



## Monitoring impacts of urban and peri-urban agriculture and forestry on climate change adaptation and mitigation

[Translate]

Urban and Peri-urban Agriculture and Forestry (UPAF) was recognized at the 2009 International Tripartite Conference on Urban Challenges and Poverty Reduction in ACP countries as having high potential for improving the urban environment and urban adaptation to climate change. UPAF is often credited with providing a series of benefits, such as:

- Reducing "food miles" by producing fresh food close to urban markets
- Reducing fertilizer use and energy consumption by productive re-use of urban organic wastes
- Recycling wastewater and freeing up water for other uses
- Enhancing rainwater infiltration
- Reducing the urban heat island effect by increasing the surface of green areas
- Enhancing carbon sequestration (urban forests)
- Providing better diets, urban food security, jobs and income

However, for UPAF to be promoted as an effective component of climate compatible development strategies and plans, and for it to benefit from climate change financing, there is a need for greater empirical evidence and quantification of these benefits.

This CDKN-supported project consists of a multi-partner alliance, including northern and southern research institutions and content experts, decision-makers and international organisations and networks. Together, they aim to jointly design and test indicators and tools to measure the various impacts of climate change mitigation, adaptation and other developmental co-benefits of Urban and Peri-urban Agriculture and Forestry.

The first phase of the project involved multi-stakeholder engagement, policy-research dialogue, exchange and learning with key research organisations and international organisations from Kenya, India, Ghana, China, Argentina, the Netherlands and the USA to engage in a consultation process with decision-makers in China, Sri Lanka and Argentina.

In the current Phase 2, the developed draft monitoring framework is being field tested and refined in cooperation with local and provincial authorities, NGOs and universities in Kesbewa (Sri Lanka), Rosario (Argentina), Kathmandu (Nepal) and Bobo Dioulassou (Burkina Faso).

Next to the design and testing of the draft monitoring framework, project activities include:

- **The design of alternative scenarios for the development of urban food systems** in Kesbewa and Rosario and the calculation of expected impacts of each scenario (food-miles, emissions and energy use), as a basis for local decision making and planning.
- **Facilitating the integration of UPAF into city and provincial climate change and urban development strategies** and securing adequate follow-up actions amongst others by training local researchers and local government staff on UPAF models, their inclusion in climate change programmes and the monitoring of their impacts.
- **Dissemination of project results** (project synthesis report describing project outcomes, the monitoring framework).

### Results obtained / expected

- A field-tested conceptual and methodological framework has been developed for the monitoring of the impacts of urban agriculture and forestry on climate change adaptation and mitigation and a number of developmental co-benefits (food security, income, eco-system services).
- Enhanced capacities of the local project partners have been established regarding monitoring of the impacts of UPAF and south-south-north partnerships in this area.
- The uptake of UPAF in local and provincial climate change mitigation and adaptation strategies has been secured by involving policy makers in monitoring activities, the development of scenarios for urban food systems and by training local staff in the inclusion of locally appropriate UPAF-models in the city/provincial climate change strategy as well as in other urban policies.
- The project results are being disseminated to decision-makers and planners in cities taking part in climate change programmes and networks, and to the academic community.

### A series of reports have been produced as part of the larger project:

- [Report on potential UPAF impacts on climate change](#)



#### Project details

**Start Date:** 02/2012

**End Date:** 11/2014

**Supplier(s):** RUAF Foundation

**Client(s):** A wide range of developing country decision-makers

**Status:** In Progress

- Needs and requirements for monitoring urban agriculture impacts on climate change
- Poster Monitoring climate change impacts of a UPAF project in Bobo Dioulasso
- Poster Monitoring the impacts of UPAF on climate change

**The following articles have been published during the two project phases:**

- A first framework for monitoring the impacts of urban agriculture on climate change
- Monitoring the climate change impacts of urban agriculture in Rosario, Argentina
- Needs and requirements for the monitoring of UPAF impacts
- Surface temperature variations in Kesbewa Urban Council, Sri Lanka

As part of the CDKN-ICLEI project on [Subnational climate compatible development: learning from CDKN's experience](#) a new CDKN case study, [Integrating urban agriculture and forestry into climate change action plans – Lessons from Sri Lanka](#), illustrates how the Western Province is promoting urban and peri-urban agriculture and forestry as a strategy to reduce vulnerability to climate change, while at the same time enhancing urban liveability and livelihoods.

Key messages of the study are:

- The Western Province in Sri Lanka is the first provincial government in the country to include urban and peri-urban agriculture and forestry in its climate change adaptation action strategy.
- The province is promoting the rehabilitation of flood zones through their productive use as a strategy to improve storm water infiltration and mitigate flood risks.
- It also supports local agriculture to reduce dependency on imports, to lower greenhouse gas emissions and energy requirements for food production, transport and storage, and to improve food security and livelihoods.
- Future upscaling of these interventions will need new urban design concepts and the development of a provincial climate change action plan, in parallel with a revision of local and national policies.
- Achieving this progress on policy will require improved impact monitoring and awareness raising at all levels of government, partnership and capacity building and local financing.

Download the full case study: [Integrating urban agriculture and forestry into climate change action plans – Lessons from Sri Lanka](#).

This report is one of CDKN's [Inside stories on climate compatible development](#).

**Project Lead:** [RUAF Foundation](#)

**Contact:** [Marielle Dubbeling](#)

**Partners:**

[Applied Plant Research International of the Wageningen University and Research Centre](#)

[School of Forestry of the University of Florida](#)

[The International Water Management Institute \(Sri Lanka\)](#)

[The Ministry of Agriculture, Agrarian Development, Minor Irrigation, Industries and Environment of Western Province \(Sri Lanka\)](#)

[Kesbewa Urban Council \(Sri Lanka\)](#)

[The Ministry of Water, Public Services and Environment, Santa Fe Province \(Argentina\)](#)

[Municipality of Rosario \(Argentina\)](#)

[Institute of Physics – CONICET Rosario \(Argentina\)](#)

[The National University of Rosario \(Argentina\)](#)

[Commune de Bobo Dioulasso \(Burkina Faso\)](#)

[L'Institut d'Application et de Vulgarisation en Sciences \(Burkina Faso\)](#)

[Kathmandu Metropolitan City Office \(Nepal\)](#)

[Institute for Social and Environmental Transition \(Nepal\)](#)

**CDKN Funding:** Phase 1 – £98,370; Phase 2 – £200,299

**CDKN Contact:** [Sebastian Kratzer](#)

**Dates:**

Phase 1: March 2012-August 2012

Phase 2: February 2013 – November 2014

**Regions/Countries:** Argentina, China, Ghana, Burkina Faso, India, Kenya, The Netherlands and USA

For more information please also visit the RUAF Foundations's [project website](#).

*Photo credit: IRRI*

Comments are closed.

### News articles

**OPINION: Africa Water Week: Climate resilient development in Africa needs to scale up to the strategic level**

by: [CDKN Africa](#) | on: 7am, May 26, 2014

**FEATURE: Making the business case for addressing climate change in Kenya**

by: [CDKN Africa](#) | on: 11am, May 19, 2014

**OPINION: The Africa LEDS Partnership: five reasons why you should join**

by: [CDKN Global](#) | on: 3pm, May 10, 2014

[More news articles](#)

### Recommended reading



**Cyberspace & open empowerment in Latin America**

by: [Eldis](#) | on: 9pm, June 13, 2014

**Abu Dhabi Blue Carbon Demonstration Project. Blue carbon in Abu Dhabi – protecting our coastal Heritage**

by: [Eldis](#) | on: 1pm, June 13, 2014

**Changes in the neighborhood: reviewing citizen security cooperation in Latin America**

by: [Eldis](#) | on: 5pm, June 12, 2014

[More from Eldis](#)

[Contact us](#) [About](#) [Terms of use](#) [Accessibility](#)



### CDKN alliance partners



### Sponsors

