PARTICIPATING ORGANISATIONS

The project is coordinated by the Regional Institute of Studies on Toxic Substances (IRET), based at Costa Rica’s National University (UNA). IRET has over 30 years’ experience in research, training and policy advocacy in pesticide health and environmental problems and serves as a WHO Collaborating Centre on Occupational and Environmental Epidemiology and Toxicology. IRET staff have detailed knowledge on pesticide risks and impacts in the Central American context. Its Pesticide Diagnostics & Alternatives team maintains a pesticide database and researchers are safe and sustainable alternatives to agriculture and forestry. [http://www.iret.una.ac.cr/index.php/area-de-diagnostico]

Pesticide Action Network (PAN) UK and Costa Rica’s Ministry of Environment & Energy (MINAE) www.minae.go.cr is the national SAICM focal point. The Ministry will play a key role in capacity building and stakeholder collaboration to strengthen national chemical management and implement the BRs Conventions and the FAO/WHO initiative on Highly Hazardous Pesticides.

Activities will involve smallholder farmer organisations, commercial grower associations and individual estates, farm worker unions and NGOs. Certified private standards play an important role in influencing pesticide practices and the project has support from the Sustainable Agriculture Network (SAN) of the Rainforest Alliance http://san.ag/web/ and from the 4C Association, the entry-level standard for mainstream coffee production [www.4c-coffeeassociation.org]

Pesticide use issues in Costa Rica

Costa Rica has one of the highest intensities of pesticide use in the world. Importation of pesticides has increased much more steeply than the area devoted to agriculture, rising from 8.2 kg active ingredients per hectare in 1977 to 25.8 kg/ha in 2006.

Pesticide use is particularly high on important export crops, e.g. banana, pineapple, melon, coffee, which generate significant foreign exchange and jobs. Banana plantations use around 49kg/ha, pineapple 30kg and coffee 4kg/ha per season. Much of the production is on large estates but there are also small and medium farms involved. Areas cultivated are increasing rapidly - from 2000 to 2009, pineapple cultivation trebled, to reach 40,000 ha.

Many of the pesticides in use are highly hazardous in terms of acute toxicity, chronic health risk and/or environmental contamination. The fungicide mancozeb forms the highest volume of imports and is used intensively in banana and pineapple cultivation, sometimes via aerial spraying. Biomonitoring studies have found that tissues of children living close to banana plantations are contaminated with 2-3 times the levels of chlorpyrifos and mancozeb metabolites than children close to organic farms.

Serious contamination levels of bromacil, diuron and diatation have been documented in water courses, groundwater and wells. Bromacil use in pineapple has led to residues in water sources 20 times higher than EU permitted levels for drinking water. Pesticide spray drift or run-off into watercourses has triggered numerous mass kills of fish and other aquatic life. Some plantations have been associated with overspraying, drift and contamination of neighbouring villages, crops and livestock, with incidents of non-compliance with national laws on buffer zones and other risk mitigation measures.

Farmworker exposure concerns include handling of chlorpyrifos-impregnated covers for bananas, dermal exposure to fungicides in fruit packing plants and weak compliance with occupational Health & Safety norms. Smallholder farmers growing export and basic food crops face different exposure risks, related to knapsack and motorised spraying with inadequate PPE and poor understanding of acute and chronic health hazards.

National statistics from 2008 revealed an average of 100 fatal poisonings per year, with methomyl causing the highest frequency, followed by paraquat and terbufos. Acute poisonings documented over 200 acute cases each year. Costa Rica has introduced legislation to try and put stricter controls on pesticide distribution and use. For example, in 2008 tougher restrictions were imposed on paraquat, following official recognition of its high risk of occupational and accidental health effects, notably via dermal exposure in workers. All aerial spraying for this herbicide is now banned and paraquat products can only be purchased via professional ‘prescription’. Despite these efforts, acute and chronic ill health continues, linked to inappropriate handling of HHPs.

Highly Hazardous Pesticides phase out and alternatives in Costa Rica

Strategic Approach to International Chemicals Management (SAICM)

Regional Institute of Studies on Toxic Substances (IRET)

This leaflet introduces the background to the Costa Rica SAICM Quick Start Project, the objectives and organisations involved.

The project directly addresses the serious problems caused by hazardous pesticide use and risky practices in Costa Rica. Activities during 2015-2017 will explore aspects of inadequate management of pesticides throughout the lifecycle from import, regulation, to distribution, use and disposal of waste and empty containers. The focus is on capacity building of a range of key stakeholders including: decision makers in government agencies and in the agricultural sector, farmers cultivating at small, medium and large scales and civil society organisations. Safer alternatives based on Integrated Pest Management (IPM) will be explored for selected HHPs prioritised at national level.
Ecologically-based methods for phasing out priority HHPs

The project will run field trials on phasing out specific HHPs in selected crops and phasing in safer and more sustainable alternatives methods for managing the pests, diseases or weeds targeted by those HHPs. The priorities may include:

- **Paraquat** for weed control in coffee and for destroying pineapple crop residues (which provide breeding grounds for the stable fly which attacks livestock)
- **Endosulfan** for control of Coffee Berry Borer, for which Costa Rica has derogated phase out by 2017

Potential priority HHPs such as the insecticide *chlorpyrifos* and several fungicides linked to chronic health effects.

For endosulfan, PAN UK has compiled useful lessons from farmer experiences in other Central American countries on Growing Coffee without Endosulfan, via a recent collaborative project with FAO and the Rotterdam Convention Secretariat. IRET is investigating alternatives to paraquat for destroying pineapple foliage, using micro-organisms to break down the foliage.

For risk reduction methods, survey work has identified smallholder needs for safe disposal of knapsack sprayer washing and leftover solution.

The project will test mini ‘biobeds’ using barrels filled with decomposing plant matter enhanced with microorganisms, to mimic the effect of reedbeds in degrading chemical contamination.