financial instruments and leverage mechanism for financing

133. Category 4 of Collection and Processing includes four measures. Their status is summarized in the following table.

Table 16 Measures under Category 4 (Financing) of the Rice Policy

No	Measure	Status
2.4.1	Develop new financing instruments	Done
2.4.2	Strengthen the implementation of laws on secured transaction and financial leasing	Done
2.4.3	Establish centralized credit information to reduce fear and risks for commercial banks and micro finance institutions	Done
2.4.4	Consider to establish the Agriculture Development Bank (ADB) to support and promote agriculture both in terms of production and processing	Not Done

Assessment of 2.4.1

- Develop new financing instruments

134. Progress has been made developing new financing instruments such as leasing, WING, credit guarantee schemes. More remains to be done, but the Government is moving in the right direction.

Assessment of 2.4.2

- Strengthen the implementation of laws on secured transaction and financial leasing

135. An initial law on financial lease was approved by the parliament in 2009. The purpose of the law was to determine the rights and obligations regarding operation and issuing to protect such rights of all the parties to a financial lease. It also aims to develop the banking, financial and enterprise systems in order to promote financial leases equally, safely, effectively and productively in compliance with the evolution of the economy in Cambodia.

136. In 2012, Prakas on “financial leasing business” and on the “licensing of financial lease companies” were released by the government. Its main purpose is to set up, develop and

promote financial leasing industry and serves as guidance for financial leasing business operations in Cambodia.

137. However, the Implementation is confusing because of lack of harmonization of legal framework eg. some interviewees reported the existence of conflict between the law on leasing and civil law.

Assessment of 2.4.3

- **Establish centralized credit information to reduce fear and risks for commercial banks and micro finance institutions.**

138. The Credit Bureau of Cambodia (CBC) was established in 2011 and is currently fully functional.

139. From its website, CBC is the “leading provider of information, analytical tools and credit reporting services to organizations and consumers in Cambodia”. CBC assists about 28 financial institution members to manage the risk and reward of commercial and financial decisions. It provides accurate and real time data on the financial aspects of the business of consumers and industry.

140. Corporate members share their reporting data, ensuring that the same asset is not used to underwrite multiple loan agreement. This results in lower loan default thus improving the performance of the industry. CBC also uses automation into the credit approval process, which reduces the time and costs during credit approval process.

141. CBC also uses automation into the credit approval process, which reduces the time and costs during credit approval process.

Assessment of 2.4.4

- **Consider to establish the Agriculture Development Bank (ADB) to support and promote agriculture both in terms of production and processing**

142. Many stakeholders voice the need of a specialized bank that is working professionally and competitively. However, the role of the public sector in this bank has to be defined. RDB could play this role if its procedures will be more flexible for agricultural production. This may require setting-up effective credit guarantee schemes.

143. However, increasing the breadth of the credit to rural areas would be more appropriate for MFIs rather than an agricultural bank, which would not be able to reach smallholders. The main request and concern specified by many stakeholders is the high interest rates, making agricultural activity non-competitive. Perhaps there is no need of specialized Agriculture Development Bank (ADB), but rather to transform existing RDB into ADB. As it is currently structured, RDB could not play this role.

144. During the workshop, instead of creating a new financial institution specific for the agriculture sector; some stakeholders recommended the expansion of the activity of RDB to

reach the province level, so that it could respond more adequately to the needs of the actors in the rice sector.

4.5 Develop Open Paddy Rice market

145. Category 5 of Collection and Processing includes one measure. Their status is summarized in the following table.

Table 17 Measures under Category 5 (Open Paddy Market) of the Collection and Processing Component

No	Measure	Status
2.5.1	Develop the «Open Paddy Rice Market», which consist of some activities such as contract farming, weighting, drying and paddy-based collateral services to secure loans for its member, high quality seeds and fertilizers in order to produce rice to meet market demand	Not Done

146. There was no development of the “open paddy rice market” since 2010. In 2012, the MOC planned feasibility study in setting up “open paddy rice market” in at least two provinces (Kampong Thom; Battambang or Bantey Meanchey) with the objective to make rice transactions more transparent. However, the study was not conducted.

147. In 2016, CRF is revamping the creation of “open paddy rice market”. CRF mentioned that if combined with warehouses, this soft infrastructure could also be used to expand access to credit, using warehouse receipt financing through which paddy stock can be used as collateral instead of the commonly used fixed assets to access capital for millers and farmers.

4.6 Reduce electricity price and extend coverage areas

148. Category 6 of Collection and Processing includes three measures. Their status is summarized in the following table.

Table 18 Measures under Category 6 (Electricity Price) of the Collection and Processing Component

No	Measure	Status
2.6.1	Speed up the diversification of power sources in order to lower the costs and expand the coverage to rural areas	Partially Done
2.6.2	Take measures to ensure effective and rigorous enforcement of existing laws and regulations to make sure that the supply of power is based on economic efficiency and best practices, at an appropriate tariff	Partially Done
2.6.3	EDC should further improve its management	Partially Done

Assessment of 2.6.1:

- **Speed up the diversification of power sources in order to lower the costs and expand the coverage to rural areas**

149. Cambodia has a long-term plan to improve the electricity sector. In 2015, about 31.1% of the overall households has access to grid electricity. Diversification of power source is ongoing as in 2010, hydropower plants supplied about 3.3% of the total electricity sent-out vs. 92.8% from diesel and fuel. Four years later in 2014; hydropower share increased to 62.3% and diesel and fuel dropped to 10.7%, and electricity from coal reached 28.2%. The overall supply increased by 3 folds between 2010 and 2014, from 968 million of kWh to 3,058 million of kWh of electricity sent-out. Since 2011, an investment of \$1.6 billion aiming to add more than 900 MW supply from hydropower plant is under way with Chinese investment.

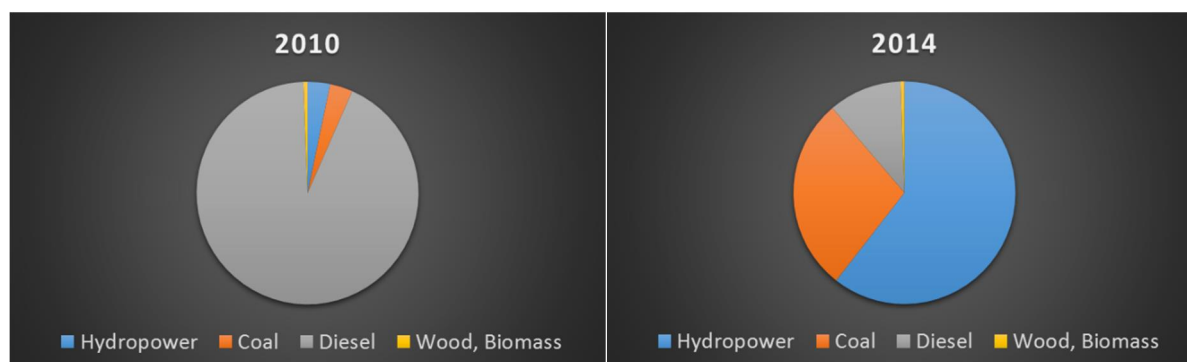


Figure 11 Change in Source of Electricity

Source: Data from 2011 and 2015 AEC Annual Report

150. However, Cambodia is still importing electricity from neighboring countries to supply specific areas. Provinces of Kampong Cham, Svay Rieng, Kampot, Monduliri, Kratie, Prey Veng and Ratanakiri rely on electricity from Vietnam; Battambang, Pailin, Bante Meanchey, Koh Kong, and Oddor Meanchey with electricity from Thailand; and the province of Steung Treng with electricity from Laos.

Assessment of 2.6.2:

- **Take measures to ensure effective and rigorous enforcement of existing laws and regulations to make sure that the supply of power is based on economic efficiency and best practices, at an appropriate tariff**

151. Reduction of the price of electricity is part of overall energy strategy of Cambodia. Data from the annual report of EAC show that in nominal terms, the price of kWh of electricity did not change much between 2010 and 2014. However, the real term costs had declined by about 20%¹⁷, as well as the share of electricity on households' expenditures has also reduced given the average higher income¹⁸. Given the important contribution of electricity to the cost of milling, a time-bound subsidy might be considered. According to

¹⁷ Between 2010 and 2014, the aggregated inflation rate of Cambodia is 19.2

¹⁸ Between 2010 and 2014, the per-capita GNI (Current US) increased by 36% from \$750 to \$1,020

CRF, electricity accounts for 25% of production costs for milling, and CRF members are requesting prices to be less than \$0.15/kWH.

152. There is imbalance on the access to electricity between the rural and urban areas. For example, in 2009; only 5% of rural households had access to grid-equivalent electricity compared to 55% of households in urban areas¹⁹. In addition, the costs of electricity are higher in rural areas, between 4% and 31% depending on the level of consumption and the areas. For example, average cost of electricity from the national grid in Phnom Penh is about 13.5 cents to 17.5 cents per kWH; in Battambang, the prices per kWH vary from 21.25 to 25 cents; and in Kampong Cham, the average price is 23 cents. These differences make agricultural processing and production activities more expensive thus the risk of reducing Cambodian competitiveness on rice production and processing. The Government is however catching up in providing better access to electricity to rural areas. By the end of 2014; 61.7% of the villages are covered by grid equivalent electricity; with lowest percentages in Svay Rieng (18.5%), Ratanakiri (21.2%), Monduliri (22.2%); and highest in Phnom Penh (95.3%), Kandal (93.9%); Preah Sihanouk (89.2%).

Assessment of 2.6.3:

- EDC should further improve its management

153. In 2010, EDC was not supportive of expanding its electricity supply to the rural areas as it could undermine its commercial viability due to the high costs of the required investment and the low purchasing power of the households in rural areas²⁰. This situation has improved after the adoption of the strategy to supply electricity to the rural areas in 2010.

154. To make the distribution of electricity sustainable, the determination of the cost of electricity was based on three considerations²¹:

- Rural grid-connected electricity tariffs should be set, at a minimum, to cover the ongoing costs of electricity supplies
- Subject to this, rural grid-connected electricity tariffs should be set at a level that is affordable for the majority of customers
- Any resulting shortfall between revenues from grid-connected rural customers and the costs of rural grid electricity supply should be recovered through a cross-subsidy from urban electricity customers, thus ensuring licensees can recover their costs in full.

¹⁹ MIME 2009, Cambodian Rural Electrification Strategy and Implementation Plan

²⁰ MIME, 2009.

²¹ MIME, 2009.

5 REVIEW OF POLICY MEASURES RELATED TO LOGISTICS

155. There are eight categories of policy measures under Logistics:
- Enhance **trade facilitation**, reduce informal fees and eliminate illegal checkpoints
 - Implement **single stop windows** for export processing
 - Address grading and quality **standards** in compliance with internationally recognized standards
 - Encourage the construction of **Phnom Penh port** and bonded warehouse
 - Formulate strategic and **legal framework with special focus on SPS**
 - Invest in necessary **infrastructure to reduce costs of export**
 - Make **financing easy for export**
 - Make **financing easy for infrastructure** development

5.1 Enhance trade facilitation, reduce informal fees and eliminate illegal check points

156. Category 1 of Logistics includes three measures. Their status is summarized in the following table.

Table 19 Measures under Category 1 (Trade Facilitation) of the Logistics Component

No	Measure	Status
3.1.1	Develop a specific strategy to achieve this objective by defining clear procedures at different steps in processing exports including inspection, document requirements, fees and time required to process export applications	Partially Done
3.1.2	Setup clear and publicly transparent division of responsibilities among export regulating ministries/agencies	Partially Done
3.1.3	Consider rice export as a top priority in order to reduce to a minimum informal payments and time required to export by extending “special treatment” to rice export in the same way that the garment sector has enjoyed.	Done

157. Logistic conditions have improved between 2010 and 2015. Export has been much easier. Time and costs for obtaining relevant documents and approval for export have been significantly reduced. Between 2012 and 2013, the cost of processing for export has been reduced by 42.8% from \$20/ton to \$14/tons; and the time required for the procedures reduced by half from 8 days to 4 days. The only increased costs were in getting CAMCONTROL certificate.

Table 20 Comparison of Costs and Time for Export between 2012 and 2013

	Processing costs in 2012	Processing costs in 2013	Processing time in 2012	Processing time in 2013
SPS certificate	\$150/case	\$35/case	2 days	1 day
Fumigation certificate	\$20/cont.		1 day	1 day

Certificate of origin	\$250/case	\$141/case	1 day	1 day
Customs certificate	\$25/cont.	\$6.5/cont.	2 days	0.5 day
CAMCONTROL certificate	\$25/cont.	\$52.5/cont.	2 days	0.5 day
GMO certificate	\$150/sample	\$80/sample	3-4 days	2-3 days
Average total	\$20/ton	\$14/ton	8 days	4 days

Source: WB, 2014

158. Even though the situation has improved, Cambodian logistics is less competitive than most global rice producers and exporters and ASEAN member countries with the exception of Lao PDR and Myanmar. Cambodian logistic performance index ranks for 2010-2014 were below 2007. However, logistic performance index scores showed some improvements. The scores were trending upwards during 2012-2014. Meanwhile, other rice exporter countries particularly Thailand and Vietnam have much better infrastructure, faster and easier customs service, more competitive international shipment services, better tracking and tracing services, more effective inbound and outbound logistics, and faster transaction services.

159. Cambodian logistics is yet less competitive than most global producers and exporters and ASEAN countries. Cambodia is only ranked above Lao and Myanmar in terms of Logistic performance index despite the improved performance. The scores were trending upward between 2012 and 2014 though other exporter countries including Vietnam and Thailand, did far better i.e. Vietnam and Thailand have better infrastructure, faster and easier custom services, more competitive international shipment services, better tracking and tracing services, more inbound and outbound logistics, and faster transaction services.

160. The 2014 Cambodia score is comparable to the Vietnam score 10 years ago. In 2014, Cambodia ranked 83 (up from 129th in 2010) compared to Thailand (35th) and Vietnam (48th).

Table 21 Logistic Performance Index

Year	LPI Rank				LPI Score			
	2014	2012	2010	2007	2014	2012	2010	2007
Thailand	35	38	35	31	3.43	3.18	3.29	3.31
Vietnam	48	53	53	53	3.15	3	2.96	2.89
Cambodia	83	101	129	81	2.74	2.56	2.37	2.5
Lao PDR	131	109	118	117	2.39	2.5	2.46	2.25
Myanmar	145	129	133	147	2.25	2.37	2.33	1.86

Source: WB, 2015

161. CRF recommends the modernization and automation in Cambodia export procedures to further reduce the processing time and costs. It could include updating the Cambodia rice export manual, creating a rice export online portal, and expanding the choice for shipment terms (CRF, 2016).

5.2 Implement single-stop service for export processing

162. Category 2 of Logistics includes one measure. Its status is summarized in the following table.

Table 22 Measures under Category 2 (Single-stop Service for Export) of the Logistics Component

No	Measure	Status
3.2.1	Set up a Single Stop Service for export processing and issuing certificates such as those on SPS and fumigation, grading and quality, and quantity and weight, and custom declaration	Done

163. A single Stop Windows for export was established in 2012. A direct effect was the reduction of the cost of export from \$20/ton to \$14/ton and the required time from 8 days to 4 days.

5.3 Address grading and quality standards in compliance with internationally recognized standards

164. Category 3 of Logistics includes three measures. Their status is summarized in the following table.

Table 23 Measures under Category 3 (Standards) of the Logistics Component

No	Measure	Status
3.3.1	Create an independent certifying body or encourage well-known international independent certifying institutions to issue certificates on grading and quality as required by importing countries	Not Done
3.3.2	Define grading and standards of Cambodian rice and work with the private sector to enforce those standards in the rice market	Partially Done
3.3.3	Seek technical capacity to achieve those required standards	Partially Done

165. CRF, MAFF and other stakeholders are working on defining the grading and quality standards of Cambodian rice. This is a necessary and useful step to sustainably market Cambodia rice internationally. Regulations on grading and standards for milled rice were approved in 2014; and standards for milled rice of specific varieties are under preparation. There are however concerns on enforcement, which requires self-regulated markets, rather than Government enforcement.

166. CRF is encouraging its members to identify the characteristics of their products and then apply the food safety standards. Some rice mills are pursuing standards such as HACCP,

ISO and GMP. CRF will work with development partners and government to assist in developing business competency and proficiency of rice millers; develop program to improve rice milling standards; and to work with inspection companies to develop audit, accreditation, and certification assessment scheme to grade rice millers (CRF, 2016).

167. A certifying body has to be established by the industry. So far, Cambodia has to rely on foreign entities to certify its agricultural products; but this is quite expensive especially for small niche products and takes relatively long period.

5.4 Encouraging the construction of Phnom Penh Port and bonded warehouse

168. Category 4 of Logistics includes two measures. Their status is summarized in the following table.

Table 24 Measures under Category 4 (Phnom Penh Port) of the Logistics Component

No	Measure	Status
3.4.1	Strengthen the capacity and promote the use of Phnom Penh Port as an exit point	Done
3.4.2	Encourage the construction of bonded warehouses in Cambodia to facilitate transportation and distribution	Done

169. The improvement of the Phnom Penh port is on progress. Additional infrastructure to support export has been constructed at PP port, for example a bonded warehouse of two hectares is available at Phnom Penh port.

170. The question is, however, to know whether the rice export will fully benefit from these infrastructures since most of the rice export does not go through PP port.

5.5 Formulating strategic and legal framework with a special focus on sanitary and phytosanitary (SPS) standards

171. Category 5 of Logistics includes six measures. Their status is summarized in the following table.

Table 25 Measures under Category 5 (SPS) of the Logistics Component

No	Measure	Status
3.5.1	Develop new legislations and regulations which are lacking and amend the existing legal framework and regulations	Partially Done
3.5.2	Draft a Law on SPS and related sub-decrees and prakas, and enforce laws and regulations as well as strengthen capacity of officials in charge of this matter	Partially Done
3.5.3	Establish and strengthen a sound SPS certification system	Partially Done

No	Measure	Status
3.5.4	Strengthen the enforcement laws and regulations	Partially Done
3.5.5	Define a common SPS strategy with clear division of responsibilities - strengthen human resource capacity and technical capability of existing laboratories to conduct tests and inspection, as well as enforce SPS measures	Partially Done
3.5.6	Strengthen the capacity and infrastructure for SPS inspection	Partially Done

172. Compliance with SPS regulations is increasingly important to global trade. Processes need to be streamlined and focus must be directed particularly on the monitoring, inspection, and enforcement. Currently, most of the listed actions are either completed or on progress.

173. MAFF has completed the list of rice diseases, trained risk assessment inspectors, and refurbished the agricultural laboratory.

174. The law on SPS and the legal framework are being drafted and expected to be issued in late 2016. The seed certification regulation is also under formulation and planned to be enacted by the end of 2016.

5.6 Invest in necessary infrastructure to reduce the costs of export

175. Category 6 of Logistics includes four measures. Their status is summarized in the following table.

Table 26 Measures under Category 6 (Infrastructure for Exports) of the Logistics Component

No	Measure	Status
3.6.1	Prepare plan of actions to reduce infrastructure-related costs of export	Partially Done
3.6.2	Discuss the concepts of investment projects with bilateral and multilateral partners and/or the private sector to seek additional funds	Partially Done
3.6.3	Speeding up the rehabilitation and operationalization of the railway system (Poipet-Phnom Penh and Phnom Penh-Sihanoukville)	Done
3.6.4	Accelerate the rehabilitation and development work by collaborating with the concessionaire to enable the earliest start of the railways operation	Done

Assessment of 3.6.1 and 3.6.2

- Prepare plan of actions to reduce infrastructure-related costs of export
- Discuss the concepts of investment projects with bilateral and multilateral partners and/or the private sector to seek additional funds

176. Cambodia's two main competitor in rice trade are Thailand and Vietnam. Even though Cambodia has the lowest farm gate prices compared to Thailand and Vietnam, its costs in the global market are higher than Vietnam and comparable to Thailand. Cambodian comparative advantage is lost in between the farm gate and the export.

Table 27 Prices of Rice at Different Levels by Country

	Farm Gate Prices	At Mills	FOB
Thailand	\$339	\$465	Bangkok \$490
Cambodia	\$247	\$440	SHV \$483
Vietnam	\$253	\$377	Ho Chi Minh \$402

Source: WB, 2014

177. Generally, infrastructure will further improve as the government continues increasing public investments and promoting private investments in rehabilitation, construction and maintenance of roads, railways and waterways as well as seaports. Transportation will thus be easier and faster and actual, related costs will be decreasing. Nonetheless, hurdles remain, especially regarding informal payments, which add both monetary and time costs to export. Facilitation fees, largely informal contribute to the high costs of logistics (WB, 2014). Informal fees seem prevalent in trade and transport facilitation, which are regularly reported to take place at weighbridge station and on-route checkpoints, at traffic stops due to unclear and unfair application of traffic laws and regulations especially during cargo clearing and border crossing and custom clearance.

178. With support from ADB, the Government has issued the Transport Sector Assessment, Strategy, and Roadmap in late 2011. The document highlighted the status of the transport infrastructure in Cambodia, the needs and required strategic assistance to Cambodia with a focus on rail, urban transport and roads.

179. In its five-year strategy, CRF will continue to work with the ministry of public works to look for any improvement/development of infrastructures such as railways, waterways... The goal is to get the logistic prices as low as the price in neighboring countries.

180. Another issue is the size of the transportation companies and the quality of the trucks. These units are often family-run business with only few trucks. For significantly large export operations, exporter has to deal with numerous truck companies resulting in increased costs (search, negotiation, contract...). Trucks are generally old, and with high costs (no economy of scale, high consumption of gasoline).

Assessment of 3.6.3 and 3.6.4:

- Speeding up the rehabilitation and operationalization of the railway system (Poipet-Phnom Penh and Phnom Penh-Sihanoukville)

- **Accelerate the rehabilitation and development work by collaborating with the concessionaire to enable the earliest start of the railways operation**

181. The cost of transportation by railway is much cheaper than transport by truck. For example, in 2013 it costs \$120 per container from Phnom Penh to Sihanoukville port, while transport by truck costs \$ 200 per container for the same trip. The rehabilitation of the railway system from Poipet to Phnom Penh and Phnom Penh to Sihanoukville started in 2008 and ended in 2015. However, there are still some gaps such as the connection from Sihanoukville Port to the terminal connecting to the vessels. Multimodal logistics system will have to be developed to ensure integration of railways with vessels loading and unloading.

5.7 Make financing easy for export

182. Category 7 of Logistics includes one measure. Its status is summarized in the following table.

Table 28 Measures under Category 7 (Financing for Exports) of the Logistics Component

No	Measure	Status
3.7.1	Consider the establishment of the Export-Import Bank (EXIM Bank) to support the export of milled rice and other exports	Not Done

183. CRF is conducting talk with overseas EXIM Bank to finance processing and export activities. In 2016, Thailand EXIM bank will open a branch in Cambodia to support its regional expansion. Back in 2013, China EXIM bank provided \$120 million loans for irrigation and power transmission line development.

184. In 2014, CRF estimated at \$500 million the needs for investment on rice processing and export. Access to finance for agribusiness is not necessarily limited by availability of credit from the financial sector. Rather, the constraints are (a) the amount of liquidity available to service loans; (b) the amount of asset that could be leveraged; and (c) the level of lending interest rates. Compared to rice growers and farmers' organizations, agribusinesses have more institutional choices for borrowing. Loans from banks and RDB have much lower interest rates, ranging from 6% to 14%. However, they need to have collateral with commercial banks, not with RDB. In a recent unpublished survey, only 5% of millers/exporters were reported having difficulty in accessing loans.

5.8 Make financing easy for infrastructure development

185. Category 8 of Logistics includes one measure. Its status is summarized in the following table.

Table 29 Measures under Category 8 (Finance for Infrastructure) of the Logistics Component

No	Measure	Status
3.8.1	Consider the establishment of the Cambodia Development Bank (CDB) to support the development of other physical	Not Done

	infrastructure in order to boost economic growth and improve competitiveness of the Cambodian economy	
--	---	--

186. This measure has not been implemented. There is a risk of having too many financial institutions and thus creating confusion for stakeholders. Currently, RDB is working with some group of entrepreneurs in the agribusiness sector and expanding its roles and responsibilities could be an option.

6 REVIEW OF POLICY MEASURES RELATED TO MARKETING

187. There are four categories of policy measures under Marketing:
- Explore **export opportunities** in regional and global markets
 - Establishing a **Rice Market Intelligence Unit**
 - Develop arrangements for **information sharing** with stakeholders in domestic market
 - Prepare a **Strategic Penetration Plan** and Cambodia's position to compete in regional and global markets

6.1 Explore export opportunities in regional and global markets

188. Category 1 of Marketing includes three measures. Their status is summarized in the following table.

Table 30 Measures under Category 1 (Export Opportunities) of the Marketing Component

No	Measure	Status
4.1.1	Comprehensive study on Cambodia's potential markets for rice	Done
4.1.2	Disseminate the results to wider stakeholders	Done
4.1.3	Lead delegations consisting of the representatives of relevant ministries and milled rice exporting companies to negotiate the sale of milled rice to the Philippines, explore opportunities to export milled rice to Malaysia, Indonesia, Brunei, and other potential importing countries in Europe	Done

Assessment of 4.1.1 and 4.1.2:

- **Comprehensive study on Cambodia's potential markets for rice**
- **Disseminate the results to wider stakeholders**

189. As of 2016, several studies partially or entirely on rice have been carried out with funding by donors; and the findings and recommendations were widely disseminated to stakeholders.

Assessment of 4.1.3: Lead delegations consisting of the representatives of relevant ministries and milled rice exporting companies to negotiate the sale of milled rice to the Philippines, explore opportunities to export milled rice to Malaysia, Indonesia, Brunei, and other potential importing countries in Europe.

190. CRF plans include participation in international trade fair and exhibition; market mission and having sales representatives at key markets such as EU, China, Malaysia, USA. These actions will be followed by brand implementation and protection.

6.2 Establishing a Rice Market Intelligence Unit

191. Category 2 Marketing includes one measure. Its status is summarized in the following table.

Table 31 Measures under Category 2 (Rice Market Intelligence Unit) of the Marketing Component

No	Measure	Status
4.2.1	Consider options for establishing a Rice Market Intelligence Unit to provide information and analysis on regional and global rice markets.	Not Done

192. The implementation of this measure has not yet started. Data on export and market information are still not available to many stakeholders. The creation of a rice data and information center will provide “fast and precise rice market information” to support the entire industry (CRF, 2016).

193. To start with, CRF suggests the mapping of rice mills and farmer’s association to improve collection of paddy and to facilitate providing extension advice to farmers. Further activities using data mining could include rice yield prediction.

6.3 Develop arrangements for information sharing with stakeholders in domestic market

194. Category 3 of Marketing includes two measures. The status is summarized in the following table.

Table 32 Measures under Category 3 (Information sharing) of the Marketing Component

No	Measure	Status
4.3.1	Disseminate market information	Partially Done
4.3.2	Use the information to prepare a monitoring toolkit covering the process of production, processing, export, and trade	Not Done

Assessment of 4.3.1

• Disseminate market information

195. Rice market information is not yet well disseminated. Farmers’ organizations and individual farmers complained about their lack of knowledge on the varieties required by the market resulting in a mismatch between the paddy supply and export market. Some are not even aware of the level of moisture required by the millers/exporters when selling their paddy.

196. However, there are some isolated initiative. In 2013, about a quarter of farmers in Takeo and Kampot reported using their mobile phone to request information mostly on

price and commercialization. The use of the technology to get technical advice on technologies is still at the early stages. These communications are often between private actors (farmers, sellers, suppliers); the percentage of farmers receiving call or SMS related to agriculture (price or techniques) from Government and NGOs remain below 10% of the surveyed farmers (ACI, 2013).

Assessment of 4.3.2

- Use the information to prepare a monitoring toolkit covering the process of production, processing, export, and trade.

197. This measure has not been implemented. Like the overall policy, there was no specific effort to have useful monitoring and evaluation at different level of the rice sub-sector.

198. The monitoring toolkits could facilitate solving the main issues related to the capacity of Cambodian businesses to regularly supply the demand (frequency and quantity), which results in preference of importers to remain with their long-established Thai and Vietnamese partners.

6.4 Prepare a Strategic Penetration Plan and Cambodia's position to compete in regional and global markets

199. Category 4 of Marketing includes four measures. The status is summarized in the following table.

Table 33 Measures under Category 4 (Market Strategy) of the Marketing Component

No	Measure	Status
4.4.1	Define its strategic objectives to position Cambodia in the international markets	Not Done
4.4.2	Lead this task by exploring new markets and disseminating market information to rice producers and exporters	Partially Done
4.4.3	Carry out negotiations of bilateral agreements with potential rice importing countries	Not Done
4.4.4	Realizing the initiative of establishing the Association of Rice Exporting Countries (AREC)	Not Done

Assessment of 4.4.1

- Define its strategic objectives to position Cambodia in the international markets

200. Cambodia is a new exporter into the global rice market of both white rice and fragrant rice. It has to compete with Thailand and Vietnam, and other rice-exporting nations, including Pakistan, India, and the U.S. The competition is tough on varieties, quality and prices. Cambodian fragrant rice varieties, especially Phkar Rumduol, Phkar Romeat and

Phkar Rumdeng, have a recognized good taste. Phkar Rumduol was awarded the best quality rice three times in a row during 2012-2014.

201. Despite the award, global consumers still know very little or next to nothing about Cambodian aromatic rice. It is not branded internationally. Thai exporters are focusing more on fragrant rice and can be expected to defend their market share aggressively (IFC et al. 2015). The price, the awards and the quality of the Cambodian fragrant rice can allow Cambodia to compete head-on with Thailand. However, the lack of branding and competitive strategy by the rice export industry is a major setback.

202. Currently, CRF is working on establishing the basis for a “rice brand promotion and market”. The activity is based on the defining the standards and norms for a “national rice brand” in order to “build up trust and recognition of Cambodia rice” (CRF, 2016).

Assessment of 4.4.2

- **Lead this task by exploring new markets and disseminating market information to rice producers and exporters**

203. Marketing activities to promote Cambodian rice have been carried out and supported by the government and donors. However, industry to industry relations between Cambodian millers/exporters and importers remain weak. Certain importers make advance payment for deliveries, but generally they do not have confidence in Cambodian millers/exporters. They are not assured that Cambodian millers are able to deliver adequate and quality supply of rice on a timely fashion. As a result, importers’ confidence in Cambodian supplier is limited and not sufficient to shift from their well-established relations with Thai and Vietnamese suppliers. In addition, after-sale services are limited.

Assessment of 4.4.3

- **Carry out negotiations of bilateral agreements with potential rice importing countries**

204. In the short term, CRF is planning to strengthen existing markets and open new markets. There have been negotiations to establish quota and MOU with China and Indonesia, setup consortium group for G2G and big volume contracts.

205. Currently, Cambodia together with Myanmar, Nepal, and Lao PRD, benefits from the Everything but Arms (EBA) trade program of the EU. In 2014, about 62% of Cambodian rice export went to the EU markets benefiting from the Generalized System of Preference arrangement. In 2015, France absorbed 30% of Cambodian rice export; Poland about 19%; Netherland about 14%. Malaysia and China 15% and Thailand less than 5%.

206. In the future, Malaysia and China may become more important markets. China has expressed interest in buying Cambodian rice. MOC signed an MOU with its Chinese counterpart for an export of 100,000 tons in 2015. The private sector has also engaged in similar agreements through the export of 30,000 tons to China. The Chinese government has demonstrated interest in providing up to \$300 million to increase the drying and storage capacity of Cambodian rice. China rice import may increase creating opportunities for

Cambodian rice to significantly penetrate Chinese market. IFC et al (2015) estimates that over the next 10 years, China could in theory absorb the Cambodian rice available for export, both for fragrant and lower rice varieties.

Assessment of 4.4.4

- **Realizing the initiative of establishing the Association of Rice Exporting Countries (AREC)**

207. AREC idea was briefly floated in the aftermath of Food Crisis but died out. This type of coalition is quite difficult to set-up and even more difficult to maintain given that each rice exporter country has its own priority and specific strategies.

7 CONCLUSIONS ON THE REVIEW OF THE POLICY

208. Out of the 73 policy measures identified in 2010; 37% were done; 37% partially done; and 22% not done.

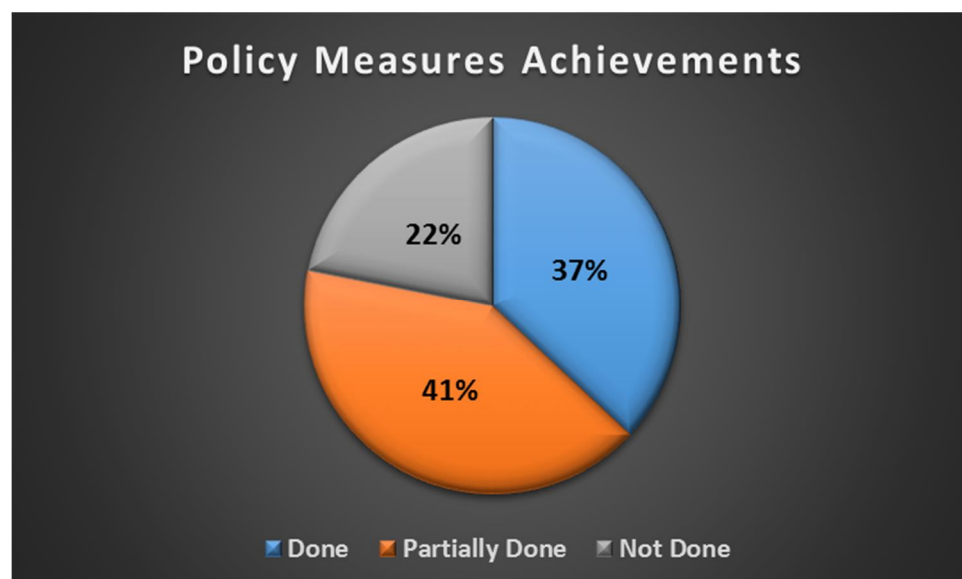


Figure 12 Policy Measures Achievement from 2010 to mid-2016

Table 34 Policy Measures Achievement by Category

	Done	Partially Done	Not Done
Production	37%	44%	19%
Collection and Processing	53%	27%	20%
Logistics	29%	57%	14%
Marketing	30%	20%	50%
Overall	37%	41%	22%

209. **For production, 37% were achieved; 44% partially done; and 19% not done.** Cambodian farmers use more and more inputs and adopted mechanization of farming operations. The Government had invested in irrigation, rural roads and made good progress in providing access to electricity to rural areas. However, **the productivity at the farm level has remained low;** and farmers' organizations such as cooperatives and contract farming are still facing several issues.

210. The policy did not look at the impact of the policy measures on farmers' income and the attractiveness of rice farming. There was limited innovations in rice farming resulting in low efficiency of water irrigation, difficult access to seeds, non-functional contract farming, and lack of effort in promoting sustainability of land use. The public investment in research and extension was low and insufficient to meet the challenge of Cambodia becoming a rice basket and a major exporter of milled rice.

211. Irrigation was often and mostly cited as one huge constraint to rice productivity. However, **the impact of irrigation on productivity and profitability of the rice sector is not yet well established.** There is the need to increase water effectiveness and cost-efficiency.

212. **More than half of the policy measures for Collection and Processing were done; 27% were partially done; and 20% not done.**

213. **In 2015, the major achievement was the creation of the Cambodian Rice Federation**, which is the leading rice industry platform for the private sector to dialogue with the government.

214. There are still diverse opinions such as the **access to finance** for the rice milling industry. There seem to be conflictual perceptions among stakeholders. Producers' perception is that the financial system is biased in favor of millers and exporters. Nonetheless, even with additional access to finance, it is doubtful that supply chain management constraints might be resolved. **There is no clear reference in the policy to supply chain management capacity of the rice milling industry.**

215. **Only one third of the policy measures on logistics were done; 57% were partially done and 14% not done.**

216. **There has been some progress in simplifying export procedures and reducing logistics cost.** However, there is still the need to streamline and clarify the roles and responsibilities of each Government entity to avoid duplication and overlapping of authorities. Cambodia still lags behind competitors in streamlining processes and reducing logistics costs.

217. With funding from donors and the Government, there has been progress on establishing standards and improvement of port and railway infrastructure. However, Cambodia has to make huge effort to reach the level of performance of its main competitors i.e. Thailand and Vietnam. The Government through MAFF is working on setting up its SPS regulations and capacity to improve the regulatory side and capacity.

218. **There were no actions in increasing the number of financing institutions for infrastructure and export – import.** Stakeholders seem to think that better integration with the global financing sector and joint venture with foreign entity having access to cheaper credit could be better alternatives.

219. **For marketing, half of the policy measures were not done; 30% were done and 20% partially done.**

220. There has been some progress on **establishing relations with importing countries. More information is available on rice markets** internationally, but there is not yet a Market Intelligence Unit and a process for dissemination of information. Various entities are collecting and compiling data on rice sector but there is lack of coordination.

221. **There is yet no clear strategic orientation** of Cambodia in international markets penetration. Indeed, CRF is at the beginning of its work and had just produced a draft 5-year plan aiming to boost Cambodian rice export and to ensure sustainability of production.

8 TOWARD A NEW RICE POLICY

222. The Review of the Rice Policy conducted in the previous chapters has highlighted the achievements and the remaining constraints for the rice industry in Cambodia. The Rice Policy has contributed to a general awareness of the sector and raised expectations regarding the key role that Cambodia can play in the global rice trade as a major supplier to rice of high quality. This awareness has been shared by the private milling industry which has emerged over the past 5 years (2010-2015).

223. Even though there is heightened sense of expectations about the key role that Cambodia could play in the global rice trade, there are also considerable concerns regarding the capacity of Cambodia to meet the challenge of becoming a reliable global supplier of rice. Combined with these concerns, there is also considerable diversity of opinion regarding the key strategies that should be pursued to realize a vision of Cambodia as a global rice basket.

224. The lack of a common approach to the interpretation of the issues and strategies to address them indicates the need of formulating a new rice policy that would build on the previous 2010 Paddy Promotion and Rice Export Policy but would incorporate lessons learned in this review and take into account the need for Cambodia to embark on strengthening its competitiveness.

8.1 Principles of the New Rice Policy: Competitiveness and Sustainability

225. The Cambodian rice sector has been successful in generating rice supplies sufficient to meet the food requirements of the country and a surplus for export. The main challenge in the future is to become competitive internationally, while continuing to meet the food security requirements of the nation and providing sufficient incentives to farmers and private enterprises to engage in the sector sustainably.

226. The two key principles of the rice policy are competitiveness and sustainability. Competitiveness will ensure a key presence of Cambodia in the global rice trade. Sustainability will ensure that rice farmers use scarce natural resources (land and water) effectively and efficiently, rice farmers learn to be resilient to climate change, and both rice farmers and rice enterprises (millers, traders, exporters, services providers) make reasonable profits.

227. The competitiveness and sustainability principles of the new Rice Policy should be articulated into a number of specific policy measures and processes. To facilitate the formulation of the new Rice Policy, the following sections discuss six recommendations:

- Learn Everything you can about your **Customers and Competitors**
- Build a **Shared Vision** based on High Quality Fragrant Rice and Increased Value
- Focus not just on yield and production but on **TFP and Innovation**
- Modernize the industry through enhanced **Supply Chain Management**
- Build a **Participatory Platform** for Effective Formulation and Monitoring of Policy
- Translate the Policy into **Harmonized Joint Master Plans** that are adequately funded

8.2 Learn Everything you can about your Customers and Competitors

228. In spite of Cambodia's rice production growth generating an exportable surplus, Cambodia's potential to become a reliable major exporter is limited by low competitiveness. This is the result of various factors (low productivity at the farm level, weak supply chain management, scarce innovation, poor logistics, lack of a brand, bottlenecks in the postharvest system, ...). The consequence of low competitiveness is the low market share of Cambodia in global rice exports.

229. Competitiveness requires strong knowledge of the consumers' preferences. Cambodia needs to gather information through Market Intelligence System (MIS) to improve business decision making. It consists of compiling and analyzing multiple sources of information to create a broad picture of the rice sector existing market, market opportunities, customers, and competition. The analysis of global and regional prices, past and future trends, and market segments is crucial to develop a market penetration strategy.

230. The findings and recommendations from the analysis must be disseminated to all stakeholders. The use of IT-based MIS can bring higher efficiency through cost reduction and improved access to information.

231. In addition to prices, Cambodia needs to continuously adjust its Branding and Marketing Strategies based on the lessons learned and market intelligence. The coordination across different entities from various institutions is required: organizations such as MAFF and MoC already have market information service and CRF is working on setting up marketing units; however, these systems need to be integrated and at the service of the rice industry in Cambodia.

232. The knowledge of customers and competitors would be improved through participation in regional and global trade fairs, exhibitions and event related to rice; and through frequent meetings with clients and competitors. Knowing customers requires not only the direct meeting and contact, but understand their requirements, their constraints, their strengths and weaknesses so that a better service could be provided to them. Similarly, knowing competitors implies understanding their strengths and weaknesses, their time to fulfill orders, their post-sale services, their costs, their strategies, the market segments they serve, so that a superior service delivery could be pursued by Cambodian exporters.

Example of Measures under this Recommendation:

- Establish Rice Market Intelligence Unit integrated with Market Information Services already existing. The Unit will distribute regular market intelligence reports to the members of CRF.
- Conduct and attend trade fairs and exhibitions. Share information about customers and competitors.

8.3 Build a Shared Vision based on High Quality Fragrant Rice and Increased Value

233. The coordination between Government, private sector, farmers, development partners, and potential investors is still weak and constrained by the low development of effective organizations representing their clientele, and a culture of confrontation (eg private sector against the Government, farmers against the private sector, NGOs against government and private sectors) rather than dialogue.

234. Cambodia needs to set a clear vision for the sector. Besides being the major source of food security for the country (something that the rice sector will continue to be in any case), there is the need of having a shared (by government, private sector, and farmers) vision of the role of the Cambodian rice industry globally and regionally. Cambodia's potential of becoming a leading exporter of fragrant rice should be supported. This vision is not in contradiction with the food security function of the rice sector. Cambodia has an abundant supply of rice of different varieties that are suitable and affordable for its own socioeconomically diverse population. MAFF and other ministries have worked for years to ensure food security. However, **the challenge of gaining competitiveness and recognition in global market requires a strategy founded on a clear vision of what is unique of Cambodia.** In other words, do not compete on what is not your comparative advantage (eg low quality rice), but on what (eg quality fragrant rice) you can do better than others.

235. Stakeholders must share and agree on a long-term vision (up to 2030). Existing documents such as the draft Crop Master Plan of MAFF could serve as basis for the discussion. **Cambodia could for instance aim to be one of the three leading exporters of fragrant rice in the global market.** This entails commitment to high quality rice export as the trademark of Cambodia in the global rice industry. The vision should be shared and inspiring to all the key stakeholders involved in its formulation. The vision should also be articulate in such a way that is can be monitored, through indicators that are SMART. Examples of indicators include the value of exports, the value added generated by the industry, the farm income per hectare.

Example of Measures under this Recommendation:

- **Formulate a shared vision for the rice sector encompassing what is unique to Cambodia and a commitment to high quality aromatic rice.**
- **Formulate indicators to monitor progress towards the vision within a long term horizon (up to 2030).**

8.4 Focus not just on yield and production but on TFP and Innovation

236. Cambodia needs to strengthen the research, extension, and education system to promote innovation at all stages of the value chain. The rice sector has grown in the past through a combination of land expansion and yield improvement. Land expansion should not be further pursued. Yield improvement is needed but is not sufficient to achieve increases in income of farmers and competitiveness. The most important improvement should be on total factor productivity growth that creates increasing income for farmers and other actors in the value chain. This requires public and private sector making a determined effort in innovating through more efficient practices at different levels: the farm, the rice mill, the warehouse, the logistic chain, finance instruments, information sharing, branding,

etc. Innovation should be promoted with increased investment by the public and private sector and tax incentives.

237. Cambodia needs to accelerate investment in research, extension and education (REE) systems. Currently, the key factors influencing innovation (research, extension, education) are grossly underfunded. Innovation occurs, but to a very limited extent. Innovation at all stages of the value chain requires the combination of policies, investments, and a culture that stimulates the creativity of stakeholders and the adoption of different ways of doing business. There is a need to promote innovation at all levels (farmers, processors, exporters, financiers, logistic agents, government).

238. At the production stage, the increase of TFP goes through better access to quality seeds, access to extension services, improved quality of inputs, higher productivity and quality of agricultural workers, improved access to water and more efficient irrigation systems. Medium-to-long term strategies focus on improving soil fertility and use of sustainable practices such as conservation agriculture; and higher investment in agriculture research and development. To get the change in TFP, the monitoring system must be able to measure the value of inputs and the value of outputs.

239. At the collection, postharvest and processing stage, increase of TFP requires the modernization of the supply chain i.e better vertical coordination focused on collection of fragrant varieties; establishment of warehouse receipt system; reduction of postharvest losses through improved and more efficient drying and storage facilities; improved grading, standards, and certification of Cambodia rice; and the use of more efficient technologies and practices in rice processing.

240. At the institution level, the support to professional organizations such as the Cambodian Rice Federation and other farmers' association and cooperatives must continue, with focus on the culture of good governance and innovation.

241. Innovation is key to success and sustainability of the rice sector in Cambodia. Increase in the TFP results from the efficiency of innovation and will keep Cambodia ahead of its competitors. One way to promote innovation is to set up special awards based on the quality of innovation proposed by stakeholders. Every year, the Government with close collaboration with CARDI and CRF could announce open competition for innovation and thus reward the best innovation that contributed to the performance of the rice sector in Cambodia. This could be at different level: production, marketing, processing, and export. Similarly, there could be institutionalized agricultural fairs to award the highest performing farmers; for example farmers who have achieved the highest yield of fragrant rice; the farmers who have adopted new varieties; farmers who have adopted new cultivation methods; farmers who have achieved the highest yield per unit of water.

Example of Measures under this Recommendation:

- Provide Tax incentives for organizations who have made investments in research and development
- Increase investment in research organizations (both CARDI and private organizations)

- **Establish Monitoring unit for Total Factor Productivity and Rice Farmers Budgets**
- **Call for Competition for innovations in the rice value chains resulting in improvement in TFP (give very attractive monetary price to the winner of the competition)**
- **Organize yearly Conference to share innovations in the rice supply chain**

8.5 Modernize the Rice Milling Industry through Enhanced Supply Chain Management

242. The key actors in the supply chain who are involved in supply chain management (SCM) are the millers. Millers in Cambodia generally rely on traditional methods of supply chain management, namely a multi-layer systems of suppliers (collectors, small traders, larger traders, smaller mills) who cannot assure the quality, timeliness, and prices that are needed to meet international orders on a consistent and reliable fashion. Contract farming in rice sector is basically absent and the few successful cases in contract farming are only a marginal niche of the overall supply.

243. The new Rice Policy should support the building of a strong capacity of the private sector in supply chain management. In order to gain competitiveness, Cambodia's rice industry needs to acquire a brand as an exporter of high quality fragrant rice (eg Angkor Malis). But this requires the assurance that the appropriate production, procurement, drying, storage, processing, packaging, shipping, and finance needed to fulfil orders timely and consistently over time are all in place. Contract farming is not just an option; it is a must for the effective management of the supply chain in quality aromatic rice. Capacity and systems for effective SCM need to be built and strengthened.

244. A well-designed and functioning SCM should:
- Ensure close and direct linkages between farmers and millers through the use of contracts and vertical integration
 - Design successful contracts based on uniqueness of products and stable relations with farmers and their organizations
 - Use technology in supply chain management including MIS and ERP to integrate procurement, inventories, orders, finance, marketing, and sales
 - Maximize capacity utilization of processing units and storage capacity
 - Reduce logistic costs through electronic processing of export documentation and multi-modal logistics (rail, road, waterways)
 - Build capacity of private sector in SCM and business processes
 - Optimize the time between orders and delivery

Example of Measures under this Recommendation:

- **Establish a program to enhance supply chain management of rice millers and farmers**
- **Support formation of successful contracts between millers and farmer organizations**
- **Benchmark supply chain performance and monitor progress**

8.6 Build a Participatory Platform for Effective Formulation and Monitoring of Policy

245. In spite of rice being the most important agricultural sub-sector, information about the rice sector is fragmented, incomplete, often unreliable, not widely disseminated, and only sporadically analyzed and discussed rigorously. This limits the opportunity of evidence-based policy decisions and the over-reaction to news that are sometimes poorly verified. Currently, policy monitoring and value chain monitoring are done occasionally rather than regularly. This constrains the adoption of timely measures to address policy implementation bottlenecks.

246. The new rice policy requires the establishment of formal platforms to formulate and monitor progress. A steering committee is needed to develop and monitor the vision and goals of the rice policy; provide advice and ensure the delivery of the outcomes; develop and review policies; manage political issues and risks; coordinate with other sectors; arrange funding; and obtain support from and communicate information to stakeholders. An executive committee will serve as the implementer of the rice policy.

247. To ensure regular monitoring and evaluation of policy implementation there is the need to establish a M&E unit that produces regular reports and organizes regular meetings including the industry representatives (farmers, millers, exporters, logistics agents). An independent Review and Evaluation of Policy Implementation could provide unbiased assessment of the policy achievement, and also identify and compile lessons learned and best practices for wider dissemination among stakeholders.

248. Information about production, technology, value chain key indicators, policy, and market intelligence need to be collected, analyzed, and disseminated. The current systems are fragmented and often of limited use to the key actors of the value chain. For instance, CRF should be promoted to be a dialogue platform between private sector, farmers, government, civil society and development partners. Overall, the aim is to establish a culture of dialogue and information sharing rather than confrontation.

249. Targeting the sustainability of the rice sector, the M&E system should regularly assess the share of profit for each group of actors, particularly farmers. Increased and sustainable export results from high volume of production, which in turn will depend on the willingness of farmers to produce more. This will happen only if rice production becomes an attractive investment for farmers; otherwise there will be a shift to more profitable activities. In addition, the aggregated profit of rice production should also be evaluated at the macroeconomic level to understand the overall gains for the sector and for Cambodia overall.

250. Since rice is produced by millions of small farms, the M&E system should monitor and evaluate different farm investment models in order to provide guidance to smallholder farmers regarding their decision on technology adoption and agricultural practices. Different farm typologies exist and each should be provided with the model for optimum use of land, inputs, labor, capital, and for the protection of the Environment. Indeed, this could involve other crops and non-crops activities surrounding rice production to maximize the impact of the investment made by farmers and by the public sector.

Example of Measures under this Recommendation:

- Establish Steering Committee including Government, Private Sector, and Farmer for overall guidance and monitoring of the Rice Policy
- Establish Monitoring and Evaluation Unit for the Rice Policy
- Conduct regular independent policy reviews of the Rice Policy
- Ensure circulation public discussion of the M&E reports and Independent Policy Reviews

8.7 Improve the Rice Value Chain Infrastructure through Cost-effective Investments.

251. Value chain infrastructure includes irrigation and drainage systems, market places, warehouses, transport (roads, rails, water ways, ports), energy, and postharvest systems. A lot of investment has occurred in the past either by the public sector (eg irrigation, energy, and rural roads) or private sector (eg rice processing capacity). An analysis of many of these investments (both public and private) indicate that the actual benefit-cost ratio was low and considerable inefficiencies in the design and implementation of infrastructure investments resulted in considerable waste or in benefits much lower than expected. Given the limited resources available for investment in infrastructure, these inefficiencies should be assessed, lessons learned should be shared widely, and new investments performance enhanced in the future.

252. Given the overwhelming share of irrigation in the rice sector investment by the public sector, it is important to ensure that ongoing and future investments are closely monitored and assessed to improve design, implementation, and maintenance and operations.

Example of Measures under this Recommendation:

- Conduct an assessment of selected investment in rice value chain infrastructure including rural roads, electrification, processing, research, extension, postharvest equipment, warehouses. Draw main lessons learned and circulate widely to ensure future investments benefit-cost ratio is higher.
- Conduct a detailed review of public expenditures in irrigation and drainage to identify lessons for the design and implementation of future investments.
- Design future investment in infrastructure for the rice sector in close consultation with private sector and farmers.
- Promote mechanisms for PPP in investment and responsible participation of farmers and private sector in O&M of rice value chain infrastructure.
- Identify and prioritize rice value chain infrastructure investment for achieving the goals of the Rice Policy.
- Commit resources of public sector, private sector, and farmers to the prioritized investments.

8.8 Translate the Policy into Harmonized Joint Master Plans that are Adequately Funded

253. The new rice policy must be translated into a harmonized action plan among different stakeholders.

254. The master plans must include:

- Realistic budgets with indication of commitment and sources of funding;
- Clearly specified priorities;
- Indicators and targets at different stage of implementation;
- Clearly defined roles and responsibilities of each actor;
- Identified critical conditions for success (eg. Enhanced resilience to climate change; shared participation of the government, private sector, and farmers; funding)

255. The master plan could also include recommendation to focus on specific geographical areas, with clear target of producing specific rice quality. This regional planning approach is close to the “one commune, one product” approach but at higher level. For instance, if the Pursat, Banteay Meanchey or Preah Vihar provinces have the highest comparative advantage in producing Phkar Rumduol, then the budget, services, logistics, and other inputs should be allocated to the province to ensure the highest return to the country. The existence of such critical mass of production within limited geographical areas will make post-production activities more cost-effective: lower cost of transportation, better supply chain management, lower cost of transaction etc; which in turn will attract investors to support the value chain.

Example of Measures under this Recommendation:

- Prepare Master Plans for the Implementation of the Rice Policy
- Ensure coordinate the Master Plan of each agency
- Establish overall Coordination Committee for the preparation and implementation of Master Plans.

9 ANNEX LIST OF MEASURES IN THE RICE POLICY 2010

No.	Code	Policies Measures
	1	PRODUCTION
	1.1.	Increase productivity by using high yield seed and modern farming techniques
1	1.1.1	Facilitate import clearance procedures for rice seeds, fertilizers, agricultural inputs and machinery
2	1.1.2	Continue providing tax incentives to encourage imports of materials and equipment
3	1.1.3	Determine the number of prioritized rice varieties to be promoted and disseminated by the end of 2010
4	1.1.4	Prepare legal framework and mechanism to promote seed production and distribution by the end of 2010
5	1.1.5	Further strengthen and expand the capacity of the CARDI, Agricultural Experiment Station, Agricultural Development Center and Center for Seed Production, Research and Technical Training.
6	1.1.6	Review the framework of agriculture extension
	1.2	Continue to expand irrigation
7	1.2.1	Make full use of the existing water resources
8	1.2.2	Select investment projects that are economically viable
9	1.2.3	Invest in small scale irrigation system to get water from existing dams and major canals to farms
10	1.2.4	Encourage NGOs and charitable person to build small scale irrigation canals
11	1.2.5	Strengthen institutional capacity for maintenance and management of water user community
	1.3	Continue to build and maintain rural roads
12	1.3.1	Further focus on constructing and maintaining rural roads connecting rice production areas to markets
	1.4	Promote micro-credit for agriculture
13	1.4.1	Review measures to facilitate and encourage commercial banks and other finance institutions to provide more credits to farmers
	1.5	Improve productivity and crop intensification
14	1.5.1	Prepare Plan for water resources management for 10-20 years and introduce concrete measures
15	1.5.2	Determine investment in irrigation and water management systems as priority for the government
16	1.5.3	Increase investment to rehabilitate agricultural development stations and centers, and agricultural farms to support research and development, and the transfer technology to support agriculture production.
17	1.5.4	Expand agricultural extension services to commune level
	1.6	Promote implementation of national policy on rural electrification
18	1.6.1	Implement the existing National Policy on Rural Electrification
19	1.6.2	Design a new project as soon as possible to facilitate electricity transmission and distribution to rural areas for pumping water to irrigate agricultural crops
	1.7.	Promote and establish farmer Organizations
20	1.7.1	Prepare plan to support the establishment of Farmers' Organization
21	1.7.2	Strengthen its role in coordination, resolving production issues, needs and the concerns, as well as strengthen the ownership of farmers
22	1.7.3	Strengthen capacity of farmers and agriculture communities in borrowing and effectively utilizing loans from the financial institutions
	1.8.	Promote and encourage the implementation of policy on sustainable use of agriculture land
23	1.8.1	Give high priority to delivering land titles in potential rice production areas
24	1.8.2	Prepare land use zoning and widely disseminate this information to farmers

No.	Code	Policies Measures
25	1.8.3	Draft a Law on Agriculture Land Use and Management aiming at ensuring sustainable and efficient use of agricultural land
26	1.8.4	Conduct national agriculture census once in 10 years. Based on the census results, develop a Land Use Map
27	1.8.5	Draft a Law on Agriculture Community and a sub-degree on contract farming
	2	COLLECT AND PROCESSING
	2.1.	Encourage participation of the private sector in paddy rice processing and milled rice export
28	2.1.1	Continue the implementation of the Investment Law, the Law on Amendment to the Law on Financial Management 2009 and related regulations
29	2.1.2	Improve the legal framework for investment and other related regulations if necessary
	2.2.	Continue financing for paddy-rice collection
30	2.2.1	Recapitalize RDB with an additional amount of 7 million by the end of 2010 or, at the latest, in early 2011
31	2.2.2	Double the capital of ADSF from 18 million USD to 36 million USD, at the latest, in 2011
32	2.2.3	Develop a Credit Guarantee Scheme to guarantee loans from commercial banks to companies and paddy rice collectors at the latest in 2011
33	2.2.4	Set up Risk Sharing Facility to encourage commercial banks to extend loans to agriculture processing activities and small and medium enterprises (SMEs) in general, at the latest in 2011
	2.3.	Provide support and strengthen the Rice Miller Association
34	2.3.1	Provide special treatment to the Rice Miller Association in the same way that it has supported GMAC
	2.4.	Create new financial instruments and leverage mechanism for financing
35	2.4.1	Develop new financing instruments
36	2.4.2	Strengthen the implementation of laws on secured transaction and financial leasing
37	2.4.3	Establish centralized credit information to reduce fear and risks for commercial banks and micro finance institutions.
38	2.4.4	Consider to establish the Agriculture Development Bank (ADB) to support and promote agriculture both in terms of production and processing
	2.5.	Develop Open Paddy Rice market
39	2.5.1	Develop the «Open Paddy Rice Market», which consist of some activities such as contract farming, weighting, drying and paddy-based collateral services to secure loans for its member, high quality seeds and fertilizers in order to produce rice to meet market demand
	2.6.	Reduce electricity price and extend coverage areas
40	2.6.1	Speed up the diversification of power sources in order to lower the costs and expand the coverage to rural areas
41	2.6.2	Take measures to ensure effective and rigorous enforcement of existing laws and regulations to make sure that the supply of power is based on economic efficiency and best practices, at an appropriate tariff
42	2.6.3	EDC should further improve its management
	3	LOGISTICS
	3.1.	Enhance trade facilitation, reduce informal fees and eliminate illegal check points
43	3.1.1	Develop a specific strategy to achieve this objective by defining clear procedures at different steps in processing exports including inspection, document requirements, fees and time required to process export applications
44	3.1.2	Setup clear and publicly transparent division of responsibilities among export regulating ministries/agencies
45	3.1.3	Consider rice export as a top priority in order to reduce to a minimum informal payments and time required to export by extending “special treatment” to rice export in the same way that the garment sector has enjoyed
	3.2.	Implement single-stop service for export processing

No.	Code	Policies Measures
46	3.2.1	Set up a Single Stop Service for export processing and issuing certificates such as those on SPS and fumigation, grading and quality, and quantity and weight, and custom declaration
	3.3.	Address grading and quality standards in compliance with internationally recognized standards
47	3.3.1	Create an independent certifying body or encourage well-known international independent certifying institutions to issue certificates on grading and quality as required by importing countries
48	3.3.2	Define grading and standards of Cambodian rice and work with the private sector to enforce those standards in the rice market
49	3.3.3	Seek technical capacity to achieve those required standards
	3.4.	Encouraging the construction of Phnom Penh Port and bonded warehouse
50	3.4.1	Strengthen the capacity and promote the use of Phnom Penh Port as an exit point
51	3.4.2	Encourage the construction of bonded warehouses in Cambodia to facilitate transportation and distribution
	3.5.	Formulating strategic and legal framework with a special focus on sanitary and phytosanitary (SPS) standards
52	3.5.1	Develop new legislations and regulations which are lacking and amend the existing legal SPS framework and regulations
53	3.5.2	Draft a Law on SPS and related sub-decrees and prakas, and enforce laws and regulations as well as strengthen capacity of officials in charge of this matter
54	3.5.3	Establish and strengthen a sound SPS certification system
55	3.5.4	Strengthen the enforcement laws and regulations
56	3.5.5	Define a common SPS strategy with clear division of responsibilities - strengthen human resource capacity and technical capability of existing laboratories to conduct tests and inspection, as well as enforce SPS measures
57	3.5.6	Strengthen the capacity and infrastructure for SPS inspection
	3.6.	Invest in necessary infrastructure to reduce the costs of export
58	3.6.1	Prepare plan of actions to reduce infrastructure-related costs of export
59	3.6.2	Discuss the concepts of investment projects with bilateral and multilateral partners and/or the private sector to seek additional funds
60	3.6.3	Speeding up the rehabilitation and operationalization of the railway system (Poipet-Phnom Penh and Phnom Penh-Sihanoukville)
61	3.6.4	Accelerate the rehabilitation and development work by collaborating with the concessionaire to enable the earliest start of the railways operation
	3.7.	Make financing easy for export
62	3.7.1	Consider the establishment of the Export-Import Bank (EXIM Bank) to support the export of milled rice and other exports
	3.8.	Make financing easy for infrastructure development
63	3.8.1	Consider the establishment of the Cambodia Development Bank (CDB) to support the development of other physical infrastructure in order to boost economic growth and improve competitiveness of the Cambodian economy
	4	MARKETING
	4.1.	Explore export opportunities in regional and global markets
64	4.1.1	Comprehensive study on Cambodia's potential markets for rice
65	4.1.2	Disseminate the results to wider stakeholders
66	4.1.3	Lead delegations consisting of the representatives of relevant ministries and milled rice exporting companies to negotiate the sale of milled rice to the Philippines, explore opportunities to export milled rice to Malaysia, Indonesia, Brunei, and other potential importing countries in Europe
	4.2.	Establishing a Rice Market Intelligence Unit

No.	Code	Policies Measures
67	4.2.1	Consider options for establishing a Rice Market Intelligence Unit to provide information and analysis on regional and global rice markets
	4.3.	Develop arrangements for information sharing with stakeholders in domestic market
68	4.3.1	Disseminate market information
69	4.3.2	Use the information to prepare a monitoring toolkit covering the process of production, processing, export and trade
	4.4.	Prepare a Strategic Penetration Plan and Cambodia's position to compete in regional and global markets
70	4.4.1	Define its strategic objectives to position Cambodia in the international markets
71	4.4.2	Lead this task by exploring new markets and disseminating market information to rice producers and exporters
72	4.4.3	Carry out negotiations of bilateral agreements with potential rice importing countries
73	4.4.4	Realizing the initiative of establishing the Association of Rice Exporting Countries (AREC)