

Dr Eric Boa

Agricultural Development

Born

home tel |

EXPERTISE

- Agriculture extension and advisory services
- Strategic planning of farmer support
- Capacity building: trainer, course designer
- Technical and popular writing and editing
- Project management and leadership
- Meeting organisation and facilitation

EXPERIENCE

- All agricultural production systems: field crops, forestry, commodities, horticulture
- Projects and consultancies in over 40 countries in Africa, Asia, Latin America
- All aspects of agronomy, especially plant health (diagnostics, crop protection, SPS)
- Work with and across public, private and civil society sectors

For a list of publications see: www.researchgate.net/profile/Eric_Boa

EDUCATION

1981 | PhD Forest pathology. *University of Leeds*

1976 | Diploma in Education 1975 | BSc Botany. *University of Aberdeen*

EMPLOYMENT

2013 to present **Independent consultant and research fellow, University of Aberdeen**

1995 – 2012 Director, Global Plant Clinic; Global Director, Plant Health Systems. *CABI*

1991 – 1994 Tree crops specialist. *Natural Resources Institute, UK*

1981 – 1991 Technical Cooperation Officer: Bangladesh (bamboo) and Indonesia (cloves). *ODA*

1981 Head of Biology. *Corpus Christi School, Leeds*

COUNTRY EXPERIENCE *(Bold indicates significant work experience)*

AFRICA: Burundi; **Ethiopia**; **DR Congo**; Ghana, **Kenya**; **Malawi**; Mozambique; Niger; Nigeria; **Rwanda**; Seychelles; **Sierra Leone**; **South Africa**; **Uganda**. ASIA: Afghanistan, **Bangladesh**; **India**; **Indonesia**; **Nepal**; Pakistan; Philippines; **Sri Lanka**, **Vietnam**. S AMERICA/CARIBBEAN: Belize, **Bolivia**; **Brazil**; **Colombia**; Cuba; Ecuador; Guatemala; Honduras; **Nicaragua**; Mexico; Peru, Suriname, Trinidad and Tobago. EUROPE/OTHER: **Estonia**, Georgia, Hungary, Italy, **Kyrgyzstan**, Spain, Solomon Islands, Tajikistan

RESOURCE MOBILISATION (FUNDERS)

ACIAR; AusAid; BMFG; DFID; DANIDA; GTZ; SDC; CFC; EU; FAO; IFAD, SIDA, UNIDO, USDA, World Bank. American Cocoa Research Institute; CARE; Commonwealth Devt. Corporation; Crawford Fund (Australia), ESCO Uganda (commodity exporter); Masterfoods; BBSRC; Natural England.

LANGUAGES

Good speaking and reading skills in Spanish and French; basic knowledge of Indonesian.

OVERVIEW OF WORK

I have a wide and varied experience of agriculture and crops, from small to large scale production, private and public sectors as well as NGOs and farmer associations. At CABI I established the Global Plant Clinic (GPC), now Plantwise, a multi-donor, \$60m programme, active in 33 countries around the world. My major concerns include the sustainability of advisory services and development of new approaches to share information and innovations with large audiences at low cost.

Since 2013 I have worked as an independent consultant. I have had a long association with ESCO, a cocoa exporter in DR Congo, where I support professional development of field staff and provide general advice on extension strategies. I am an honorary research fellow at the University of Aberdeen. I continue to publish articles and write generally on agriculture in development, as well as prepare extension material for all media; and teach others how to do this. I have a keen professional interest in effective communication, driven by the practical needs of users.

ASSIGNMENTS (▶ LONG TERM; ▶ SHORT TERM)

2018 –

Impact of Pine Pitch Canker, Spain ▶ Preliminary study to explore an economically important forestry disease.

Agricultural extension, Tajikistan ▶ Training of CARITAS technical advisers; strengthening advisory services.

2016 – 2017

Evaluation of extension campaigns ▶ Review of strategies used in agriculture to change behaviour on large scale in a short time; included comparison of methods used in human health. CABI

Commercial agriculture, Brazil ▶ On-going consultancy work through AGRONÓMICA, Brazil's leading, plant diagnostic lab. Train agronomists from private companies; produced manual on tobacco diseases for Sousa Cruz.

Cocoa production, DR Congo ▶ Capacity building of field staff and technical support for production of certified cocoa. Monitor effectiveness of farmer support. On-going consultancy work with ESCOKIVU.

Agricultural extension, Kyrgyzstan ▶ Teach crop protection undergraduates at Kyrgyz Turkish Manas University and strengthen phytosanitary services.

Global good practices for rural advisory services ▶ Prepared two notes, one on extension campaigns and another on plant clinics. GFRAS

Plant health system development, South Africa ▶ Trained research staff from Agricultural Research Council and extension officers in Limpopo, Gauteng and KwaZulu Natal on how to run plant clinics. MINISTRY OF AGRICULTURE + ARC

2013 – 2015

Agricultural risk management, Rwanda ▶ Member of a multi-disciplinary team making recommendations to GoR on risk mitigation in plant health, animal production and water management. WORLD BANK

One health forward ▶ Organised and led international workshop in Aberdeen to foster links between plant, animal and human health. CABI

Agriculture and nutrition, Tanzania ▶ Trained extension staff on use of plant health rallies to promote African indigenous vegetables. IRISH AID

Coconut management, Cote d'Ivoire ▶ Trained research and extension staff on rapid responses to lethal yellowing disease. IDRC (CANADA)

Extension materials, Africa-wide ▶ Lead writer of fact sheets on main pests and diseases of priority crops. ASHC/BMFG

Extension capacity building, East Africa, Peru, Bolivia, Cambodia ▶ Developed training course and taught extension staff from 10 countries on how to run plant health rallies. CABI

Plant health systems, Kenya ▶ Study that explored how plant clinics help extension providers become demand-driven and gain better access to quality advice and technical support. EU - SOLINSA

2008 – 2012

Forestry management, Trinidad and Tobago ▶ Technical and training inputs on an emergency response to a new disease of Colombian cedar. FAO

IPM and pesticide reduction, Nicaragua ▶ Team leader and part of wider management group to improve use of IPM in Kosovo, Albania and Tanzania. SDC

Phytosanitary capacity building, Africa-wide ▶ Organised and led short course on practical tools for diagnosing and responding to plant health problems. AUSAID, CRAWFORD FUND

Natural resource management, UK ▶ Trained conservation managers to recognize new tree disease and develop management strategies in a series of eight short courses. NATURAL ENGLAND

2005 – 2007

Strengthening advisory services, Nicaragua ▶ Trained plant doctors, mentored and supervised clinic staff, strategy development at national level for public plant health services. DANIDA/IFAD

Innovation in agricultural enterprises, Bolivia ▶ Examined demand, availability and uptake of new technologies by farmers, including crops, forestry, dairy products and livestock. DFID

Quality assurance for lab. diagnostics, Estonia ▶ Developed standard operating procedures, training and writing of user manual. EU

Market-based development of bamboo, E Africa ▶ Analysis of research needs relevant to farmer demands and extension strategies. UNIDO, EU

Plant health inspectors, Hungary ▶ Trained in communication skills. EU- TWINNING LIGHT

2000 – 2004

Natural resource management, Malawi/Mexico ▶ Identified new business opportunities for sale of wild edible fungi by rural communities. CABIFUND

Tree health, Seychelles ▶ Developed management strategy for Sandragon wilt. Trained extension staff in surveillance methods. FAO

Technology Transfer Expert ▶ Review potential of bamboo for growth and pro-poor development (particularly in housing). Three-year project with European partners, also India and Philippines. EU

Plant Disease Management Capacity, Vietnam ▶ Project leader. Developed strategies for linking research and extension, focussing on export crops. ACIAR

FAO books ▶ Wrote two books, both published by FAO: an illustrated guide to tree health; and the global uses and importance of wild edible fungi.

Tree health and agroforestry, Nepal, Kenya, South Africa ▶ Project leader. A strategic review of demand and research needs was undertaken. DFID

Urban tree health, Colombia ▶ Investigated a new disease of *Fraxinus uhdei* a major tree in Bogotá and other major Andean cities. Long-term collaboration with Universidad Militar Nueva Granada. BSPP FELLOWSHIP

Wild edible fungi, Malawi ▶ Project leader. Develop guidelines for sustainable use of an important source of food and income from native woodlands. DFID

Biodiversity conservation and smallholder cacao, Ecuador ▶ Develop new understanding of the role of neighbour (shade) trees in smallholder cocoa production from farmer perspective. ACRI/USDA

Cocoa diseases, Uganda and DR Congo ▶ Investigation of cocoa diseases in North Kivu, also cinchona and papaya, both valuable export crops. MASTERFOODS/ESCO UGANDA

Quick responses to banana wilt, Uganda ▶ Designed courses for extension staff to raise awareness about banana xanthomonas wilt and ensure rapid and accurate reporting of new outbreaks. DANIDA

Bamboo management, Bangladesh ▶ Identified pro-farmer research needs. Part of SHABGE, a multi-million-pound project on management of sustainable livelihoods by the extreme poor. CARE/DFID

Kalimantan Forestry Management, Indonesia ▶ Tree health specialist. Three consultancies to study diseases of trees and crops and develop management strategies for forest margin communities. EU

1992 – 1999

Tree health, Bolivia ▶ Developed a new method ('three legs') to evaluate farmer demand for technical support and advice. DFID

Conservation of wax palm, Colombia ▶ Project leader. Studied a new disease threat to the national tree of Colombia. Worked closely with conservation groups. CABIFUND

Bamboo for renewable energy, Honduras/Brazil ▶ Evaluated the production of bamboo for generating electricity - due diligence of investment proposal. CDC

Bamboo management, Colombia ▶ Investigated a new disease on guadua in the Cauca Valley and developed an emergency response programme. INBAR

Management of rural bamboo, Ethiopia ▶ Produced strategy for farmer-friendly management of (vast) natural stands of bamboo. GTZ

Integrated Rural Bamboo project, India ▶ Project leader. Investigated farmers needs and how to adapt available bamboo technologies. DFID

Agroforestry and tree health, Central America and West Africa ▶ Assessment of diseases of Gliricidia and Neem and development of management strategies. Trained counterparts. Assessed future global threats to major woody legumes. Series of projects funded by ODA (DFID) and FAO.

TRAINING AND CURRICULUM DEVELOPMENT

Since 1997 I have taught over 90 courses in plant health and extension, attended by more than 1800 people from 48 countries in Africa, Asia, Latin America and Europe. The courses have ranged from field diagnosis, running and organising advisory services for farmers, extension campaigns, producing extension material, community-based surveillance, tree health, natural resource management, photography and publishing.

I co-led the *Nordic Postgraduate course in plant pathology* in 2004, held in Denmark and was the lead for a tree health course for Eastern and Southern Africa in Kenya sponsored by SIDA. I have taught on MSc courses at the Universities of Bath and Warwick.

I have organised eight international meetings and workshops and facilitated sessions at many others : Plants for People and Medicine (UK); Participatory approaches to development (UK); Natural resource management for bamboo (India), non-forest products (Malawi) and bark harvesting (South Africa); Plant Pathology Extension for resource-poor farmers (New Zealand); New Extension Methods (Denmark); Research strategies for tree diseases (Nepal, Bolivia); Plant Health Summits for Latin America (Bolivia) and Asia (Nepal); One Health Forward (UK).

OTHER ROLES

Project Reviewer (DFID, EU, BMGF). Regular **peer reviewer** of original papers and books. Member of the Klinger Book Committee, Society for Economic Botany, 2004-2015. **Editor** of New Disease Records in Plant Pathology from 2000 – 2010. **Associate Editor** of Food Security since 2015.

Professional Societies: Head of Extension Committee, International Society for Plant Pathology, from 2003 – 2011; Board Member, British Society for Plant Pathology, 2006 – 2009; President of the UK Chapter for the Society for Economic Botany from 1999 – 2001.

External examiner of MSc (3) and PhD theses (3). **Co-supervisor** of four PhDs.

Articles and Online

I have contributed to online journals such as New Agriculturist and SciDev.net and written for New Scientist and The Conversation. I currently **blog** at www.agroinsight.com and www.bspp.org.uk. I blogged at on the British Society for Plant Pathology website from 2007 to 2010 (111 entries).

PUBLICATIONS

Over **100 publications**, including 27 peer-reviewed papers, 9 books and 10 book chapters. ResearchGate score of 29.16; h-index 17 on Google Scholar.

2016 - 2017

Puertolas A, **Boa E**, Bonants PJM, Woodward S, 2017 Survival of *Phytophthora cinnamomi* and *Fusarium verticillioides* in commercial potting substrates for ornamental plants. *Journal of Phytopathology*. DOI: 10.1111/jph.12708

Boa E, Franco J, Chaudhury M, Simbalaya P, Van Der Linde E, 2016 Plant Health Clinics. Note 23. *GFRAS Good Practice Notes for Extension and Advisory Services*.

Boa E, Papania P, Mulema J, Harun-Ar-Rashid, Franzel S, 2016. Extension Campaigns. Note 24. *GFRAS Good Practice Notes for Extension and Advisory Services*.

Bentley J, **Boa E**, Salm M, 2016. *A passion for video: 25 stories about making, translating, sharing and using videos on farmer innovation*. Agro-Insight and CTA.

2013 - 2015

Boa E, Chernoh E, Jackson G, 2015. *Pest and disease manual*. African Soil Health Consortium, Nairobi.

Boa E, Danielsen S, Haesen S, 2015 Better together: identifying the benefits of a closer integration between plant health, agriculture and one health. In: *One health: the theory and practice of integrated health approaches*. Editors: J Zinsstag, E Schelling, D Waltner-Townes, M Whittaker, M Tanner. CABI, Wallingford. pp 258- 271.

Woodward SJ, **Boa E**. 2013 Ash dieback in the UK: a wake-up call. *Molecular Plant Pathology*
DOI: 10.1111/ mpp.12084

Bentley J, **Boa E**. 2013. The snowman outline: fact sheets by extensionists for farmers. *Development in Practice*
DOI: 10.1080/09614524.2013.781129

Boa E. 2013. Local communities and edible ectomycorrhizal mushrooms. In *Edible Ectomycorrhizal Mushrooms*, edited by A Zambonelli and GM Bonito. Berlin: Springer. pp 307 – 315

2011 – 2012

Danielsen S, **Boa E**, Mafabi M, Mutebi E, Reeder R, Kabeere F, Karyeija R. 2012. Using plant clinic registers to assess the quality of diagnoses and advice given to farmers: a case study from Uganda. *The Journal of Agricultural Education and Extension*. **19**, 183-201.

Boa E. 2011. From Chipho to Msika: an introduction to mushrooms, trees and forests. In *Mushrooms in Forests and Woodlands. Resource Management, Values and Local Livelihoods*, edited by A. B. Cunningham and X. Yang. London: Earthscan.

Boa E. 2011. Rapid responses to new plant diseases: the use of Going Public to monitor the spread of Banana Xanthomonas Wilt and control Napier Grass Stunt in East Africa. *Acta Horticulturae* 879: 705-716.

Bentley J, **Boa E**, Almendras F, Franco P, Antezana O, Díaz O, Franco J, Villarroel J. 2011. How farmers benefit from plant clinics: An impact study in Bolivia. *International Journal of Agricultural Sustainability* 9 (3): 393-408.

Danielsen S, Centeno J, López J, Lezama L, Varela G, Castillo P, Narváez C, Zeledón I, Pavon F, **Boa E.** 2011. Innovations in plant health services in Nicaragua: from grassroots experiment to a systems approach. *Journal of International Development* DOI: 10.1002/jid.1786

2009 - 2010

Pérez KA, Pinol B, Rosete YA, Wilson M, **Boa E**, Lucas J. 2010. Transmission of the phytoplasma associated with bunchy top symptom of papaya by *Empoasca papayae* Oman. *Journal of Phytopathology* 158: 194-196.

Boa E. 2009. How the Global Plant Clinic began. *Outlooks on Pest Management* 20: 112-116.

Boa E. 2009. Plant Healthcare for poor farmers around the world: gathering demand and innovative responses In *Knowledge and Technology Transfer for Plant Pathology*, edited by N. V. Hardwick and M. Guillano: Springer Netherlands.

Bentley JW, **Boa E**, Danielsen S, Franco P, Antezana O, Villarroel B, Rodríguez H, Ferrufino J, Franco J, Pereira R, Herbas J, Díaz O, Lino V, Villarroel J, Almendras F, Colque S. 2009. Plant health clinics in Bolivia 2000 – 2009: operations and preliminary results. *Food Security* 1: 371-386.

Bentley J, **Boa ER**, Kelly P, Harun-Ar-Rashid M, Rahman AKM, Kabeere F, Herbas J. 2009. Ethnopathology: Local Knowledge of Plant Health Problems in Bangladesh, Uganda and Bolivia. *Plant Pathology* 58: 773-781.

Hodgetts J, Chuquillangui C, Muller G, Arocha Y, Gamarra D, Pinillos O, Veli E, Lozada P, **Boa E**, Boonham N, Mumford R, Barker I, Dickinson M. 2009. Surveys reveal the occurrence of phytoplasmas in plants at different geographical locations in Peru. *Annals of Applied Biology* 155, 15-2).

2006 - 2008

Thrane C, **Boa E.** 2008. The Nordic Baltic forum for plant health diagnostic laboratories and its use of 'on-site' proficiency testing to improve laboratory testing. *EPPO/OEPP Bulletin* 38: 192-194.

Boa ER. 2007. Plant Healthcare for Poor Farmers: An Introduction to the Work of the Global Plant Clinic. www.apsnet.org/publications/apsnetfeatures/Pages/PoorFarmers.aspx.

Bentley J, **Boa ER** (2007). Revealing Success. What happened in nine applied technology innovation projects (in Bolivia). Egham, CABI.

de Román M, **Boa E**, Woodward S. 2006. Wild gathered fungi for health and rural livelihoods. *Proceedings of the Nutrition Society* 65 (2): 190-197.

de Román M, **Boa E.** 2006. The marketing of *Lactarius deliciosus* in Spain. *Economic Botany* 60: 284-290.

2004 – 2005

Duarte V, **Boa E.** 2005. Enfoques usados na diagnose de doencas de plantas. *Revisão Anual de Patologia de Plantas* 13: 31-48.

Boa ER. (2004). *An Illustrated Guide to the State of Health of Trees. Recognition and interpretation of symptoms and damage.* Rome: FAO.

Boa ER. (2004). *Wild Edible Fungi. A global overview of their use and importance to people. Non-Wood Forest Products 17.* Rome: FAO.

Bentley JW, **Boa ER**, Van-Mele P, Almanza J, Vasques D, Eguino S. (2004). Going Public: a new extension method. *International Journal of Agricultural Sustainability* 1 (2): 108-123.

Bentley JW, **Boa E**, Stonehouse J. (2004). Neighbour trees: shade, intercropping and cacao in Ecuador. *Human Ecology* 32: 241-270.

Bentley JW, **Boa E**, Vilca P, Stonehouse J. (2004). Triangulation with técnicos: a method for rapid assessment of local knowledge. In *Investigating Local Knowledge: New Directions, New Approaches*, edited by A. Bicker and P. Sillitoe: Ashgate Publishing.

de-Román M, **Boa E.** (2004). Collection, marketing and cultivation of edible fungi in Spain. *Micologia Aplicada International* 16 (2): 25-33.

2002 – 2003

Bentley J, **Boa E**, Van-Mele P, Vos J. (2003). *Discovery through Diagnosis. A manual of practical exercises and pest data sheets to promote pest management. Experiences from a pilot project in Bolivia.* Egham: CABI Bioscience. 72pp

Harrison NA, **Boa E**, Carpio ML. (2003). Characterization of phytoplasmas detected in Chinaberry trees with symptoms of leaf yellowing and decline in Bolivia. *Plant Pathology* 52: 147-154.

Boa E. (2002). Photography. In *Plant Pathologist's Pocketbook. 3rd edition*, edited by J. M. Waller, J. M. Lenné and S. J. Waller. Wallingford: CABI Publishing.

2001 and earlier

Boa E. (2001). Hama dan Penyakit (Pests and Diseases). In *Produksi dan Pemanfaatan Kaliandra (Calliandra calothyrsus). Pedoman lahan. (Calliandra calothyrsus production and use: a field manual)*, edited by J. Stewart, Mulawarman, J. M. Roshetko and M. H. Powell. Arkansas, USA: Forest, Farm and Community Tree Network, Winrock International.

Boa ER, Bentley JW, Stonehouse J. (2001). Standing on all three legs: the técnico as a cross-cultural occupational group. *Economic Botany* 55 (3): 363-369.

Boa ER, Bentley JW. (1998). *Guía Ilustrada de Plagas y Enfermedades Seleccionadas de Arboles Agroforestales de Bolivia.* Chatham, UK: DFID Crop Protection Programme.

Boa ER. (1998). Disease surveys of agroforestry trees in tropical countries. *Methodology of Forest Insect and Disease Survey in Central Europe. Proceedings from the IUFRO WP 7.03.10 Workshop., 21-24 April 1998, Ustron-Jaszowiec (Poland).*

Boa ER. (1998). Diseases of agroforestry trees: do they really matter? *Agroforestry Forum* 9 (2): 19-22.

Boa ER, Bentley JW. (1998). Tree Health: the Bolivia Experience. *Tropical Forestry Update* 8 (1): 16-17.

Kenyon L, Harrison NA, Ashburner GR, **Boa ER**, Richardson PA. (1998). Detection of a pigeon pea witches'-broom-related phytoplasma in trees of *Gliricidia sepium* affected by little-leaf disease in central America. *Plant Pathology* 47 (5): 671-680.

Boa ER. 1997. Pests and diseases. In *Calliandra calothyrsus production and use: a field manual*, edited by M. H. Powell. Taipei: Taiwan Forestry Research Institute.

Chandrashekhara UM, Sankar S, Shajahan PK, Blowfield ME, **Boa ER.** 1997. Fencing patterns in homegardens of Kerala, India. A case study. *Range Management and Agroforestry* 18 (1): 41-53.

Kungu J, **Boa E.** 1997. *Kenya checklist of fungi and bacteria on plants and other substrates.* Egham: Int. Mycological Institute.

Boa ER, Saddler G. (1996). Bacterial wilt. In *FAO/IPGRI Technical Guidelines for the Safe Movement of Germplasm. No 17. Eucalyptus spp.*, edited by W. M. Ciesla, M. Diekmann and C. A. J. Putter. Rome: Food and Agricultural Organization of the United Nations with the International Plant Genetic Resources Institute.

Boa E, Lenné JM. (1996). Diseases and insect pests. In *Gliricidia sepium. Genetic resources for farmers. Tropical Forestry Paper 33*, edited by J. L. Stewart, G. E. Allison and A. J. Simons. Oxford: Oxford Forestry Institute.

Boa ER (1995) *An Illustrated Guide to Pests and Diseases of Neem.* RAP Publication 1995/41. FAO, Bangkok

Hartati S, **Boa ER**, Supriadi, Adhi EM, Karyani N. (1991). Biological control of Sumatra disease bacterium (*Pseudomonas syzygii*) with its avirulent strains and *Pseudomonas solanacearum*. *Industrial Crops Research Journal* 4 (1): 1-4.

Boa ER, Rahman MA. (1987). *Bamboo Blight and the Bamboos of Bangladesh.* Forest Research Institute Bangladesh.