



## RESEARCH TEAM

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## IMPACT STORY

### Tracking Adaptation Progress in Agriculture and Food Security Using an AI-powered Satellite Remote Sensing Platform (TAPAS)

*University of Galway*

The TAPAS project is combining AI and satellite imagery to measure how agriculture is adapting to climate stress. This might enable countries to develop evidence-based means of measuring, reporting and verifying climate change adaptation in the agri-food sector. The TAPAS team will develop an AI-based approach that enables the agri-food sector to assess climatic perturbations. The proposed technology will initially focus on characterising climate change in the developing world but will be scalable for implementation globally to support national governments' compliance with the UNFCCC resolutions. By identifying adaptation signals from orbit, and by estimating the improvement in local economic yield, TAPAS contributes towards a more rigorous cost-benefit assessment of such interventions for NGO's and donor organisations ranging from CGIAR, USAID, IrishAid and the World Bank. The ability to use TAPAS to forward-plan effective interventions for given regional contexts significantly enhances the impact of well-costed climate adaptations into the future as stakeholder feedback clearly indicates.

The TAPAS team consists of two working groups, technology development, and stakeholder engagement. Project activities are synchronised across both groups, ensuring that the technical team know the stakeholder defined requirements to guide innovation, and the stakeholder engagement team know the technical constraints and possibilities to guide their interactions with the stakeholder community. The stakeholder team have engaged with multiple research impact partners to explore how best to deploy the TAPAS platform. These discussions have been guided by partner's ongoing intervention/study programmes, their site locations available for us to monitor, and the partner's own specific impact goals.

*"The TAPAS project's activities are almost entirely based around access to freely available earth observation data and the use of opensource software hosted by collaborative cloud infrastructure ensures the work we do is almost entirely reproducible thus ensuring the sustainability of output and long-term impact."*

