

Australia's Support to the Cambodian Rice Sector



Rice is the world's largest food staple

When we talk about rice, we use different terms depending on the supply chain stage.

Rice seeds Living seeds that are harvested from a seed production plot or field, properly dried and stored for the next crop.

Qualified seeds are produced by qualified seed producers in accordance with a set of technical guidelines established by seed certification systems such as the Quality Declared Seed (QDS) system.

Paddy Harvested rice is known as “paddy”. Within a few hours of harvesting, the farmer sells the wet paddy to a trader, who then transports and sells it to a processing mill.

Milling The paddy is dried as soon as possible in large mechanical dryers. It is then hulled to remove the husk, the outer layer of each rice grain. Most brown rice is only processed to this stage.

Further processing involves removing the bran layer and whitening and polishing the rice kernels. The grains are then sorted to remove or reduce broken kernels.

Milled rice is generally packed in 50kg jute bags and sold to traders.





Australia's support to the Cambodian rice sector

Australia has provided longstanding support to Cambodia's agriculture sector since the 1960s when it started sending agricultural experts to improve rice-based research. Other key collaborations include the establishment of the Cambodian Agricultural Research and Development Institute (CARDI) in 1999, a strong partnership with the Australian Centre for International Agricultural Research (ACIAR), and the Cambodia-Australia Agricultural Value Chain Program (CAVAC), which concluded in 2022.

In July 2022, the Cambodia Australia Partnership for Resilient Economic Development (CAPRED) was launched as Australia's flagship AUD87 million economic development program. CAPRED aims to support the Royal Government of Cambodia to build sustainable, resilient and inclusive economic growth.



Australia has supported the Cambodian rice industry for over 30 years, including in the development of rice varieties with higher yields. It also aided the establishment of the Quality Declared Seed (QDS) system, which allows farmers to buy rice seeds of a certified standard. Other support includes the introduction of cost-efficient agricultural mechanisation and climate resilient planting methods.

Support began when Australia and the **International Rice Research Institute (IRRI)** began working together in 1963. More than 50 Australian scientists, trustees and consultants have since worked at IRRI to help increase Cambodia's rice production and productivity.

After the considerable social upheaval and food shortages in the late 1970s, when Cambodian farmers had been forced to eat their rice seeds, many traditional rice varieties were lost. Fortunately, IRRI had protected hundreds of varieties in the International Rice Genebank in the Philippines.



The **Cambodia-IRRI-Australia Project (CIAP)** was established in 1987 to develop improved rice varieties for Cambodia. The subsequent development of high-yielding varieties and new technologies saw Cambodia become a rice exporter for the first time ever in 1995.

Under CIAP, Cambodia was able to bring back 766 traditional rice varieties that had been kept safe in IRRI's genebank. When Cambodia celebrated the International Year of Rice in 2004 in Phnom Penh, the Australian Government, the **Cambodian Agricultural Research and Development Institute (CARDI)** and the Food and Agriculture Organization (FAO) of the United Nations, all acknowledged the vital role played by CIAP in helping to save Cambodia's rice industry.





The importance of rice in Cambodia

Rice is so important to Cambodians that even the Khmer language is embedded with the value of the grain. To “eat” translates as “to eat rice” and the kitchen is referred to as “the place where rice is cooked.”

Rice is now one of Cambodia’s major crops and its largest export commodity. Cambodia’s premium fragrant rice, **Phkar Rumduol**, is globally renowned, winning the World’s Best Rice Award five times in 2012, 2013, 2014, 2018 and 2022.

- Cambodia now produces around 10 million metric tonnes of paddy (unmilled) rice annually with the domestic market consuming half.
- Over 600,000 metric tonnes of milled rice, worth more than USD500 million, were exported in 2021.
- Premium fragrant rice is the most popular variety for export markets.
- As of October 2022, China is the largest buyer of Cambodian rice at 44.09 per cent, France at 14.83 per cent, then Malaysia, the Netherlands and Italy.
- In 2021, over 9,400 metric tonnes of Cambodian rice were exported to Australia, or almost 4 per cent of Australia’s imports, down from pre-COVID-19 levels of almost 10 per cent.



ACIAR (1990 – present)

The Australian Government’s specialist agricultural research for development agency is the **Australian Centre for International Agricultural Research** (ACIAR). It has built research partnerships that contribute to improved and sustainable agricultural production, food security and livelihoods in Cambodia since 1990.

With 70 per cent of Cambodians living in rural areas, ACIAR focuses on boosting the incomes of farming communities and promoting the sustainable management of natural resources.

ACIAR also provides post graduate scholarships in Australia to build the capacity of Cambodian researchers. Graduates are generally then connected with ACIAR-funded research projects to support local farmers in the country and region.

In November 2019, ACIAR signed a ten-year agreement to work with the Ministry of Agriculture, Forestry and Fisheries (MAFF) on research in sustainable growth of food security, crop diversification and food safety standards.

ACIAR partnered with the **Cambodia-Australia Agricultural Value Chain Program** (CAVAC) on the introduction of rice seed planters and cost shared the development of hermetic bags to safely store seeds. They also collaborated on the Cambodia Sustainable Intensification and Diversification (CAMSID) projects at the University of Sydney.



CARDI (1999 – present)

IRRI appointed an Australian rice agronomist and anthropologist in the 1980s to identify opportunities to improve rice production in Cambodia. At the time, the national rice yield was less than 1.3 metric tonnes per hectare, the lowest in Asia.

CIAP began a breeding program to develop rice varieties for Cambodia's unique ecosystems. Cambodia's rice-based research capacity in the 1980s was almost non-existent. The partnership with IRRI led to the establishment of the Kampuchea Rice Research and Development Institute (at that time KARRDI). It later became CARDI, a semi-autonomous institute which was formally established in 1999.

Cambodia was able to export rice for the first time in 1995, due in part to the successful introduction of high yielding varieties.

CARDI has since developed over 47 new rice varieties and Australia continues to help them develop and promote new drought resistant rice varieties.

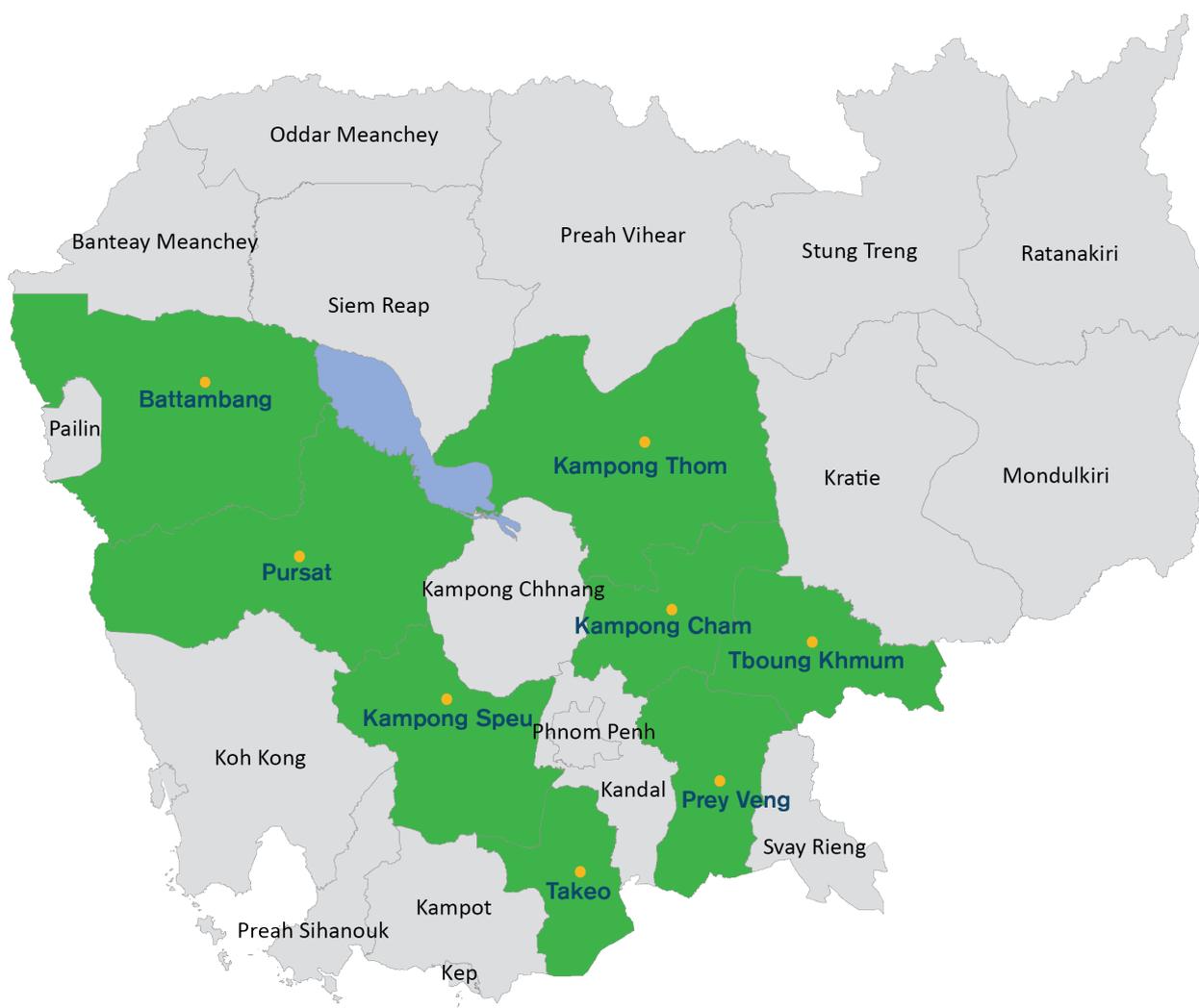
CAVAC (2010 – 2022)

In 2010, the Australian Government established the Cambodia-Australia Agricultural Value Chain Program (CAVAC), signaling a broader vision of Australia's support to Cambodia's agriculture sector. From a rice-based and irrigation service delivery program, CAVAC shifted to a more market driven approach, working with the private sector, business associations and public research institutions.

CAVAC supported CARDI in the development of new and improved rice varieties to meet international market preferences. Through a series of experiments, CARDI selected seeds and plants with the **Cambodian Rice Federation (CRF)** to suit both dry and rainy seasons.

The CRF is a leading organisation in the Cambodian rice industry, representing rice export companies, farmer associations, rice millers and rice logistics companies. It is the main group for promoting Cambodian rice brands to the international market. Between 2010 and 2022, Australia built a strong and productive partnership with the CRF, providing significant support.

In 2017, Australia supported CARDI to expand its crop variety improvements in the provinces of Prey Veng, Kampong Cham, Tboung Khmum, Kampong Thom, Battambang, Pursat, Kampong Speu and Takeo.



Mechanisation to boost productivity

Australian funding has also promoted new technologies including laser land levellers, seed planters and agricultural drones, helping to address labour shortages, reduce production costs and improve yields.

Laser land levelling technology

Three companies were supported by Australian funding to promote laser land levelling in Cambodia. Levelled land produces better yields even in moderate drought conditions. By mid-2022, around 100 laser land levellers had been sold, mostly to service providers. Farmers reported an average yield increase of approximately 1-1.5 tonnes per hectare without extra fertiliser and 40 per cent savings on irrigation costs.





Agricultural drones

With CAVAC support, a local company was able to import and distribute drones from XAG Australia. Agricultural drones help Cambodian farmers address labour shortages, minimise exposure to chemicals, save time and manage pests more effectively.





Seed planters

Machine planted rice receives a more even distribution of sunlight and water, is easier to weed and control pests and can improve yields using fewer seeds. After initial support from Australia to the private sector, affordable seed planters are now being manufactured in Cambodia.



Other Australian support to the private sector

Amru Rice: Amru Rice sought help to promote contract farming in paddy supply and seed production. They needed to buy paddy that complies with Sustainable Rice Platform (SRP) Standards. Australia supported agricultural cooperatives to supply SRP rice, and provided training and technical support on SRP standards to Amru Rice contract farmers.

Cambodia Rice Federation: Australia works with the CRF to develop Cambodian rice branding and promotional videos, and to register brands like Malys Angkor, Sen Kra Ob and Damnoeb Sbai Mongkul (DSMK). The CRF also registered Malys Angkor with the World Intellectual Property Organization and a further 100 countries in 2017 and 2018.



Australia supports the development of new climate resistant varieties

Sen Kra Ob (SKO) is a fragrant rice that can be harvested twice per year. As SKO in Cambodia lacked genetic purity, Australia supported CARDI to develop genetically pure strains and in 2019, a version was officially released as SKO_01.

After the release, Australia funded the General Directorate of Agriculture to run seed production and field demonstrations to raise awareness of SKO_01. This all took place in collaboration with the Provincial Departments of Agriculture, Forestry and Fisheries in nine provinces.

Along with rice variety development and improvement, Australia also supported CARDI to promote existing rice varieties. These include **Phka Mealdei** (PMD) a flood and drought-resistant variety, **CAR15**, for pests and disease resistance, and **Damnoeb Sbai Mongkul**, CARDI's only sticky rice variety. These were then distributed to potential growers in eight provinces.





Launch of Champei Sar 70

Champe Sar 70 (CS70) is a new fragrant rice variety developed by CARDI from 2013 to mid-2022. From 2017, the Australian Government provided support via CAVAC. This variety was developed by breeding the award-winning Phka Rumduol with CNI9024, a rice variety that can be planted and harvested twice a year.

The new variety was proposed to the National Varietal Release Committee (NVRC) for release in the same year (2022) that Cambodia and Australia celebrated their 70th anniversary of diplomatic relations. To mark this, the fragrant rice is named Champei Sar 70.



Looking forward...

The **Cambodia Australia Partnership for Resilient Economic Development (CAPRED)** is Australia's new flagship economic development program. Launched in 2022, CAPRED will continue the Australian Government's successful collaboration in agricultural modernisation.

The program is already working on new climate resistant crop varieties, improved infrastructure, mechanisation and technology, supply chain management, the promotion of good agricultural practices, and value-added rice products.

Australia is a long-term friend to Cambodia, celebrating 70 years of diplomatic relations in 2022, and understands the importance of this essential crop to both the economy and to Cambodians. We look forward to seeing the growth of rice as a valued source of food and export revenue and to continuing our ongoing support to Cambodia's agriculture sector.



At the 2022 Annual General Meeting of the Cambodian Rice Federation in November, His Excellency Dr Aun Pornmoniroth said during his closing remarks:



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I would like to express my gratitude to the Australian Government and people for always supporting the Cambodian rice sector from the 1990s up until the present day.

This support has made the Cambodian rice sector grow remarkably and I encourage the Australian Government to actively continue this support to Cambodia.

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In 2022, Cambodia appointed a new Agriculture Minister, His Excellency Dith Tina, who has committed to boost the use of high-quality rice seeds. H.E Tina encouraged CARDI to partner with the private sector and said he was optimistic that the Institute could develop at least five new rice varieties in the next five years.

CAPRED will continue to help CARDI to modernise the Cambodian rice sector, build private sector links, and support Cambodia to reach its goal of achieving developed country status in 2050, while ensuring growth is inclusive and sustainable.



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www.capred.org

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