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**IMPROVING LIVELIHOODS
IN RURAL INDIA**

Innovative and sustainable solutions for farming

IMPROVING LIVELIHOODS IN RURAL INDIA

How **Trupti Jain** and **Biplab Paul** are helping women in some of India's poorest communities.



▲ **Trupti Jain** and ▼ **Biplab Paul** are 2004 Commonwealth Distance Learning Scholars from India – they both studied MA Sustainable Development at Staffordshire University.



In India, over 6.72 million hectares of land is affected by salinity (excess salt content in the soil) and seasonal waterlogging. Nearly 5 million smallholder farmers are affected. An innovative water management system – developed by two Commonwealth Distance Learning Scholars – is now providing a sustainable solution for farming previously uncultivable land.

Bhungroo, which means 'straw' or 'hollow pipe' in Gujarati, is an ingenious handmade pipe that enables excess rainwater to be filtered and stored underground to prevent flash flooding and waterlogging of crops. In drier periods, the collected water can be withdrawn and used to prevent crop failures caused by drought.

Bhungroo is the brainchild of Trupti Jain and Biplab Paul, co-founders and directors of Naireeta Services, a gender-centric social enterprise. Their work is driven by the Gandhian principle of *sarvodaya* – developing all living forms of society – through *antodaya* – uplifting the weakest members of society first. Women play an important role in agriculture in India, but their role and potential is often undervalued, if recognised at all. Analyses of agricultural operations throughout the state of Gujarat reveal that women carry out 50-65% of the work – yet in many cases they do not own land in their own name.

Trupti and Biplab saw the potential of their technology to support female smallholders by empowering them with land rights and sustainable incomes, as well as mitigating the effects of climate change through innovation. Each erected

Bhungroo is jointly owned by five ultra-poor or vulnerable women whose livelihoods depend on farming. Through this group ownership, nearly 3,000 women have been empowered with irrigation water rights, land ownership, and participation in local government. The technology also helps to add significant crop value to local economies which rely on steady crop yields, through reducing salt deposits and increasing soil productivity.

Initially, Bhungroo faced opposition from men who objected to the system supporting women smallholders. Trupti and Biplab also had to contend with challenges from businesses whose vested interests in land-capturing schemes were jeopardised by the technology – without irrigation, agricultural land is of no value. However, through local self-help groups and communal ownership, they were able to overcome these obstacles.

Bhungroo has the potential to ensure food security for millions of people across the world, and Trupti and Biplab are committed to sharing the technology through an open source model and encouraging co-creation models. Naireeta Services has partnered with governments and NGOs across south and southeast Asia – through these partnerships, their technology currently benefits farmers in Bangladesh, Burma/Myanmar, Cambodia, Laos, Pakistan, Sri Lanka, and Vietnam. Further afield, more than 100 ultra-poor women smallholders in Ghana are benefiting from Bhungroo technology, through replication by partner organisations including Feed the Future (the US Government's global hunger and food security initiative).

In 2007, Bhungroo was awarded the World Bank's India Development Marketplace Award for best innovative technology for social inclusion, and in 2014 it secured the UNFCCC's (United Nations Framework Convention on Climate Change) prestigious Momentum for Change Award. In 2017, Trupti received a Cartier Women's Initiative Award for her work.

Looking to the future, Trupti and Biplab hope that the example of Bhungroo will create a new development paradigm – one that is driven and owned by the community, and has women at its centre.

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