

Fact Sheet 8 Traditional and Modern Flood and Weather Forecasting

by JUDITH EHLERT

Flood and weather forecasting were investigated as part of the research on living with flooding. This study showed the following results.

Being a traditional rice cultivating area, farmers' environmental knowledge on flood and weather patterns has developed out of the necessity to organise agricultural production efficiently. The cultivation of floating rice species, for example, was well adapted to the annual flood, since the rice stalk grew high enough and in tune with the levels of rising water. Agricultural production was first and foremost dependent on the weather.



Source: www.scientificillustrator.com/illustration/insect

Farmers strongly relied on their own ability to 'read' the daily and seasonal weather changes in order to reduce the risk of agricultural loss. They inferred the weather from the behaviour of certain animals or insects, from the growing characteristics of plants, from the positions of the moon and stars or by looking at the clouds and the sky.

A whole set of traditional forecast indicators developed on the basis of the farmers' long-term experiences and the close observation of their natural environment. The table to the right presents a small selection of the rich prac-

tical weather knowledge that is most commonly captured in local sayings and songs. The indicators differ according to the time-scope – from daily rain and wind forecasts to seasonal flood predictions.

Traditional Forecast Indicators (examples)

Indicator	Description	Prediction
Insects	'Dragonflies fly high in case of a sunny sky, fly low in case of rain and in average altitude when it is cloudy'	Daily forecast (considered reliable)
Clouds & sky	'Chicken-fatted clouds mean wind, dog-fatted clouds mean rain'	Daily forecast (considered reliable)
Moon & stars	Fill a plastic bottle with river water a few hours before 'Tet' (second new Moon after the winter solstice) and weigh the bottle. At the same time of the New Years Day use the same bottle, fill it with river water and weigh it again. If the bottle turns out be heavier after New Year, the following flood will be higher than the previous	Seasonal flood forecast (considered unreliable)
Plants	'Co Tay', a special kind of grass, grows alongside the channel edges. When the top of the grass suddenly grows high, a high flood level can be expected for the upcoming flood season	Seasonal flood forecast (considered unreliable)

Table: Judith Ehlert

However, flood and weather patterns are increasingly changing and as a consequence putting traditional forecast practices to the test. According to farmers and fishermen alike, the former clear-cut distinction between the wet and the dry season has become more and more unreliable due to increasingly irregular precipitation. They are further aware of a growing frequency of storms hitting the delta. Besides changing rain patterns, human interference into the natural environment is held responsible for the

changing local flood characteristics. In this man-made environment, which is characterised by the construction of dams and dikes for flood control, intensive irrigation or hydropower, their traditional methods are failing to predict floods. Local flooding is now less determined by nature than by controlled water release and withdrawal from upstream river stretches, rendering the traditional ways of 'foreseeing' the flood unreliable and the passing down of these ancient skills redundant.

Public Forecast



Photograph: Simon Benedikter (2011)

Instead, the farmers trust in the accuracy of science-based weather forecasting. Nowadays, the rural population receives medium- and long-term flood and weather information from local agricultural offices or from the broadcasts on radio and TV. Flood forecasts that exceed alert levels are passed from the regional hydrometeorological centres and local weather stations to the provincial Committees of Flood and Storm Control. The latter spread the flood and storm warnings through vastly developed mass

media in Vietnam. It is estimated that about 13 million of the 16 million homes in Vietnam have access to broadcast programmes.

Further, local radio stations broadcast the news twice a day through fixed and mobile loudspeakers or radio.

While the rural population has more confidence in the modern way of flood forecasting, traditional weather indicators are still used for organising daily agricultural work routines, especially for post-harvesting activities. The movements of clouds and the flying patterns of dragonflies remain the most important and trusted signs announcing short-term, upcoming weather fronts.

Some farmers' knowledge on flood and weather prediction is being lost. At the same time, accessibility, dependency and trust in modern weather forecast is growing; rural society manages to combine it efficiently with their weather experience, which is tailored to the very local scale of the natural environment.

Modern meteorology in Vietnam gains in accuracy due to better technological equipment and satellite observation. Meanwhile, the country pursues its effort towards becoming an industrialised country. In the long-run, traditional weather knowledge will become less relevant for the growing urban lifestyle and off-farm job opportunities in the delta.

Further Reading

EHLERT, J. (2011): *Living with Flood: Local Knowledge in the Mekong Delta, Vietnam*. Lit Verlag. (forthcoming)

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