1. Integrated Programme (IP)

a. Focus areas

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<td>x</td>
<td>1. Improving the food chain between consumption and production</td>
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<td>2. Sustainable increase of production and nutritional value</td>
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Description of issues addressed in the focus areas

This research analyses the potential of corporate and public-private partnerships with smallholders involved in tree crop systems in South Africa (macadamia, avocado) and Ghana (cocoa, oil palm). These represent high-value tree crops with high potential to increase farmers’ income and food security. The study addresses the exclusion of smallholders and female farmers in innovation platforms and the mismatch between inputs and service delivered and different livelihood trajectories. By focusing on tree crops, insights are generated into potential combinations with food crops and the potential of tree-crop systems to contribute to sustainable landscapes. Value chain analysis and action research in multi-actor learning platforms for joint learning will generate novel knowledge and methodologies for more effective innovation platforms that enhance (i) inclusive chain collaboration and more equitable terms of engagement, (ii) farmers’ food sovereignty and (iii) sustainable food and commodity production in multifunctional landscapes. This three-pronged approach is innovative.

b. Duration of the IP: 4 years

c. Country(ies) where the research will be carried out: Ghana and South Africa

d. Main field of research

51.90.00 Development studies; 49.10.00 Geography; 50.90.00 Environmental science; 46.90.00 Cultural anthropology

2. Title

Inclusive partnerships and innovation platforms for sustainable landscapes and greater food sovereignty among tree crop farmers in Ghana and South Africa

Research proposal

4. Summary of the research proposal

Against a background of policies aimed at integrating smallholders in value chains through business-smallholder and public-private partnerships; evidence of adverse incorporation and declining dietary diversity with increasing market integration; and recent trends of businesses investing “beyond the chain” in innovation platforms, smallholder productivity and crop diversification, this research aims to clarify under what terms of engagement business and public-private partnerships with smallholders involved in tree crop systems in South Africa and Ghana can contribute to increased food sovereignty, more inclusive innovation platforms, and sustainable landscapes. It aims to contribute to topical academic debates on food sovereignty, multifunctional mosaic landscapes and inclusive chains, and to generate new insights into options for making innovation platforms more inclusive and effective for greater food security. Deliverables include insights and recommendations on terms of inclusive engagement and innovation spaces in business-smallholder and public-private partnerships and a methodology for equitable smallholder engagement in innovation platforms.

5. Description of the Integrated Programme

a. Outline

(i) Background and rationale

Smallholders – farmers producing for both market and subsistence (Cousins 2011) – produce 80% of food in Africa and Asia (FAO 2012), but are among the most food-insecure segments of rural society. Ghana and South Africa promote smallholder market integration through strategic partnerships with businesses in national and international value chains (MOFA 2007, NPC 2012). Existing research is inconclusive about these partnerships’ effects on food production and innovation potential. Observed risks include adverse and gender-insensitive inclusion (Laven 2010) and declining dietary diversity with increasing market orientation in Ghana (Ecker et al. 2012), and exclusion from decision-making on crop choice and marketing and inequitable
risk/benefit sharing in South Africa (Spiereburg et al. 2012, Greenberg 2013). Partnerships may enhance potential to engage in high-value international value chains and establish innovation platforms through which businesses invest “beyond the chain” in nutrition, income and health of rural populations (Nederhoff & Pyburn, 2012). Although recent evidence suggests that innovation platforms perform better than existent knowledge support structures regarding poverty reduction, innovative activity and spill-over effects to food production (Hounkonnou et al. 2012), overall a failure to convert agricultural innovations to increased farm-level productivity and improved livelihoods persists (Röling et al. 2012). Due to deficient understanding of smallholder heterogeneity (Greenberg 2013) and power constellations in partnerships (Spiereburg et al. 2012), a mismatch occurs between supply of input packages and farmers’ realities. This requires a better understanding of farmers’ strategic choices regarding resource and crop combinations, participation in commodity and non-commodity circuits, and deliberate distancing from adverse inclusion in value chains (Van der Ploeg 2008) and how these are embedded in historical repertoire, beliefs, needs, aspirations, power relations and institutions (De Haan & Zoomers 2005, Diniz, 2013). Unpacking livelihood trajectories reveals group- and gender-specific innovation spaces and underlies new institutional platform designs that align better with differential potential to enhance food and commodity production and contribute to sustainable landscapes. Including sustainability concerns is urgent considering the challenge to feed a growing population without compromising environmental services and smallholder farming systems’ resilience (Tscharntke et al. 2012, IIISD 2013).

We focus on tree crops because they:

- involve numerous smallholders; strategic partners in ensuring chain resilience and long-term commodity supply;
- enable smallholder market integration based on crops with high growth/employment potential (Traub 2012);
- can be more easily combined with food crop production than other commodities (e.g. Opoku-Ameyaw et al. 2011), thus help improve food security;
- potentially contribute to sustainable landscapes that combine production of food, commodities and environmental services (Tscharntke et al. 2012);
- provide a setting of innovative partnerships and platforms driven by private and public actors, particularly in the cocoa sector (Nederhoff & Pryburn 2012), potentially generating lessons for enhancing food production in other commodity chains.

Three topical academic debates on rural development will be advanced. The first concerns inclusive chain collaboration and institutional learning in innovation platforms (Hounkonnou et al. 2012; Nederhoff & Pyburn 2012) and their implications for sustainable intensification of food production (Pretty et al. 2011). Uncovering innovative potential in different livelihood trajectories offers scope for more tailored value-chain collaboration. The second debate is on linking biodiversity conservation and agricultural production through either ‘sparing’ or 'sharing’. ‘Sparing’ promotes spatially and institutionally separate land uses for biodiversity conservation and large-scale high-yielding agricultural production (Fresco 2013). ‘Sharing’ encourages the integration of ecosystem services into productive mosaic landscapes (Perfecto et al. 2010), recognising real-world agroecological and institutional complexities (Tscharntke et al. 2012) and smallholders’ potential to make a productive and sustainable contribution to food security (FAO 2012). Third, we expand the food security concept (stable access to sufficient quality food) to the notion of food sovereignty to include farmer’s decision-making autonomy regarding crop choice and terms of market participation, and sustainability concerns (Altieri & Toledo 2011, Patel 2009) (Figure 1).
(ii) Objectives

To generate knowledge and methodologies that enable business/public-private partnerships with smallholder tree-crop farmers to enhance food sovereignty, inclusive value chain collaboration, and landscape sustainability, by:

a. generating insights into linkages between livelihood trajectories, innovation space and institutionalised learning;

b. developing methodologies for negotiating more equitable terms of engagement in partnerships/platforms;

c. designing novel institutional arrangements for tailor-made value-chain collaboration and joint learning in learning platforms;

d. generating innovative insights into sustainability scenarios and sustainable choice space of selected tree-crop systems and their contribution to multifunctional landscapes.

(iii) Research questions, methods, study areas

How can partnerships between businesses and smallholder tree-crop farmers in Ghana and South Africa enhance food sovereignty, inclusive value chain integration and sustainable landscapes?

Sub-questions:
1. How can innovation platforms be better aligned with livelihood trajectories?
2. How can institutional design be improved?
3. How can joint learning be institutionalised?

Partnerships, innovation platforms and livelihood trajectories in tree-crop systems with different value chain lengths will be analysed using a comparative approach and an iterative cycle of five research stages, embedded in societal negotiation processes (Giller et al. 2008; Fig. 2). Key is the negotiation stage whereby research is embedded in societal negotiation processes and academic knowledge is mediated in specific and complex institutional contexts (Leeuwis & Aarts 2011, Giller et al. 2008). Researchers engage in field-based platforms that aim for improved technology and knowledge transfer to smallholders. Higher-level platforms for policy-making will be analysed to generate insights into existing institutional designs and input for cross-country comparisons. Selected change agents from higher and lower-level platforms will periodically be brought together in learning platforms where interactive knowledge production takes place and novel institutional combinations for more inclusiveness are developed (Fig. 3).

Research in Ghana focuses on cocoa (export crop) and oil palm (for domestic food market) produced mainly by smallholders, predominantly female (Laven 2010, MOFA 2011). Emerging business-smallholder partnerships and platforms offer scope for innovation. Oil palm is potentially a high-value crop, but currently largely unexploited due to poor processing practices, lack of incentives and gender issues (underrepresentation of females in oil-palm institutions) (Osei-Amponsah et al. 2012). Innovation space is limited due to institutional constraints, including gender issues (Adjei-Nsiah et al. 2012). The study area is the Twifo-Hemang-Lower Denkyira District (THLDD) (Central Region), where food production (maize and cassava) declined due to expansion of cocoa, oil palm and rubber production (MOFA n.d). Twifo is currently Ghana’s leading oil-palm producing area with a diversity of processors and outgrower schemes.
In South Africa macadamia (export) and mango (national food and fruit-juice market) chains will be studied in Levubu area (Vhembe District, Limpopo Province); South Africa’s high-potential export-oriented subtropical production centre for bananas, citrus, guavas, mangoes, litchis, papayas and macadamia nuts (Ori et al. 2003). A commercial farming hub is surrounded by former ‘Bantustan’ areas farmed by smallholders under communal land tenure (Nesamvuni et al. 2003, Lahiff et al. 2007). The area is among the poorest in South Africa (Nesamvuni et al. 2003). An agrarian reform programme aims to change skewed land ownership and develop smallholders into entrepreneurial farmers through public-private partnerships (Spierenburg et al. 2012). Innovation space in Levubu is constrained by racially-biased control over market channels by local commercial farmers and deficient coordination of state support (Van Leynseele, 2013). Local private-sector initiatives towards knowledge exchange and joint learning between longstanding commercial farmers and aspirtant smallholders promise to bridge this gap but as yet operate without structural state support.

(iv) Sub-projects

1. Livelihood trajectories and innovation space in smallholder cocoa and oil-palm farming systems in Ghana (PhD1)
2. Livelihood trajectories and innovation space in smallholder macadamia and mango farming systems in South Africa (PhD2)

Innovation platforms improve smallholders’ access to credit, inputs, extension and markets (Hounkonnou et al. 2012), but technology uptake and productivity drop behind (Röling 2010). Existing literature addressed various factors (Marenya & Barret 2007, Klerkx et al. 2009, Röling 2010, Röling et al. 2012, Hounkonnou et al. 2012, Kilelu et al. 2013), but linkages between livelihood trajectories, technology needs, and market integration remain underexplored. We hypothesise that different livelihood trajectories determine farmers’ technology uptake and innovation space; gender-specific consequences of market integration for food production, crop choice, incomes and control over land and resources; and capacity to negotiate terms of engagement in partnerships. The aim is to unpack livelihood trajectories in selected tree-crop farming systems under smallholder-business partnerships, providing insights into smallholders’ characteristics, priorities, strategic behaviour, and innovation space. Conducting research in two Sub-Saharan countries allows comparing these in different economic, geographical, socio-political and institutional contexts.

Main research question: How do changing conditions of market integration and smallholder-business partnerships interact with tree-crop farmers’ livelihood trajectories, innovation space and food sovereignty?

Sub-questions:
1. How do tree crop farmers differ regarding livelihood trajectories and innovation space?
2. What are gender- and livelihood-trajectory-specific effects of new market and partnership opportunities on farmers’ incomes, food production, dietary diversity, production technologies and control over land and resources?
3. How do farmers pursuing different livelihood trajectories vary regarding decision-making autonomy and capacity to negotiate terms of engagement in partnerships and innovation platforms?

Methodologies:

Figure 3. Communication and learning in the project

In a comparative case study design, the livelihood trajectories methodology (De Haan & Zoomers 2005) will be employed to describe and explain strategic behaviour (crop choice and combinations, production technologies used, gendered allocation of land and resources, market vs. subsistence orientation, combination with off-farm activities), resource dynamics, interrelations with institutional arrangements, and power relations. Data collection occurs through mixed methods (key informant interviews, focus groups, surveys, semi-structured interviews). Participant observation will enhance insights into farmer practices and field-based innovation platforms. Content analysis of tree-crop and smallholder policies provides insights into the institutional context.
3. **PhD project 3: Tree-based farming systems and sustainable landscapes: an integrated analysis of biophysical effects and perceptions of impacts of tree-crop farming systems in Ghana and South Africa**

Recognising that landscapes represent both biophysical conditions and social constructs (Görg 2007), analysis of effects of tree-crop farming systems on multifunctional landscapes requires both biophysical 'neutral' metrics and social perceptions (Blaschke 2006; Wagner & Gobster 2007). Integrated measures are still scarce (Wagner & Gobster 2007; Tasser et al. 2009; Potschin & Haines-Young 2008; 2013) and can be improved (O'Farrell & Anderson 2011). Land-uses in multifunctional landscapes are to be negotiated among multiple stakeholders, hence an integrated approach needs to involve perspectives and trans-disciplinary knowledge originating from multiple governance levels and sectors (Angelstam et al. 2013), while taking account of power relations and political agendas (O'Farrell and Anderson, 2011). This study thus aims to unpack multi-stakeholder understanding and trans-disciplinary perspectives of the role of tree-crop farming systems in sustainable landscape development and to integrate these with biophysical metrics to determine the 'sustainable choice space' of different land-use trajectories (Potchin & Haines-Young 2008).

**Main research question:**
What is the potential of tree-crop farming systems in Ghana and South Africa to contribute to multifunctional landscapes considering biophysical effects and multi-stakeholder perspectives?

**Sub-questions:**
1. What are effects of tree-crop farming systems on biophysical landscape characteristics like land-use diversity, habitat distribution and fragmentation, landscape configuration/structure, and environmental services?
2. How do different stakeholders define sustainable and multifunctional landscapes and value the impact of tree-crop farming systems and role of farmers therein?
3. What are possible scenarios towards sustainable landscapes based on tree-crop farming and what is their fit with the 'sustainable choice space'?

**Methodologies:**
Geographical Information Systems (GIS) and scenario-planning based on quantitative and qualitative indicators (O'Farrell & Anderson 2011) allow mapping landscape impacts and desired states of tree-crop farming systems. Environmental, economic, social-cultural and intrinsic landscape indicators (Wagner & Gobster 2007, Potschin & Haines-Young 2008; Tasser et al. 2009; O'Farrell and Anderson 2011) will be integrated with multi-stakeholder perceptions of key landscape features and changes. Existing land-cover maps and remote-sensing data interpretations from different years will be compared and triangulated with semi-structured interviews, focus groups and participatory scenario-analysis and -planning for landscape dynamics assessment. National policies will be assessed for their contribution to sustainable landscapes.

4. **Post-doc**

This project tackles deficient insight into implications of farmer heterogeneity for innovation platforms (Röling 2010), problem-solving capacity of partnerships in agrifood chains (Blitzer 2012) and the role of innovation intermediaries in facilitating technological and institutional innovation (Klerkx & Leeuwis 2008, Devaux et al. 2010). Action research foresees in setting up ‘learning platforms’ for joint learning, whose outputs may become boundary objects fostering common reference points and mutual understanding (Cash et al. 2006, Giller et al. 2008). Solution-oriented innovation scenarios that align with smallholders’ livelihood trajectories, resource combinations and ‘institutional bricolage’ (Cleaver 2012) will be developed. Joint learning will produce innovation brokering methodologies and novel institutional designs. Country-specific value chain governance analyses provide insight into changing positions of chain actors, changing modalities of agricultural extension and terms of engagement and distribution of power and resources in platforms and partnerships (Laven 2010). Theory-building focuses on joint-learning and negotiated co-production of knowledge in learning platforms, focussing on increasing solution space through interactive innovation.

**Main research question:**
What role can learning platforms and innovation intermediaries play in making innovation platforms more effective and inclusive?

**Sub-questions:**
1. How do partnerships and innovation platforms differ regarding actors’ positions, outreach, institutional arrangements and problem-solving capacity?
2. How do mutual learning and co-production of knowledge take shape in learning platforms and what role do innovation intermediaries play in enhancing mutual learning and innovation spaces?
3. How can learning platforms help make innovation platforms/partnerships more inclusive regarding alignment with smallholder livelihood trajectories, more equitable terms of smallholder engagement, and attention to sustainable landscapes?
Methodology

Learning across existing innovation platforms and new learning platforms will be facilitated. In Ghana existing innovation platforms/partnerships operating on (sub-)national level will be connected with local-level community/field-based platforms. In South Africa currently disjointed local platforms will be connected and the set-up of a higher-level innovation platform through a learning platform facilitated (Figure 3). Participant observation and semi-structured interviews provide data on knowledge production and exchange practices in learning platforms; content analysis of policy documents, key respondent interviews and policy-scenario development provide input for country-specific policy analyses; force-field analysis of organisational scenarios and organising practices of brokers (Nuijten 2005, Swanson & Creed 2013) will help understand institutional factors; reflexive analysis will help assess the IP’s impact and role of researchers in negotiating knowledge.

5. Integration

Results will be integrated in a book that links the three food sovereignty components and policy briefs (item 6).

(ii) Innovative/original aspects

The research contributes:

- to operationalising the inclusive development and inclusive value-chain collaboration concepts by situating household-specific demands of food security in a wider environmental and social context.
- new knowledge to the emergent field of innovation platforms in value chains, with bearing on context-specific business environments;
- insights into possible trade-offs and convergence points between terms of engagement in chains/platforms and innovative strategies within and beyond the chain that are often overseen;
- insights into innovations based on exogenous change towards sustainable intensification and those based on endogenous processes of intensification/de-intensification by smallholders in their efforts to build resilience, offering a broader than usual scope for defining novel institutional combinations at farm- and landscape-level;
- an innovative methodology for critical and engaged trans-disciplinary research in the field of equitable global food systems for being based on demand-driven definition of goals, research questions and methodology;
- to the integration of topical debates on food sovereignty, inclusive chains and landscapes approaches.
b. Relevance for development

Intended development impacts include (i) increased food sovereignty at smallholder level, (ii) inclusive value-chain collaboration, and (iii) sustainable multifunctional landscapes.

Food sovereignty encompasses stable access to sufficient and nutritious food and dietary diversity; autonomous decision-making about how food and commodities are produced and marketed; and sustainable production. Diagnostic studies and in-depth analysis of differences between tree-crop farmers in terms of food/commodity production, dietary diversity, market orientation, technology adoption and off-farm work, generates insights into farmer- and gender-specific livelihood trajectories. This allows for insights into gender and trajectory-specific effects of market and partnership integration on incomes, food production, dietary diversity, and control over land and resources, spaces for innovation, and decision-making autonomy. Discussing these findings in multi-stakeholder learning platforms generates shared understanding among farmers, private sector and public sector of what works for different types of farmers, leading to tailor-made input and service packages and more effective innovation platforms. Enhancing the uptake of these packages notably among female, young and the poorest farmers who tend to be excluded from multi-stakeholder processes, will positively affect both food and commodity production and thus help improve their income, access to food and dietary diversity. Their participation in local learning platforms will enhance smallholders’ organisation and empower them to make autonomous decisions regarding production and terms of market and partnership engagement.

Sustainability aspects will be addressed at farm, landscape and policy level. Knowledge and insights will be generated on the effects of tree-crop farming on multifunctional mosaic landscapes; farmers’ potential to produce in a sustainable manner; and sustainability scenarios and sustainable choice space. Unpacking multi-stakeholder views on sustainable landscapes and discussing policy directions in national learning platforms help develop enabling policies and landscape approaches. At landscape level, this helps broadening the scope of food and income sources and environmental services, thus increasing the resilience of farm- and ecosystems. This provides a counter-scenario for risks associated with monoculture and will ultimately lead to sustainable multi-functional mosaic landscapes. A better understanding of different sustainability scenarios among policymakers and practitioners enables strategic decisions about tree and food crop combinations and the environment.

Participatory action research in local and national learning platforms will generate knowledge and methodologies for enhanced learning across stakeholder groups and improved negotiation in emergent partnerships. Sharing and discussing a review of institutional arrangements for decision-making, risk and benefit sharing, and learning in existent partnerships and innovation platforms, provides the basis for novel institutional designs that are more gender sensitive and conducive to interactive and joint learning. Organisation and empowerment of smallholder tree-crop farmers in local learning platforms will strengthen their capacity to negotiate more equitable terms of engagement in partnerships and innovation platforms, and enhance their space for innovation. This will facilitate a shift from smallholders as beneficiaries to smallholders as professionals and decision-makers, ultimately making them real partners in inclusive value chain collaboration.

The comparative research design, involving national and international tree-crop value chains originating from Ghana and South Africa with different kinds of partnerships will enhance South-South learning and integrative insights.
### Research outputs

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<th>Indicators</th>
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<td>Change agents for inclusion in LPs identified after 6 months</td>
<td># of farmers who apply the input and service packages provided in innovation platforms increased by 30% after 3 yrs. among learning platform participants and 10% after 3 yrs. among other tree-crop farmers engaging in the partnership/ innovation platform.</td>
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<td># of innovation platforms having food production- enhancing strategies in place increased to 50% after 5 yrs.</td>
<td># of farmers experiencing improved year-round access to food increased by 20% for learning platform participants and 5% for other tree-crop farmers after 3 yrs.</td>
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<tr>
<td># of farmers experiencing increased quality of food after 3 yrs. increased by 10% for learning platform participants and nil for other tree-drop farmers after 3 yrs.</td>
<td># of farmers experiencing increased dietary diversity after 3 yrs. increased by 10% for learning platform participants and 5% of other tree-crop farmers after 3 yrs.</td>
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<td># of innovation platforms using M&amp;E indicators to measure impacts on food production increased to 50% after 5 yrs.</td>
<td># of tree-crop farmers feeling represented and heard in innovation platform increased by 10% after 3 yrs.</td>
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<td>Proportion of innovation platforms using M&amp;E indicators to monitor/ evaluate impacts on food production increased to 50% after 5 yrs.</td>
<td># of tree-crop farmers engaging in LP increased by 20% after 3 yrs.</td>
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<td>Protocols in existing platforms on inclusion of different smallholder types and equitable terms of engagement in place after 5 yrs.</td>
<td>Inclusive value chain collaboration</td>
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### Indicators

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<th>Indicators availability after 23 months</th>
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### New insights into gender-sensitive analysis of value chain (VC) and (shifts in) VC governance (PD)

- Change agents for inclusion in LPs identified after 6 months
- VC analysis for 4 tree crops available and shared in LPs after 11 months.
- Paper on VCA submitted for peer-review after 12 months
- Policy brief on VCA available on website and disseminated through e-list and contribution to radio broadcasts and regional newspapers after 12 months

### Innovation platforms use indicators to monitor effects on food production

- # of innovation platforms targeting both tree and food crop farmers after 3 yrs
- # of farmers experiencing improved year-round access to food increased by 20% for learning platform participants and 5% for other tree-crop farmers after 3 yrs.
- # of farmers experiencing increased quality of food after 3 yrs. increased by 10% for learning platform participants and nil for other tree-drop farmers after 3 yrs.
- # of farmers experiencing increased dietary diversity after 3 yrs. increased by 10% for learning platform participants and 5% of other tree-crop farmers after 3 yrs.
- # of tree-crop farmers feeling represented and heard in innovation platform increased by 10% after 3 yrs.
- # of tree-crop farmers engaging in LP increased by 20% after 3 yrs.
- Inclusive value chain collaboration

### New insights into types, actors, institutional arrangements, roles, activities, and role and impact in VC of existing p’ships and platforms (PD)

- Comparative review of p’ships and innovation platforms for 4 tree crops and food production increased by 20% after 5 yrs.
- Proportion of innovation platforms using M&E indicators to measure impacts on food production increased to 50% after 5 yrs.
- Protocols in existing platforms on inclusion of different smallholder types and equitable terms of engagement in place after 5 yrs.

### New knowledge on input/service packages provided through innovation platforms

- Inventory and comparative analysis of input/service packages in Ghana and SA available, shared & discussed in LPs after 23 months.
- LT and gender training modules for extension officers developed after 23 months.

### New knowledge on livelihood trajectories (LTs) through di-agnostic studies and in-depth analysis of how smallholder tree-crop farmers (M/F) differ in terms of food & commodity production, dietary diversity, market orientation, technology adoption and off-farm work (PhD1-2).

- Baseline study with preliminary classification of smallholder tree-crop farmers Ghana and SA and their LTs available, shared & discussed in learning platforms (LPs) after 11 months; follow-up diagnostic study available 3 yrs later.
- Focus groups on gender-/ LT-specific innovation space organised after 14 months.
- Papers on LTs and innovation space among smallholder tree-crop farmers in Ghana/SA submitted for peer-review after 17 months.
- Policy briefs on the topic disseminated via website and contributions to radio broadcasts & reg. newspapers after 17 months.

### Improved access to sufficient and nutritious food and dietary diversity among smallholders

- Improved access to sufficient and nutritious food and dietary diversity among smallholders

### New insights into gender- and LT-specific effects of market and partnership integration gained & shared (PhD1-2).

- Results of analysis of gender- and LT-specific effects on incomes, food production, dietary diversity, technologies, and control over land & resources available, shared & discussed in learning platform and workshop in Month 23.
- 2 papers on gender-/ LT-specific effects of market and p’ship integration in Ghana/SA submitted after 24 months.
- Policy briefs disseminated via website and contributions to radio broadcasts & regional newspapers after 24 months.

### New insights into gender- and LT-specific differences in decision-making autonomy and negotiating capacity (PhD1-2)

- Results of analysis of gender- and LT-specific differences in decision-making autonomy and negotiating capacity available, shared & discussed in learning platform after 35 months.
- Papers submitted for peer-review after 36 months.
- Policy briefs disseminated via website and contributions to radio broadcasts & regional newspapers after 36 months.

### Indicators to monitor food production in tree-crop systems co-developed in LPs (PD)

- Indicators available after 23 months

### Smallholders make autonomous decisions re. self-organisation, crop combinations, participation in high-value markets, p’ship engagement and combination of livelihood activities

- # of smallholders actively negotiating terms of engagement increased by 30% after 5 yrs.
- # of smallholders negotiating terms of engagement increased by 30% after 5 yrs.
- Annual reports indicate increased uptake after 5 yrs.
- Protocols for exchanging needs, knowledge and innovations between field-based and (sub-)national LPs in place for all 4 tree crops after 5 yrs.
- Existing innovation platforms have outreach strategy for reaching different farmer groups and strategies to better align input/service packages with different LTs in place after 5 yrs.
Food & Business Global Challenges Programme
Integrated Project Final Application First Call 2013

Innovative institutional design and methodology for inter-actor learning among stakeholder groups in LPs gained & shared (PD)
- Recommendations on equitable institutional design and methodology for joint learning in innovation platforms available, shared & discussed in LPs after 35 months.
- Paper on institutional design of innovation platforms published after 36 months.
- Policy brief disseminated via website, and contributions made to radio broadcasts & regional newspapers made after 36 months.

Spin-off for food production, and match with gender- and LT-specific innovation spaces gained & shared (PD)
- Joint paper on input/service packages for an LTs by PD&PhD1-2 submitted, policy brief on the topic disseminated through website, and contributions made to radio broadcasts and regional newspapers after 24 months.

Break-through theory of the co-production and negotiation of knowledge in LPs developed & shared (PD)
- Ideas on co-production and negotiation of knowledge shared and discussed in national LPs after 47 months.
- Paper on co-production of knowledge in LPs and effects on food production in Ghana and SA submitted for peer-review after 48 months.
- Policy brief disseminated via website and contributions made to radio broadcasts & regional newspapers after 48 months.

New insights into the effects of tree-crop farming systems on multifunctional landscapes gained & shared (PhD3)
- Baseline study of effects of tree-crop farming on biophysical landscape characteristics shared & discussed in learning platform after 11 months.
- Focus on perceptions of impact of tree-crop farming systems on sustainable multifunctional landscapes organised after 11 months.
- GIS integrating biophysical data and stakeholder perceptions available after 14 months.
- Paper submitted after 17 months.
- Policy brief disseminated via website and contributions to radio broadcasts & regional newspapers after 17 months.

New insights into farmers’ potential & incentives to contribute to sustainable multi-functional landscapes (PhD3)
- Results of analysis of farmers’ potential & incentives to contribute to sustainable multi-functional landscapes available, shared & discussed in learning platform and writeshop after 23 months.
- Paper submitted after 24 months.
- Policy brief disseminated via website and contributions to radio broadcasts & regional newspapers after 24 months.

Innovative insights into sustainability scenarios and sustainable choice space of selected tree crops gained & shared (PhD3)
- Results of analysis of sustainability scenarios and sustainable choice space available, shared & discussed in LP after 35 months.
- Paper submitted after 36 months.
- Policy brief disseminated via website and contributions to radio broadcasts & regional newspapers after 36 months.

Integrated insights into the contribution of inclusive innovation platforms and sustainable tree-based farming systems to food sovereignty in multi-functional landscapes (PT).
- 2 PhD theses on LTs, innovation space and food sovereignty of smallholder cocoa and oil palm farmers in Ghana and macadamia and mango farmers in SA resp. after 48 months.
- 1 PhD thesis on potential of tree-crop farming systems in Ghana & SA to contribute to multi-functional landscapes after 48 months.
- 3 integrative studies & policy briefs on how p’ships & platforms involving businesses and smallh. tree-crop farmers in Ghana & SA contribute to (i) food sovereignty, (ii) inclusive VC collaboration, and (iii) sustainable landscapes finalised in writeshop in Month 47.

Evaluation platforms holistically address inclusive change collaboration, food sovereignty and sustainable landscapes
- Strategies and M&E indicators in place for inclusive chain collaboration, food sovereignty and sustainable landscapes within 10 yrs.

There are 9 conclusions and 9 recommendations for action.
7. Communication strategy

Communication will occur at three levels:

Within the project team:
- Consortium members will have a monthly conference call (Skype) and email contact when needed;
- The Dutch project team members will meet annually with the national project team members around the (sub-)national learning platform meetings.
- Consortium and project team members will meet bi-annually in workshops for joint learning, comparison of research results, and writing of scientific peer-reviewed articles and outputs for wider sharing and learning (policy briefs infosheets/contribution to newspaper articles in local press).
- A Steering Committee consisting of consortium and senior project team members will be appointed to assess 6-monthly financial and progress reports for M&E.

Deliverables:
- 6-monthly financial and progress reports (Month 7, 13, 19, 25, 31, 37, 43, 48)
- Workshops organised (Month 23, 47)

With stakeholders:

Our communication strategy with stakeholders involves an ongoing iterative exchange and learning process that already started with the joint design of research and research impact pathway during the stakeholder and consortium workshops. Through communication of intermediate research results in annual meetings of field-based and (sub-)national learning platforms (see postdoc description) we want to achieve:
- An adaptive research design based on a shared problem definition;
- Stakeholder-specific outputs;
- Interactive learning and joint learning with different stakeholders;
- Better understanding of problem and solutions;
- Evaluate the relevance of research process and results for policy and farmer practice.
- A better uptake of results hence transformation from outputs to outcomes.

These learning platforms play a key role in connecting the sub-projects, communicating their results, and enhancing their uptake and transformation into outcomes (Figure 3).

Deliverables:
- Research impact pathway and research proposal (Month 0)
- Annual learning platforms organised for two tree crops in both countries (Month 11, 23, 35, 47) and reported one month later.

With external audiences:

Intermediate project achievements will be communicated to external audiences, including the academic community, national and international policy circles, target groups, and the general public in an ongoing process.

Deliverables:
- 2-monthly E-letter to subscribers (Month 3, 5, etc.)
- Project website with project information and outputs established (Month 2) and maintained (ongoing process);
- Presentations at conferences, seminars & workshops (if and when possible/relevant)
- Peer-reviewed articles (15) (see item 6)
- PhD theses (3) (Month 48)
- Policy briefs infosheets available at learning platform meetings (Month 0)
- Contribution to articles in regional newspapers in the two regions (if and when possible/relevant)
8. **Time table**

The programme will run from 1 October 2014 to 30 September 2018. Objectives, milestones and outputs are linked to Items 6 and 7 of this proposal.

<table>
<thead>
<tr>
<th>Activity</th>
<th>1-2014</th>
<th>2-2015</th>
<th>3-2016</th>
<th>4-2017</th>
<th>5-2018</th>
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<tbody>
<tr>
<td><strong>Management</strong></td>
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<tr>
<td>Start-up and demand-articulation</td>
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<tr>
<td>Exchange with stakeholders</td>
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<tr>
<td>Programme coordination (incl. monthly Skype/teleconference)</td>
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<tr>
<td>Financial progress reports written and assessed (6-monthly)</td>
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<tr>
<td>Write-shops</td>
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<tr>
<td>Annual learning platforms</td>
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<tr>
<td>Self-assessments mid-term and final evaluation</td>
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<tr>
<td><strong>Communication with external audiences</strong></td>
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<tr>
<td>E-letters (2-monthly)</td>
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<td>Maintenance project website</td>
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<tr>
<td>Peer-reviewed articles</td>
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<td>Policy briefs</td>
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<tr>
<td><strong>PhD</strong></td>
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<tr>
<td>Writing project proposal</td>
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<td>CERES/AISSR PhD training</td>
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<tr>
<td>Courses, workshops, conferences</td>
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<tr>
<td>Policy &amp; literature review</td>
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<tr>
<td>Data collection &amp; analysis</td>
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<tr>
<td>Baseline study</td>
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<tr>
<td>Focus group discussions</td>
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<td>Results shared/discussed in LPs</td>
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<td>Policy briefs</td>
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<td>Papers submitted for review</td>
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<td>Diagnostic study (PhD 1-2)</td>
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<td><strong>PhD thesis defense</strong></td>
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<tr>
<td><strong>Milestones PhDs</strong></td>
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<td>5</td>
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<td><strong>Post doc</strong></td>
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<td>Project initiation/ orientation</td>
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<td>Data collection &amp; analysis</td>
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<td>Workshops, conferences etc.</td>
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<td>Setting up / facilitating field-based LP’s all crops</td>
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<td>Setting up / facilitating national LP’s mango / macadamia</td>
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<td>Indicators for monitoring food prod.</td>
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<td>Results shared/discussed in LPs</td>
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<td>Papers submitted for review</td>
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</table>
1: Baseline study with preliminary classification of smallholder tree-crop farmers Ghana and SA and their LTs available, shared & discussed in learning platforms (LPs) after 11 months.
2: Papers on LTs and innovation space among smallholder tree-crop farmers in Ghana/SA submitted for peer-review after 17 months.
3: Policy briefs on the topic disseminated via website and contributions to radio broadcasts & reg. newspapers after 24 months.
Results of analysis of gender- and LT-specific effects on incomes, food production, dietary diversity, technologies, and control over land & resources available, shared & discussed in learning platform and writeshop in Month 23.
4: 2 papers on gender-/LT-specific effects of market and p'ship integration in Ghana/SA submitted after 24 months.
5: Policy briefs disseminated via website and contributions to radio broadcasts & regional newspapers after 24 months.
6: Papers on gender- and LT-specific differences in decision-making autonomy and negotiating capacity submitted for peer-review after 36 months.
7: Policy briefs disseminated via website and contributions to radio broadcasts & regional newspapers after 36 months.
8: Follow-up diagnostic study available 3 yrs after baseline study.

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<th>Training modules for extension</th>
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<tr>
<td>Policy recommendations and methodology for joint learning</td>
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<td>15-18</td>
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<td>Milestones - Outputs</td>
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<td>24</td>
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Indicates optional activities when required | Indicates core activities
9. References


