



# POLICY BRIEF

## Robustness and Resilience of the Cambodian Rice Sector



When promoting Stress Tolerant Rice Varieties go along with building a robust rice sector in Cambodia

This Policy Brief is one of the outputs of the project called “Promoting Stress Tolerant Rice Varieties (STRV) to increase climate resilience in Cambodia”, which is part of the overall work plan of the ASEAN Climate Resilience Network (ASEAN-CRN) in its bid to translate regional agreements into national actions.

The ASEAN-CRN — a platform for promoting climate resiliency through exchange of information, expertise and experiences on climate-smart agriculture amongst ASEAN Member States — is supported by the Forestry and Climate Change Project (FOR-CC) under the ASEAN-German Program on Response to Climate Change (GAP-CC), with funds coming from the BMZ or the German Federal Ministry for Economic Cooperation and Development.

This policy brief aims at presenting key strategic entry points that will support a Cambodian Resilient Rice Sector and align with Cambodia’s National Seed Policy and action plan that was finalized in 2016. The content of this policy brief is mainly derived from the Scoping Study of the Cambodia Rice Seed Sector, commissioned on behalf of the ASEAN-CRN, in 2016<sup>1</sup>. This study complements another component of the project, which was the field testing of the sticky

rice variety called Damnoeb Sabai Mongkul for its acceptability as stress tolerant; and training households on pure seeds productions in cooperation with Cambodian Agricultural Research and Development Institute (CARDI), and the IBIS Rice project of the Wildlife Conservation Society, Cambodia.

### Background

The rice sector in Cambodia has been developing dynamically in recent years and strives to increase professionalism and profitability to meet both the rising domestic and international expectations to excel at these markets. Rice production in Cambodia, largely depending on rainfall for irrigation and based on the investments of smallholder farmers, is extremely vulnerable to the impacts of climate change which poses a major challenge for the future development of the sector.

The main drivers for losses in agriculture are flooding and droughts and contribute to put Cambodia among the 30 countries in the world most vulnerable to climate change. The dependence on a single rice cropping cycle, with only 7% of crop area being irrigated makes this important sector extremely vulnerable to any change in rainfall patterns or climatic events. There is an especially urgent need to disseminate Climate Smart Agriculture (CSA) practices as underlined under its INDCs presented in both COP 21 and 22.

<sup>1</sup> Charlesworth, Philip and Tola, Prom. Scoping Study of the Cambodia Rice Seed Sector. Cambodia Agriculture Research and Development Inc, 2017.

<sup>2</sup> ASEAN Agriculture submission to the 44th Meeting of the Subsidiary Body of the Scientific and Technical Advisory to the UNFCCC mentioned this particular CSA practice.

Stress Tolerant Rice Varieties (STRV), with greater tolerance to biotic and abiotic stresses, are an entry point technology to increase resilience to climate change and are considered of high priority amongst the ASEAN Member States (AMS)<sup>2</sup>. Cambodia, through the participation of the Cambodian Agricultural Research and Development Institute (CARDI), has expressed over the last years their interest in further promoting STRV to strengthen the competitiveness of the rice sector and to increase the resilience of rice farming communities. This strategy aligns with major national agricultural policies, and was identified by key experts and practitioners as one of the most effective and affordable climate smart agriculture practices, according to a national study<sup>3</sup>.

The fundamental thesis of the Scoping Study for the Cambodia Rice Seed Sector is that for the sector to prosper in the long-term, Cambodian farmers need greater access to quality seeds of rice varieties that

### RICE VALUE CHAIN AND CLIMATE CHANGE

- A 5-year rice export target of 1 Million metric ton (MT) was set in 2010. By 2015, 538,000 MT export had been achieved, missing the target but increasing considerably the arguably very low export volumes of 2010.
- The Cambodian market is now heavily focussed on servicing the export market, for which quality is critical. Here the main quality parameters are varietal purity, colour, cleanliness and level of broken rice.
- The main export market for Cambodian rice is the European Union (EU) where it enjoys access free of duties or quotas. Competitiveness will become more crucial in the near future, with countries such as Vietnam also receiving quotas from the EU.
- The Cambodian climate is predicted to become harsher, with higher temperatures, and more intense rain outside the usual monsoon season. The ideal rice growing season is expected to decrease in length. Best practice agronomy along with improved varieties are critical for farmers to maximise their profit from each crop they plant.
- Main value chain constraints remain irrigation, electricity and transport costs, extension services, working capital, and availability of good quality inputs, including seed.
- Lack of trust is one of the major constraints in Cambodian value chains, and leads directly to increased cost.
- These constraints combine to give Cambodia the highest overhead cost and lowest rice yields in the region.
- Farmers employ logical risk-management strategies, developed over generations, that take into account the absence of services such as irrigation, and extension. For the majority of traditional farmers, these strategies lead to low input, non-commercial farms. Those farms are least likely to invest in climate change adapted farming systems.
- The Royal Government of Cambodia (RGC), Ministry of Agriculture, Forestry and Fisheries (MAFF) takes a number of different roles along the rice seed value chain. Some of these roles, like selling certified seed, are left to the private sector in other countries.

<sup>3</sup> CARDI and SEARCA. Cambodia National Study: Promotion of Climate Resilience in Rice and Cassava. GIZ, 2014.

### THE SEED PRODUCTION AND DISTRIBUTION SECTOR

- Considering both environmental and farmer capacity factors, the demand for high quality rice seed is estimated at 20,000 to 30,000 MT of certified seed per year in the medium term.
- Numerous seed producers, of varying quality, are currently generating around 30-40% of this demand. The Cambodian seed company, Agricultural Quality Improvement Program (AQIP) is producing around 10% of this.
- Uncertainty is a major constraint limiting development of the seed industry. Farmers face production uncertainty due to lack of services such as irrigation and extension as well as limited climate information. This limits their willingness to invest in seed and results in uncertainty on the demand of seed for the seed producers hampering their ability to plan production.
- Seed producers' ability to plan their production is further constrained by competition from seed production and distribution programs by the government as well as international development partners. Those projects lead to the establishment of seed producer cooperatives which have often proven not economically viable in the long-term.
- Climatic variability and the resulting changes in demand for seed are another factor of uncertainty that hamper production planning and increase risk of seed producers.
- MAFF is promoting seed production through Farmer Organisations which have close relationships with rice millers, assuming that rice millers and exporters have the highest vested interest in buying the paddy that matches the quality requirements of their export (and local) sales contracts.

meet the market demand and provide them better options in the changing climate ahead. The resulting greater availability of quality paddy would improve millers' efficiency in satisfying both growing domestic and export markets, benefitting the sector as a whole.

However, an estimated 70 percent of rice farms in Cambodia still depend on their own bred seeds, usually of low quality and purity. Only 10 to 20 percent of farmers are purchasing certified seeds. Partly this is due to the limited availability of good quality seed from a well-functioning distribution network where only 30-40 percent of the estimated potential demand are supplied. Moreover, the use of quality seed is also limited due to factors on the demand side. Rice farming in Cambodia is dominated by smallholder farmers who apply traditional practices and are reluctant to make the relatively high investments in quality seed.

The limited use and availability of quality controlled seed has been identified as a major constraint for the development of the Cambodian rice sector, especially in the face of climate change.

Apart from climate change, a top constraint identified was the limited use and availability of quality controlled seed which harm the credibility and the market trust on Cambodian rice. In particular, the study identified



the following key areas for improvement in the seed policy sector:

- *The Cambodian Seed Policy consists of sections dealing with Seed Quality Assurance (QA) as well as Plant Variety Protection (PVP). At the time of writing (2016), regulations have only been developed for the QA part of the policy. These regulations are well developed and comprehensive. The challenge for the seed policy is its implementation.*
- *An estimated 50 new staff will be required to administer the seed policy across the country, plus two new units to be organised in MAFF: the Seed Variety Release Committee, and the Quality Seed Unit.*
- *Under the current conditions, it is argued that the market does not need PVP, considering all the extra overhead cost it would entail.*
- *The Participatory Guarantee System (PGS), which links together local value chain actors in trust networks with a common goal of satisfying the quality requirements of a specific rice market is one good example for a functioning system in absence of government control.*
- *Another example where quality control is managed by the private sector is third-party certification. This approach is burgeoning in part due to the lack of trust by international traders in Cambodia's formal certification systems like CAMCONTROL.*

To address concerns and to maximize STRV introduction and use in Cambodia, the project identified key action-oriented recommendations that will promote a robust and resilient rice sector focusing mainly on STRV seeds availability and dissemination. At present, seed production and trade in Cambodia are still limited and governed by the following laws and regulations:

- *The Law on Seed Management and Plant*

*Breeder's Right (Seed Law): ratified by the Senate in April 2008 to regulate production and trade of seeds, and protect breeders' rights.*

- *Sub-decree 69-Legal Framework for Agricultural Materials and Products Planting Seeds in Trade: to ensure high quality agricultural material inputs such as fertilizers, seeds, pesticides, and feedstuff to enhance agricultural productivity.*
- *Sub-decree 15 on phytosanitary inspection: aims to prevent the introduction of quarantine and dangerous pest into the country through plants or parts of plant, plant products, seed and seed materials.*
- *Sub-decree 118 assigned responsibilities for seed management to the General Directorate of Agriculture (GDA) under the Ministry of Agriculture Forestry and Fisheries (MAFF).*

The Royal Government of Cambodia (RGC) supported by USAID has been undertaking the task to develop a comprehensive policy known as the Cambodia's national seed policy which is about to be signed, it provides the essentials in regards to required statutory/regulatory structure, including the establishment of Seed Management Unit (SMU), National Seed Council (NSC), National Variety Release Committee (NVRC) and Seed Certification and inspection mechanism Authority.

The full enforcement of the future national seed policy is seen as necessary. Regulatory and legal frameworks are only as good as the implementation plans that will be designed for. Cambodia must plan long terms and develop inclusive strategies. This required national commitment and the establishment of platform that will give access to a diverse type of stakeholders in relation of seed rice sector including service/technical providers, donors, (I)NGOs, research centers, financial institutions, civil societies (farmer groups, contractors), private sectors and allow them to connect and build national trust.

The **11 recommendations** identified throughout the project timeline align with this holistic approach and are presented as below:

1. To promote private sector investment and avoid market distortions, the role of the RGC in seed production should be focused on creating an enabling policy environment and promoting good practices along the supply chain.
2. The seed policies and its respective regulations will yield the greatest benefits if they manage to guide and educate the industry about the value of using quality seed. Attempts to use the regulations to control

and seek rents will manifest the status quo of avoidance, false documentation, and informal payments.

3. To maximize the benefits from the new regulations, it is essential to learn from dual systems currently operating in the policy vacuum, like third-party certification and the Participatory Guarantee Systems.
4. The priority to progress developing the regulations for plant variety protection

also needs to be investigated. It must be considered whether the new regulations will be of use and whether the large amount of effort to develop them would be worth it.

5. Gradually reducing the role of MAFF in seed production and distribution could improve certainty for private investors, as the current production of seed by government seed stations is discouraging private investment. This would require a gradual transition from government run seed production to privatization and commercialization.
6. Government resources should be allocated to promote public goods such as variety development, quality control and education.
7. A mechanism to pass market information along the value chain, starting at the export markets, should be introduced to ensure that supply chain actors are better informed about market requirements regarding demanded rice varieties, quality and respective volumes. A central entity like the Cambodian Rice Federation (CRF) could take this role.
8. Local production networks built on trust and appreciation for quality should be promoted. While promising examples of such networks exist, aligning relevant regulations and developing specific guidelines could help to scale-up such models across the country.
9. To address the lack of knowledgeable and experienced personnel in seed production and multiplication public and private actors should invest in the development of human capacities in agronomy, starting in schools, universities and vocational training centres.
10. The use of new technologies (mechanical planters, seed grading equipment) in seed production to increase efficiencies and lower cost should be promoted, for example by improving access to finance or through investment partnerships.
11. Better coordination of development partners is needed to ensure that their interventions are contributing to an aligned, overall development strategy for the Cambodian rice sector.



The Ministry of Agriculture, Forestry and Fisheries (MAFF) plays a lead role in ensuring the inclusion of those recommendations and is working with key partners as USAID, ADB or CAVAC through different simultaneous projects. CRF together with CARDI are suggested as key partners to ensure comprehensive and transparent approaches. The recent creation of the Cambodia Seed Platform demonstrates common interest and willingness of different stakeholders to work together to tackle urgent and transformative issues. STRV has to be integrated and mainstreamed in to those platforms and projects that aim at supporting the rice sector.

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