



Kheyti helps India's small farmers with its greenhouse-in-a-box | Photo source [The Earthshot Prize](#)

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PROTECTING FARMERS FROM THE EFFECTS OF EXTREME WEATHER

 SPRINGWISE EARTHSHOT

Modular greenhouses protect crops from rain, heat, and pests

Spotted: India is home to 100 million farming families managing small plots of land. For them, extreme weather can be disastrous. And as the climate heats up, the costs associated with mitigating the effects of the elements are increasing. All this means that smallholders have little control over their incomes and are particularly vulnerable to climate change.

What can be done to help these families achieve a dependable income in the midst of a climate crisis? The answer may come in the shape of a 'Greenhouse-in-a-Box'. Created by startup Kheyti, the modular greenhouse design is just half the cost of a regular greenhouse, and takes up only a small fraction of a farmer's land. Kheyti installs the greenhouse for the farmers while also providing bundles of seed and fertiliser.

Installation is not the end of the story, however, as the Greenhouse-in-a-Box is accompanied by a full stack of services that help the farmer get the most out of the technology. Farmers receive mobile technology training and the company's field officers support them with advice. Growing crops in the greenhouse protects them from pests and adverse weather, reducing the environmental risk for farmers.

The startup is working with 1,000 farmers across six Indian states but has set an ambitious target to reach 50,000 farmers by 2027.

Other smart farming innovations spotted by Springwise include [AI-powered indoor farms](#), [greenhouses that produce their own energy](#), and [a vertical farm in disused office space](#).

14th November 2022

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Takeaway:

How can the Greenhouse-in-a-Box help farmers? Most immediately, it provides them with income stability. In fact, Kheyti claims that its solution provides a farm with an additional \$1,200 per year – a 200 per cent increase in income. It also improves farmers' livelihoods by enabling farm workers to swap arduous tasks in the open fields with smarter work in the greenhouse. And it's not just the farmers themselves that benefit – Kheyti's solution also has benefits for food security and the environment. For example, using the greenhouse, small farmers can grow seven times more food with 90 per cent less water.