

# Climate services to support adaptation and livelihoods

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limate services – the translation, tailoring, packaging and communication of climate data to meet users' needs – play a key role in adaptation to climate change. For farmers, they provide vital information about the onset of

seasons, temperature and rainfall projections, and extreme weather events, as well as longer-term trends they need to understand to plan and adapt.

In ASEAN Member States, where agriculture is highly vulnerable to climate change, governments already recognise the importance of climate services. National meteorological and hydrological institutes provide a growing array of data, disseminated online, on broadcast media and via SMS, and through agricultural extension services and innovative programmes such as farmer field schools. Still, there are significant capacity and resource gaps that need to be filled.

To be effective, climate services must be tailored to users' needs. This requires direct engagement with those users – e.g. farmers – to learn how climate and weather data are relevant to their work, how they make decisions, and how to best deliver information to them. It is also essential to recognise the insights that farmers bring to the table, including traditional ecological knowledge, and incorporate them into adaptation strategies. There is a trend away from top-down delivery of information and towards knowledge co-production, which also helps build farmers' capacities and helps ensure that climate services have long-lasting benefits.

In this context, ensuring equity and inclusion requires paying attention to the differentiated needs of men and women, Indigenous Peoples, ethnic minorities, and other groups. It is not enough to tailor climate services to a specific context. Within a single community, perspectives

on climate risks, information needs, preferences for how to receive climate information, and capacities to use it may vary, even just reflecting the different roles that men and women may play in agriculture.

Delivering high-quality climate services to all who need them is a significant challenge. There are gaps in the capacity of meteorological institutions to provide the data that farmers need. Common issues include insufficient weather station coverage, inconsistent observations,



Farmers listened to a lecture by Meteorological, Climatological, and Geophysical Agency (BMKG) during one of the climate field schools in Bali, Indonesia.  
Photo: su-re.co (Sustainability and Resilience Company)

inadequate facilities and equipment, and a need for more personnel and training. Tailoring climate services to specific contexts and user needs is also costly and labour-intensive. Addressing these challenges requires collaboration among government agencies, research institutions, extension workers, civil society, the private sector and farmers themselves.

ASEAN Member States have embraced the development and use of climate services, including them in regional guidelines for climate-smart agriculture, for example, and engaging in a global network of Regional Climate Outlook Forums through the ASEAN Specialised Meteorological Centre (ASMC).

### Insights for policy-makers, donors and project implementers

Given the increasing climate-related challenges facing countries in Southeast Asia, access to timely, reliable and actionable climate information is crucial to farmers' success and to their ability to adapt to climate change in the long term. The good news for ASEAN is that significant efforts to deliver high-quality, tailored climate services to agricultural communities are already under way, and many people have given a great deal of thought to what is needed in the region.

Priorities for policy-makers include explicitly incorporating climate services in National Adaptation Plans (NAPs); increasing budgetary support for climate services, in line with national adaptation priorities; and increasing collaboration between government ministries, local

government units and other stakeholders to identify information needs and embed climate services in sectoral and local programmes. It is also crucial to track progress on existing action plans to deliver climate services for agriculture and assess outcomes.

Resource and capacity gaps in key institutions need to be addressed. This includes investments to expand networks of weather stations and ensure that national meteorological and hydrological institutes have the equipment and training they need, as well as capacity-building of both institute and agricultural extension programme staff to learn how to deliver effective climate services to farmers.

Promising models, such as climate field schools and climate services built around knowledge co-production, need to be scaled up, with appropriate resources. Climate information should also be delivered through a wide array of channels, including mobile phones and the internet. This, in turn, requires improving internet access in rural communities. It is also crucial to translate information into local languages, including scientific and technical terms, and use visual communication and audio programming to help bridge literacy gaps.

All climate services should be tailored to the needs of their target users, accounting for gender, class, ethnic minorities and other factors to ensure equity and inclusion. Climate service providers and policy-makers must also work with traditional ecological knowledge holders and practitioners and ensure their knowledge is harnessed for climate change adaptation and disaster resilience, and is not displaced by conventional climate services.

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*For a more comprehensive overview of climate services and its role in supporting adaptation and livelihoods, as well as considerations for equity and inclusion, **please consult the full version** of this Insight Brief. This Insight Brief is part of a series prepared by the Stockholm Environment Institute on behalf of the Climate-Smart Land Use (CSLU) in ASEAN project. **All briefs are available at <https://asean-crn.org/overview/publications/study-and-policy/>**. This digest is written by Marion Davis based on Anschell, N., Salamanca, A. and Davis, M (2021) *Climate Services to Support Adaptation and Livelihoods, ASEAN Climate-Smart Land Use Insight Brief 3*. Jakarta: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).*

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