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# nautique

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## **IRISH EYES 'R' SMILING**

Be charmed by Dublin's citylife

## **COAST TO COAST**

World's top 10 coastal stunners

## **19<sup>TH</sup> SINGAPORE STRAITS REGATTA**

Report and pictures inside!





Made Sudana transports fodder tree seedlings from the nursery

# Conservation "By Land & By Sea"

More needs to be done to avoid the environmental catastrophe that the world is heading towards. Sally Silverstone, Director of Agriculture and Forestry, Biosphere Foundation, shares with us new and improved methods to save the earth.

In face of a global ecological crisis, Biosphere Foundation (BF) is pioneering a multi-faceted approach to conservation at its project in North West (NW) Bali for both the land and sea. Working with "Friends of Menjangan," a community association formed to protect the Menjangan Island coral reef and surrounding Bali Barat National Park wilderness area, BF has moved from the reefs onto land.

NW Bali is often referred to as "the other side of Bali." Faced with a hot dry climate for eight or nine months of the year, parched bare fields are a common sight. This is a stark contrast to the lush green rice terraces so often associated with this lovely island. Farmers struggle to grow one main crop a year, mostly maize with either chilli or peanuts, depending on an unreliable and short rainy season.

Realising that we cannot ask the local population to reduce their fishing activities or stop foraging in the national forest for animal fodder without providing alternative resources, BF has been working with the Indonesian Institute of Science (LIPI) to improve the economic situation of farmers.

Our first project improved food production on small farms by maximising the use of limited water supplies. In March 2012, we worked with several farms to install a low cost, low pressure, low maintenance drip irrigation system. Used in combination with heavy mulching of the soil, we showed that farmers who had at least a small amount of water at their disposal could grow a second healthy crop well into the dry season.

Improving soil fertility and protecting crops from harmful insects have been our second priority. Chemical fertilisers and

pesticides wash down into the oceans and are major pollutants for the offshore coral reefs. Fixing nitrogen from the atmosphere, using green cropping techniques, can improve the soil in a sustainable, non-polluting way. Thus, our agriculture team is testing intercropping with green crops, to find the best candidates for use in this area. Additionally, effective insecticides can be made using locally available materials that do not pollute the environment or poison the farmers. So we are helping the farmers learn how to manufacture these insecticides themselves.

I have just returned in the New Year, having initiated a third project: To set up a 2,000sqm agroforestry research and demonstration plot in one of the villages close to the national forest. This plot will be used to test new fodder plant species and drought resistant fodder grasses, and improve open-pollinated maize varieties.

With a growing human population and the unpredictable effects of climate change, any measures we can take to increase sustainable agricultural production will help the local people as well as protect the beautiful marine and terrestrial wildlife – an initiative requiring effort by land and by sea.

[www.biosfirindonesia.org](http://www.biosfirindonesia.org)



The agriculture team installs low pressure, bucket-fed, drip irrigation systems



Farmers learn about using sunhemp and velvet bean as green crops



LIPI scientist Albertus Wawo teaches farmers how to keep crop growth records



NW Bali's marine systems need help both by land and by sea