



Showcase Project

Safeguarding Pacific Island taro
– an important Pacific Island root crop

Nine blight-resistant taro cultivars have been produced and released to farmers for field trials.

Taro is one of the major food crops of the Pacific Islands. It has developed significant genetic diversity but since the arrival of taro leaf blight disease in the region earlier last century, there has been considerable genetic erosion and decline in production. Taro not only brings in export earnings to Pacific Island countries, notably Fiji Islands, Samoa and Tonga, but it also contributes to sustained food security in the domestic market. This important root crop is, however, under threat from two serious diseases currently prevalent in the Pacific. One of the diseases, taro leaf blight, attacks and destroys the leaves, killing the plant. The other disease, taro beetle, attacks the tuber (root). Both of these diseases have been responsible for the destruction of taro in many island countries during the past decade. Most recently, leaf blight devastated taro in the Samoan islands and continues to pose a constant threat to other countries in the region that are



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still free from the disease. Taro beetle has infested and destroyed taro in Papua New Guinea, Solomon Islands, Vanuatu, with pockets of infestation also occurring in Fiji Islands.

Taro leaf blight outbreaks in Samoa, and continued taro beetle infestation in other countries, provided a timely reminder of the urgent need to find sustainable measures to manage the diseases and address their increasing threat to food security, economic potential and further genetic erosion. Responding to these threats, the European Union supported a taro beetle biocontrol research project over the past few years aimed at identifying biocontrol agents that could be used to eradicate taro beetle. ACIAR has now taken over the field application of this research in collaboration with SPC.

AusAID, through the establishment of the Taro Genetic Resources Conservation and Utilisation (TaroGen) Project, is helping to address the issue of taro leaf blight. This project, aimed at producing leaf blight-resistant taro, will assist farmers in improving food security and rural incomes in Pacific Island countries, and will help revive export market potentials of taro in some countries. Over the past three years, the TaroGen Project has been a success story. Some of the keys to this success include:

- committed work with national partners to support taro breeding programmes in Papua New Guinea and Samoa. The National Agricultural Research Institute in PNG and the Ministry of Agriculture, Fisheries, Forests and Meteorology in Samoa, have thus far released nine new leaf blight-resistant taro cultivars to farmers. This is an exceptional achievement, in such a short period of time, for a research project;
- implementing innovative approaches to plant breeding such as the Taro Improvement Programme and the Taro Breeders Club based at USP's Alafua campus in Apia. These approaches involve collaborative student and farmer participation in the evaluation of new breeding lines;
- organising successful taro diversity fairs to increase community awareness about improved taro and the benefits of taro diversity;
- contributing to the establishment of the Regional Germplasm Centre. A core collection representing about 90% of the taro diversity from the region will be conserved at the centre;
- pioneering innovative approaches to taro conservation such as cryopreservation and on-farm conservation that will ensure taro diversity is available for the benefit of future generations of Pacific Islanders and will contribute to sustaining low-input traditional farming systems minimising environmental degradation;



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- strengthening the capacities of national programmes in PNG and Samoa to manage taro-related activities, and improving the linkages between researchers, extensionists and farmers. This has improved their capacity to service rural communities;
- working with grassroots organisations, such as the planting materials network in Solomon Islands, to overcome problems that arise due to political unrest and to ensure communities still benefit from project activities; and
- highlighting the benefits of a well-organised collaborative partnership of international, regional and national government and non-governmental organisations addressing a major food security threat through exchange of information, expertise and germplasm that would be well beyond the capacity of any individual country.



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In its short, three-year lifespan, the TaroGen Project has made significant progress towards improving food security in the region. Farmers now have access to leaf blight-resistant taro cultivars. Availability of resistant taro in countries such as Fiji Islands and Vanuatu will help minimise the impact of leaf blight disease if, and when, it arrives. The project has also helped to create income-generating opportunities for women and men in the region and build effective partnerships and networks. At the tuber root end, there has also been some success in the fight against taro beetle. These achievements provide a perfect example of how donor funds can make important and sustained impacts in the livelihood of Pacific Island peoples.

The TaroGen Project is funded by the Australian government through AusAID and is implemented by SPC in collaboration with ACIL (first three years), IPGRI, the National Agriculture Research Institute (NARI) in Papua New Guinea, and the University of the South Pacific (USP) in Samoa. TaroGen has a network of Pacific Island countries, universities and research institutions and regional and international organisations.

The Taro Beetle Project was previously funded by the European Union and is now funded by ACIAR and implemented by SPC.

