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Asia must seize the opportunities in securing its food future

Diversifying protein sources is one way forward

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THE date Oct 16 marks World Food Day, for which the United Nations' (UN) Food and Agriculture Organization (FAO) has this year chosen the theme "Innovate today. Nourish tomorrow." This points to a stark truth: the way we produce protein is colliding with the limits of land, water, climate and public health. Asia sits at the centre of that collision.

In 2025, 645 million people went hungry, 292 million of them in Asia. At the same time, diet-related non-communicable diseases in Asia are peaking.

Yet the system that is failing people is far from lean. Livestock occupies about 77 per cent of the world's farmland but supplies only 18 per cent of its calories and 37 per cent of its protein, indicated online publication *Our World in Data*. The FAO noted that agriculture accounts for around 70 per cent of global freshwater withdrawals.

There is a deep irony at play. While the world embraces electric vehicles, our food system runs on fossil fuels. Research shows that synthetic nitrogen fertiliser supply chains alone produce about 2.1 per cent of global greenhouse gas emissions.

Because fertiliser is made using natural gas, its price moves almost in lockstep with gas markets. Every energy shock hits farm costs and [food prices](#), and many parts of Asia have felt an acute impact.

Meanwhile, roughly one-fifth of food available to consumers, about 1.05 billion tonnes, is wasted each year. Food loss and waste generate 8 to 10 per

cent of global emissions, indicated the UN Environment Programme's (UNEP) *Food Waste Index Report 2024*.

It is a self-perpetuating spiral of decline. Feed crops drive land clearing and biodiversity loss; heat and drought hit crops and herds; intensive animal production concentrates zoonotic disease and antimicrobial resistance risks, keeping billions of animals in conditions few consumers would choose to see.

The costs hit smallholders, workers and low-income households hardest – the very people the system claims to feed.

Even if fossil fuel emissions stopped tomorrow, current food system production would put the Paris Agreement's 1.5 deg C goal (limiting the rise of global temperature by this measure) [out of reach](#).

The solution is to transform the system

Innovation is certainly part of the solution. The question is what we innovate for. Too much capital still flows into technologies that make the existing system faster and cheaper, which in effect buy a few more years for a model that is running out of land, water and climate headroom yet failing to feed those in need.

The opportunity lies not in making foods “high protein” but in diversifying protein sources. Asia is already leading in three important technological areas:

- **Fermentation.** Microbes can produce protein, fats and functional ingredients in tanks, using a fraction of the land needed for conventional farming. China approved its first mycoprotein in 2025, and multinational corporation Angel Yeast opened a plant able to produce 11,000 tonnes of fermentation-derived protein a year, noted the Good Food Institute Asia-Pacific. Yet the region still trails on fermentation patents, which makes this the clearest gap for investors.
- **Cultivated meat.** Singapore gave the world's first approval in 2020. Australia followed in June 2025. The startup Joes Future Food built China's largest cultivated pork facility in December

2025. South Korea currently has the region's most cultivated meat startups, and a new law backs plant-based, fermentation and cultivated foods.

- **Plant proteins.** This is the most mature pillar, but it still needs innovation for better taste, texture, nutrition and price to meet mainstream expectations.

On-ramps to the mainstream market

The winners of the protein transformation will draw consumers on price, taste and convenience. Several on-ramps are already working:

- **Price parity and fortification.** German-owned supermarket chain Lidl has cut plant-based prices to match or undercut animal equivalents in several markets, while fortified plant milks and meats show how nutrition gaps can be closed cost effectively.
- **Blended products.** Lidl Netherlands sells mince made of 60 per cent beef and 40 per cent pea protein, which costs about one-third less than beef mince and carries a 37.5 per cent smaller carbon footprint. Blending reaches meat eaters without asking them to give anything up.
- **Smarter sourcing and menus.** Asia does not need to import a protein culture. Tofu, tempeh, dal, mung bean, chickpea and many other traditional proteins are affordable, familiar and nutritious.
- **Farming that pays twice.** Legumes are inherently climate resilient, and fix their own nitrogen, cutting fertiliser costs and exposure to gas markets. Built into rotations and integrated cropping, they strengthen soils, diversify farm income and build drought resilience, while providing a low-cost, fibre-rich traditional or concentrated protein source.

For banks and investors, these developments represent solid risk management and growth, not charity. The pressures on our food system will only intensify, so governments, companies and financial institutions across Asia are faced with an urgent action checklist.

One, invest now in transformative protein technologies rather than tools that lock in more resource-intensive, high-impact meat.

Two, put protein diversification into transition plans, lending criteria and climate risk scenarios.

Three, back alternative protein innovation and infrastructure, open-access research and development, and shared pilot facilities so the best start-ups or solutions can scale.

Four, fund farmers to upskill or transition to grow food-quality legumes or diversify, so they share the upside rather than carry the cost.

Governments around the world provide around US\$540 billion a year in support to agricultural producers, and 87 per cent of it is price-distorting or harmful to nature and health, finds a joint report by the FAO, the UN Development Programme and the UNEP.

Repurposing even part of that towards sustainable farmers, resilient crops and protein innovation would change the economics overnight, protecting sustainable farmers and the food system.

World Food Day offers the FAO a chance to champion a system that feeds the world, not just the financed few. Innovate today. Nourish tomorrow. The investments we make now will decide whether Asia's food future is a growing risk or its greatest opportunity.

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