

## Curriculum vitae

**Dr Tanya E Stathers** BSc (Hons), PGCE, MSc, PhD

**Senior Research Scientist**

**Food and Markets Department, Natural Resources Institute.**

### Biography

Dr Tanya Stathers joined the Natural Resources Institute (NRI) of the University of Greenwich as a research scientist in the Food Security Department in March 1998. Prior to this she had worked as a research entomologist at the Cocoa and Coconut Research Institute in Papua New Guinea, and on the ODA funded Cashew Research Programme at Naliendele Agricultural Research Institute, Mtwara in Southern Tanzania.

Dr Stathers has >20 years agricultural research experience in Sub-Saharan Africa in a broad range of topics. Initially her work focused on pre and post-harvest integrated pest management (IPM) of a range of food and cash crops; including inert dusts as storage grain protectants, use of the farmer field school approach, cultural control methods, entomopathogenic fungi, pheromones, natural enemies, and resistant cultivars.

More recently her work has also focused on multi-stakeholder learning processes, agricultural adaptation to climatic and other changes; potential impacts and adaptation opportunities of climate change on post-harvest systems; rural – urban interdependencies in relation to food and agricultural innovation systems; creative learning processes and materials; socio-ecological impacts of market certification standards; and gender and diversity aspects of smallholder agricultural systems.

Keywords: agriculture, postharvest, Sub-Saharan Africa, climate change adaptation, experiential learning processes, agricultural innovation systems, certification standards

### Research/Scholarly Interests

Dr Stathers has spent the last 20 years working mainly in Sub-Saharan Africa with smallholder farmers and the stakeholders who support them, in collectively testing different (pre and postharvest) agricultural practices and social learning processes to help increase the resilience of their agricultural activities and livelihoods in the face of the many drivers of change affecting them (e.g. climate, markets, demographics, urbanisation, natural resource depletion).

She has worked in depth on: issues affecting the postharvest systems of cereals, legumes and root and tuber crops; agricultural innovation systems; agricultural adaptation to climate change; poverty impacts of voluntary certification standards in tea; pre and post-harvest IPM.

She has a practical background in: multi-cultural and multi-disciplinary teamwork; use of participatory methodologies to identify and manage the diverse agricultural research needs of rural communities; extensive survey and stakeholder consultation work; a strong knowledge of East and Southern Africa; positive experiences of working with different teams in the region; a practical and open problem-solving mind; and strong and well-used reporting skills. Project leadership and collaboration skills, and experience in supervising undergraduate and postgraduate research students.

## Current and Previous Funded Research Projects

### **Development of a post-harvest handling and storage handbook and training approach for the World Food Programme's (WFP), Purchase for Progress (P4P) programme (2011-2013).**

**Background:** WFP aims to purchase food from areas close to where relief food is needed. Over 950 Farmers' Organisations (FOs) in 20 developing countries are registered to supply grain to WFP through the P4P programme for local food aid procurement. Many of these FOs struggle to supply WFP with cereals and beans that meet quality and safety standards. To help them meet quality standards, FOs are trained in postharvest handling and storage (PHHS).

**Objectives:** To develop a comprehensive set of Postharvest Handling and Storage training materials and to help ensure a common basis based on best practice for PHHS training efforts within WFP's Purchase for Progress (P4P) programme. This will enable FOs to collect, store and supply better quality grain to WFP.

**Results:** The 'Training Manual for Improving Grain Postharvest Handling and Storage' can be viewed online <http://www.wfp.org/content/p4p-trainingmanual-improving-grain-postharvest-handling-and-storage>. 4,000 copies have been printed in English for distribution to the trainers in the Anglophone P4P focal countries, and 2,000 copies in French. The manual includes technical PHHS information for improving household, primary aggregation point and warehouse level PHHS, it includes ~200 cartoons and 6 posters for farmer training which are designed so the text can be added in the relevant vernacular language, it also includes a detailed section on 'How to deliver training on PHHS' using an experiential learning approach.

NRI's Dr Stathers and Prof Hodges analysed the existing training materials, conducted a detailed needs assessment with key players in 3 focal P4P countries, designed, wrote and developed the manual and approach. They along with colleagues also created the text underlying the World Bank's 2011 'Missing Food' report which proposes an approach to reducing cereal postharvest losses in Sub-Saharan Africa – this builds on their long and detailed field experiences of smallholder postharvest systems.

### **Exploring rural-urban interdependence and the impact of climate change on interdependent food and agricultural systems in Tanzania and Malawi (2009-2012).**

**Background:** Africa is rapidly urbanizing. By 2030 there are projected to be over 759 million African urban dwellers. This poses major challenges for the further provision of infrastructure and services. Alongside this, Africa is particularly vulnerable to climate change and climate variability (CC&CV). As urbanisation and inequality increase, more sophisticated analyses of the linkages and interdependencies between rural and urban areas are emerging. Flows of products, people, knowledge and information, natural resources and money provide strong and dynamic linkages.

**Objectives:** This research project funded by IDRC and DFID aimed to strengthen the capacity of individuals, organizations and systems within the agriculture and food innovation systems connecting rural and urban communities in Tanzania and Malawi to adapt to the challenges and opportunities arising from CC&CV.

**Results:** The project used a multi-stakeholder participatory action research process to explore Rural-Urban interdependencies and climate change (CC). This helped raise awareness amongst local government and other stakeholders regarding urban-rural linkages, urban food systems and their vulnerability to climate change, highlighting important knowledge gaps surrounding urban

food security. An experiential learning approach supported peri-urban horticultural producers to work together with other key agricultural stakeholders (e.g. researchers, extension, micro-credit, stockists, and NGOs) and develop horticultural learning plots on which they experimented with soil water conservation techniques (including admixture of manure, reduced width and levelling of seed beds), new varieties, tower gardening techniques (important for situations where land and water are scarce, and for women and disabled persons), different pesticide application methods and crop diversification opportunities (such as sunflower production fields). The process strengthened farmers' ability to analyse and test ways of improving their situation, to link with other stakeholders and led to a fast uptake of sustainable technologies. The participating farmers managed to significantly increase their profits from horticultural production through increased yields and quality (and therefore prices) and reduced water and land requirements. Neighbouring farmers requested training from the learning group members and copied new practices. In Malawi, urban agriculture was incorporated into national and local government policy and will build on the project's activities recognising that horticultural systems can be adapted to both improve capacity of vulnerable people and strengthen resilience of food systems.

NRI's Dr Tanya Stathers and Richard Lamboll participated in the project design, urban food systems situation analysis, and the multi-stakeholder learning processes.

### **Assessing the poverty impact of social and environmental voluntary standard systems in the Kenyan tea sector (2010-2013)**

**Background:** Social and environmental voluntary standards, such as Fairtrade and Rainforest Alliance certification, are becoming increasingly common in global value chains. However, there is limited systematic evidence available on the impact and development potential of such standards. Donors, the media, NGOs, academics and development practitioners, as well as the voluntary standard bodies themselves are all keen to understand better what difference these standards make to disadvantaged workers and smallholders.

**Objective:** to systematically examine the impact of voluntary social and environmental standards on poverty and livelihoods, particularly for the most disadvantaged workers and producers in developing countries.

**Results:** The impact of social and environmental voluntary standards systems was studied in tea (in Kenya and India) and cocoa (in Ghana and Ecuador) amongst smallholder, outgrowers and estate producers. The study used large scale quantitative surveys and numerous sequential qualitative interviews with various stakeholders (e.g. producer organisation managers, smallholder and outgrowers farmers (men and women), estate workers (men and women), key informants (e.g. local leaders, academics, trade unions), standard bodies).

Amongst smallholder growers tea farming is their main source of income. The strict quality criteria, increased plucking frequency and crop husbandry trainings associated with the Fairtrade and Rainforest Alliance certifications have led to improved green leaf quality and higher yields which translates to higher tea incomes particularly when the tea prices are high. They have been able to invest more in their children's education, and the Fairtrade premium has been used for a wide range of community investments. These farmers incur long-term and short-term costs associated with being certified but generally feel the benefits outweigh the costs. The detailed findings of certification impacts for smallholders, outgrowers and estate workers are presented in the final report (Stathers, Gathuthi et al., 2013. Poverty impact of social and environmental voluntary systems in Kenyan tea).

NRI's Dr Stathers led the Kenyan study involving design and implementation of the field work, and analysis and reporting of all the information collected.

### Selected Publications

- Stathers, Tanya, Lamboll, Richard and Mvumi, Brighton M. (2013) *Postharvest agriculture in changing climates: Its importance to African smallholder farmers*. Food Security, 5 (3). pp. 361-392. ISSN 1876-4517 (Print), 1876-4525 (Online) (doi:[10.1007/s12571-013-0262-z](https://doi.org/10.1007/s12571-013-0262-z))
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- Stathers, T., Lamboll, R., and Mvumi, B. (2013) *Out of the bag: the hidden value of postharvest agriculture in a changing climate*. Rural 21, Vol 47 (March 2013).
- Hodges, Richard and Stathers, Tanya (2012) *Training Manual for Improving Grain Postharvest Handling and Storage*. UN World Food Programme / Natural Resources Institute.
- World Bank, NRI, FAO. (2011) *Missing Food: the case of postharvest grain losses in sub-Saharan Africa*. The World Bank, Washington, US, Report No: 60371-AFR. 116pp. [http://siteresources.worldbank.org/INTARD/Resources/MissingFoods10\\_web\\_final1.pdf](http://siteresources.worldbank.org/INTARD/Resources/MissingFoods10_web_final1.pdf)
- Nelson, Valerie and Stathers, Tanya (2009) *Resilience, power, culture, and climate: A case study from semi-arid Tanzania, and new research directions*. Gender & Development, 17 (1). pp. 81-94. ISSN 1355-2074 (Print), 1364-9221 (Online) (doi:[10.1080/13552070802696946](https://doi.org/10.1080/13552070802696946))
- Nelson, V. and Stathers, T. (2009). Chapter 6: *Resilience, power, culture and climate: a case study from semi-arid Tanzania and new research directions*. pp. 51-70. In: Climate Change and Gender Justice., G. Terry (Ed). Oxfam and Practical Action Publishing, UK. ISBN-13: 9781853396939.
- Stathers, T.E., Riwa, W., Mvumi, B.M., Mosha, R., Kitandu, L., Mngara, K., Kaoneka, B. and Morris, M. (2008). *Do diatomaceous earths have potential as grain protectants for small-holder farmers in sub-Saharan Africa: the case of Tanzania?* Crop Protection, 27 (1), pp. 44–70.
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- Stathers, Tanya, Denniff, M. and Golob, P. (2004) *The efficacy and persistence of diatomaceous earths admixed with commodity against four tropical stored product beetle pests*. Journal of Stored Products Research, 40 (1). pp. 113-123. ISSN 0022-474X (doi:[10.1016/S0022-474X\(02\)00083-8](https://doi.org/10.1016/S0022-474X(02)00083-8))
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- Stathers, T.E., Mvumi, B.M. and Golob, P. (2002) *Field assessment of the efficacy and persistence of diatomaceous earths in protecting stored grain on small-scale farms in Zimbabwe*. Crop Protection, 21 (10). pp. 1033-1048. ISSN 0261-2194 (doi:10.1016/S0261-2194(02)00088-1)
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#### Awards

- Awarded a De Montfort prize as one of Britain's Top Younger Researchers at the House of Commons in March 2001.

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