

The image features two wooden spoons filled with sesame seeds. The spoon on the left is filled with white sesame seeds, while the spoon on the right is filled with black sesame seeds. The background is a dark, textured surface, possibly a wooden table, with scattered sesame seeds. The text is overlaid on a blue, semi-transparent banner that spans across the middle of the image.

OPEN SESAME:

HOW CMEC IS

EXPANDING

PAKISTAN'S SESAME

EXPORTS TO CHINA

Open sesame: How CMEC is expanding Pakistan's sesame exports to China

Agri-exports to China are an enormous prospect as well as a huge challenge for Pakistan. The agri team of CMEC, one of China's largest conglomerates, evaluated many options and picked sesame as the best option and met with great success. This is the story of how CMEC is creating a breakthrough.

China Machinery Engineering Corporation (CMEC) began its involvement in Pakistan as part of a broader effort to strengthen the economic and strategic ties between the two countries as part of the China-Pakistan Economic Corridor (CPEC) initiative launched in 2013. Facilitated by robust diplomatic relations, CMEC's early projects aimed to address Pakistan's infrastructure needs by leveraging Chinese expertise and investment capabilities. CMEC's role within the CPEC



CMEC sesame model farm visit: sesame under cultivation

framework was primarily focused on energy production and infrastructure development, addressing Pakistan's energy shortages and laying the groundwork for sustained economic growth. Over its decade of operations in the country, the company was quick to identify where else potential existed in Pakistan, particularly in the agriculture sector. Today, in only its second year of exporting sesame, Pakistan is the fifth largest exporter of sesame in the world--a feat that has both surprised and delighted the farming community.

Venturing into the agri-space in Pakistan

Initially, CMEC worked on chilli production with six supply partners which included some multinational companies and leading local companies. The criteria were high standards and high quality, however, the Chinese food industry did not seem to respond too well to red chillies. This coupled with the comparison to other value chains (e.g., wheat with better prices) meant that other export options needed to be explored and sesame was the best choice.

The reasons for this choice had to do with both demand and supply. Sesame enjoys high demand in the Chinese market. Sesame seeds are a fundamental ingredient in Chinese cuisine and are valued for their health-promoting properties in traditional Chinese medicine. The Chinese food industry imports one

million tons of sesame seeds per year--most of it sourced from the African continent. On the supply side, sesame has traditionally been considered a marginal crop in Pakistan but this has begun to change with the opening of exports to China. In 2023, the country produced sesame on about 1.2 million acres (200,000 acres in 2018) with the districts of Sahiwal and Faisalabad leading in numbers. The primary target of CMEC was to export 20,000 tons of sesame, however, had this target been of 40,000 tons even, the company believes it would have managed to accommodate the demand given the response of the local farming community and the production capacity CMEC enjoys. This year, based on seed sales, it is estimated that sesame is being cultivated on 1.9 million acres in Pakistan. CMEC acquired a 20,000 ton sesame production facility in Faisalabad last year and another facility in Sahiwal this year.

Sesame in Pakistan

Pakistan is strategically primed as a sesame producing resource partner for CMEC. Some 85% of the country's sesame is produced in Punjab amounting to a volume north of 400,000 tons. The Sindh province produces 10 to 12% of the country's total sesame volume, while Balochistan exhibits great potential for organic sesame: the region of the Sindh-Punjab-Balochistan border is ideal for the crop's production. In the past year, the country has enjoyed a bumper sesame harvest given the opening of export to China; adequate and well-distributed monsoon rains in the sesame-growing regions of Sindh and Punjab provided the necessary soil moisture for optimal seed germination and growth. In addition to this, Pakistan's relatively close geographical location to China reduces transit time and transportation costs to 10-15 days by sea, making it a convenient and cost-effective supplier of sesame seeds to the Chinese market.

The free trade agreement signed under CPEC greatly increased the volume of exports to China. Under CPEC, the custom duty of 10% previously applied by the Chinese government was waived. Since 2018 the custom duty is 0%. In the first year following this change, some 23,000 tons of sesame was produced in the country. Many local market players did not possess the appetite to absorb such production for processing and export. That is where CMEC stepped in.

Major challenges

Following the floods of 2022, the quality of the sesame crop was negatively impacted resulting in a dwindling of Chinese buyers. The impacted quality also exposed farmers' conventional practices of post-harvest treatment of the sesame seeds—farmers seemed indifferent to the high moisture content, an oversight contributing to a massive waste of the crop's value. Post-harvest losses are a grave concern with sesame production as the primitive practice of conventional threshing poorly impacts the quality of the seed and also results in volume loss. At present, the company has estimated post-harvest losses at about 35-40%, a figure that undermines both quality and sustainability. CMEC plans to introduce new technology for harvesting and threshing of sesame in Pakistan.

A key constraint following the harvest of sesame seeds is the in-land transportation, along with the associated costs and risks of moving large volumes from CMEC's factories in Faisalabad and Sahiwal across the country—a journey that takes about three days on average. The transportation costs are not uniform, which impacts the overall production cost. Additionally, the duration of the trip exposes the produce to various risks, such as climatic disasters, theft, and pilferage. To mitigate these risks, the company is exploring logistical and insurance options.

The Free Fatty Acid (FFA) content of the sesame is a critical quality parameter for sesame seeds, especially in the context of international trade and food safety. For sesame seeds, the acceptable FFA content should usually range between 0.5% to 1.5%. Levels above this range may indicate poor handling, storage conditions, or prolonged exposure to air and moisture. Currently, the FFA levels for Pakistani seeds are around 3%. This figure can be lowered with proper post-harvest handling, including drying the seeds to the appropriate moisture content, storing them in cool and dry conditions, and minimizing exposure to air and light. At present, CMEC is importing machinery to sort, grade, and clean the threshed seeds to ensure minimal adulteration and enhance the quality and marketability thereby strengthening its position as a leading exporter. The importance of reducing post-harvest losses also reveals the appetite in the sesame producing sector for farm mechanization and modern methodologies.

Engaging with local farmers

To overcome these challenges, CMEC actively engaged with local farmers on both sowing and harvesting operations. This endeavour was made possible by partnerships with local institutions, suppliers, capacity building of local farmers: recommending the right seed varieties to the farmers, employing the help of regional technical teams to educate and train farmers, setting up over 15 model farms at partner farmers' locations in Punjab all focused on increasing yields of sesame. As a result of this effort, the sesame yields in the country were doubled: CMEC farmers reported yield of 12-15 maunds per acre this last season, almost double the national average of about 7 maunds per acre. In addition to this, CMEC is planning to introduce a model whereby the company will serve as a service provider, supplying modern machinery to farmers with land of 50-acre plots or more for planting, harvesting, etc., with the understanding that those farmers will prioritize selling their produce to CMEC.

At present, CMEC has been careful to not bound farmers to sell their sesame harvest to them. Unlike existing models of farmer engagements with big private sector corporations, the company's aim was centred on social responsibility and a shared vision to improve growing practices, all predicated on the foundation of the wider partnership between Pakistan and China. This entailed having strong linkages with the local ecosystem of the sesame supply chain, partnering with "aarhtis" and having an equally strong base of a reliable farmers in its supply network. The guiding principles of this engagement were those of transparency and market forces: the company would only buy from farmers when they would be satisfied with the market price based on existing conditions, there were no pre-determined contracts or agreements with farmers fostering a sense of healthy competition and fairness.

The company maintains that the farmers in its network are its top priority. Predominantly, it works with large farmers who manage areas of 2,000 to 3,000 acres per farm. Social responsibility is a significant component of the partnership with farmers in Pakistan: if yields are doubled, the company aims to ensure farmers have security in their relationship with the company. While the company does not participate in binding contracts, it still engages with farmers through its model farms. Here, the local community is educated on the use of fertilizers and innovative farming techniques, all with a focus on international export-oriented production. This is important because, for CMEC purposes, sesame is produced for export, and its price is determined in the international market. In addition to this, the partnerships with local academic institutes as well as Chinese institutions contributes the link to research and development. CMEC in turn contributes to facilitating projects through its equipment such as combined harvesters and drones for sprays.

Competition

While its current model of non-binding relationships with farmers could potentially expose CMEC to uncertainty associated with its supply as well as threats from competitors, the company enjoys the unique position of being the biggest producer of sesame in Pakistan. As the biggest exporter to China, CMEC is also uniquely positioned to cater to the Chinese market due to its strong connections in its home country. An additional factor contributing to the company's secure status is the capital and resources available to the company. Often competitors are unable to compete with the capital-oriented nature of the sesame business, while also struggling with ensuring secure and reliable connections within the Chinese food industry and market—CMEC enjoys both. As a China-based company CMEC has leverage compared to other competitors as new players are not trusted easily. A target of 40,000 tons per year of sesame export is easily achievable for a company like CMEC just in its second year!