

# PROGRESS IN RESTORING COASTAL AGRICULTURE

Crop failures on tsunami-affected agricultural land in Aceh, Indonesia, spurs ACIAR to get Indonesian and Australian scientists to work together to help Acehnese farmers rehabilitate their land

BY GAVIN TINNING\*

The 2004 tsunami saw the low-lying agricultural land of Indonesia's Nanggroe Aceh Darussalam (Aceh) Province inundated with seawater, sand and mud. The seawater raised soil salinity levels and the sediment filled in irrigation and drainage channels, making food production difficult for local farmers. To return the land to sustainable agricultural production, ACIAR provided scientific support to help smallholders remediate their land.

With ACIAR support, the NSW Department of Primary Industries (DPI) and Indonesian Ministry of Agriculture have been working with Aceh's agricultural extension staff and coastal farmers to restore annual cropping on 40,000 hectares of formerly productive farmland.

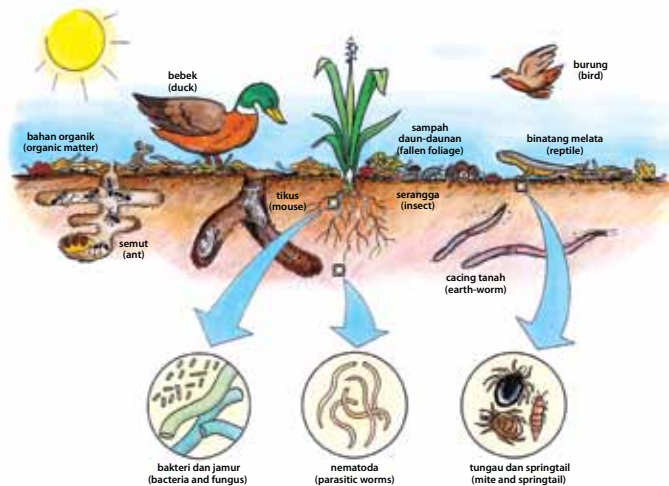
The work is part of a cluster of ACIAR-funded projects that have been addressing the problems caused to agriculture and fisheries by the tsunami.

To address crop failure and low yields, the project developed and demonstrated to farmers viable onsite soil-management practices to restore food production. The demonstration of successful cropping was one of the most important steps in convincing farmers that their land could be productive again.

## PRACTICAL OUTCOMES

When the project began, team members found very little information on how to rehabilitate tsunami-affected land. As a result they have developed a practical guide for governments, non-government organisations and communities that may in future have to respond to a tsunami event or major storm surge that inundates coastal areas with seawater.

*A practical guide to restoring agriculture after a tsunami*, is one of the major outputs of the project. It outlines the main issues that confronted agricultural communities after the tsunami in Aceh and how these were assessed and managed. Chapters included in the guide cover repairing the drainage and irrigation structure, managing the range of different sediment types deposited by the tsunami, soil salinity, restoring farming and capacity building. The guide is currently only available on the internet in English.



A page from the soil biology booklet illustrating the diversity of organisms that contribute to soil biology.

For more information on the soil biology booklet please contact Rebecca Lines-Kelly, [rebecca.lines-kelly@dpi.nsw.gov.au](mailto:rebecca.lines-kelly@dpi.nsw.gov.au), 02 6626 1319, or download the booklet (from July onwards) from [www.dpi.nsw.gov.au/research/projects/06P302](http://www.dpi.nsw.gov.au/research/projects/06P302)



Farmers and extension staff in Aceh discuss an early draft of the soil biology booklet.

PARTNER COUNTRY: Indonesia

PROJECT DESCRIPTIONS:

SMCN/2005/118: Restoration of annual cropping in tsunami-affected areas of Nanggroe Aceh Darussalam Province, Indonesia; SMCN/2005/075: Integrated soil and crop management for rehabilitation of vegetable production in the tsunami-affected areas of Nanggroe Aceh Darussalam Province, Indonesia

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In developing the guide the project team worked with Acehnese farmers to obtain detailed information about the effects of salt water and sediment on their fields and the physical destruction caused by the tsunami.

Conversely, farmers participating in field meetings were particularly interested in understanding the biology of their soils. This interest also prompted the NSW DPI together with Indonesian project partners to develop a soil biology booklet in Bahasa Indonesian (the national language of Indonesia). Early drafts were well received by farmers as the booklet illustrated the interaction of organisms and provided advice on how to improve the health of an agricultural soil. Farmers contributed greatly to the

development of the booklet, identifying the type of information that could help them improve their soils and providing descriptions of insects and other organisms present in their soils.

Copies of the soil biology booklet will be distributed to district extension staff in Aceh as a teaching tool and it will be available on the NSW DPI Aceh project website ([www.dpi.nsw.gov.au/research/projects/06P302](http://www.dpi.nsw.gov.au/research/projects/06P302)) from July. The English-language guide, *A practical guide to restoring agriculture after a tsunami*, can be downloaded now from this website. ■

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