Some years ago, a programme in Limpopo Province, the Tukela Delta Integrated Development Programme (TDIP) embarked on a process of adaptive learning as a policy approach. (PAs) which it aimed to support rural advisors in the process of adaptive learning. Under the TDIP, JOLISAA researchers identified an additional concrete suggestion on the need to reconcile their observations on the following issues: 1. The PAs were effective at bringing together stakeholders and other local actors in the social, economic, and institutional context. 2. The PAs were effective at promoting innovative thinking and learning processes at all levels of the advisory services. 3. The PAs were effective at promoting innovative thinking and learning processes at all levels of the advisory services. 4. The PAs were effective at promoting innovative thinking and learning processes at all levels of the advisory services. 5. The PAs were effective at promoting innovative thinking and learning processes at all levels of the advisory services. 6. The PAs were effective at promoting innovative thinking and learning processes at all levels of the advisory services.

Conclusions and perspectives

To conclude, we can say that the joint learning process during the JOLISAA project enables policymakers to make better-informed decisions and to promote a more effective and efficient use of resources in the agricultural sector. The findings from the JOLISAA project can be translated into practical recommendations for policymakers and practitioners to improve the quality and effectiveness of agricultural innovation systems in Africa. The key POLICY recommendations are as follows:

**1. Policy Change:**
- Increase the number of policy initiatives focusing on innovation and development in the agricultural sector.
- Develop policies that encourage collaboration between different stakeholders, including government, research institutions, and farmer organizations.
- Strengthen the link between research and policy by establishing mechanisms for knowledge exchange.

**2. Policy Development:**
- Develop and implement policies that support the development and diffusion of new agricultural technologies and practices.
- Enhance the capacity of farmers and other stakeholders to participate in the innovation process through training and capacity building.
- Promote the use of innovative financing mechanisms, such as farmer-managed experiments and innovation funds, to support the adoption of new technologies.

**3. Policy Implementation:**
- Ensure that policies are effectively implemented and monitored through periodic evaluation and re-approval processes.
- Strengthen institutional capacity and governance structures to ensure the effective implementation of policies.

**4. Policy Evaluation:**
- Strengthen the capacity of policymakers to evaluate the effectiveness of policies through the use of appropriate monitoring and evaluation tools.
- Ensure that policies are periodically reviewed and adapted based on feedback and evaluations.

**5. Policy Monitoring:**
- Ensure that policies are monitored and evaluated through the use of appropriate indicators and performance metrics.
- Strengthen the capacity of policymakers to use information from monitoring and evaluation processes to inform policy decisions.

**6. Policy Communication:**
- Ensure that policies are effectively communicated to stakeholders through outreach and dissemination activities.
- Promote the use of innovative communication tools to reach diverse audiences.

**7. Policy Advocacy:**
- Strengthen the capacity of policymakers to advocate for policy changes through the use of advocacy campaigns and partnerships.
- Promote the use of policy advocacy tools, such as policy briefs and white papers, to influence policy decisions.

In conclusion, the JOLISAA project provides valuable insights into the nature and importance of innovation in the African agricultural sector. The findings from the project can be used to inform policy decisions and improve the effectiveness and efficiency of agricultural innovation systems in Africa.
Case 1: Aloe processing: innovation "under the radar"

The literature on innovation processes “in the social wild” is always keen to stress the crucial role of informal, unstructured, and uninitiated processes and "triggers" (including market outlets) that don’t fit with local realities (Belmin et al 2013). Although the innovation processes “in the social wild” are medium-sized entrepreneurs and local government with other stakeholders such as private business in the “real world” and all involved. 

Markets and value chains, whether local or distant, can contribute to improving these local systems in different ways. The case assessment for food in local stores. This value chain was not barter system developed through which poor women and men and organizations innovations also took place: traders and processors (Floquet et al 2014a). 

In the initial intention for introducing soybean into Benin in the 1980s, it was meant to be a source of income for poor households and self-employment. Innovation still unfolds today: some local people started to supply fast-growing neighbouring urban markets. Farmers now rely on both fish and vegetables for their income. In 1985, the farmers have intensified the system and market fluctuations. Scientific knowledge can be used as a way to protect trees in arid areas. Therefore, the charcoal burning and trading were banned at the time, using the pods as feed and making charcoal. However, the law had to be changed: this institutional innovation allowed controlled and traceable prosopis charcoal production services and logistics. 

In the late 1980s, the Farmers’ Field School – a way to allow controlled and traceable prosopis charcoal production services and logistics. 

Any attempt to foster innovation processes through public institutions such as universities and research centers is bound to fail if the public sector is unable to define and apply the role of existing and new facilitators. However, the innovation process take root and offered multiple additional value chains. 

Case 2: Enhancing endogenous innovation in agro-forestry systems

From southern Benin practising both cropping and vegetable beds (Floquet et al 2014b). 

Case 3: Diversification of value chains for flexible risk management

In the 1980s, FAO introduced Prosopis juliflora as a "trigger" in the conservation and promotion of family farms in Benin. Farmers who used this tree also started to use it as a way to protect trees in arid areas. Therefore, the charcoal burning and trading were banned at the time, using the pods as feed and making charcoal. However, the law had to be changed: this institutional innovation allowed controlled and traceable prosopis charcoal production services and logistics. 

Address the multiple dimensions of innovation

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Case 3: Diversification of value chains for flexible risk management

Despite soybean was introduced into Benin in the 1980s to make protein-rich baby food. It has now become a major crop grown on over 100,000 ha. Thousands of small-scale farmers across the country have taken up soybean, and a significant proportion of them are women. Today, soybean becomes a key commodity to protect trees in arid areas. Therefore, the charcoal burning and trading were banned at the time, using the pods as feed and making charcoal. However, the law had to be changed: this institutional innovation allowed controlled and traceable prosopis charcoal production services and logistics. 

In an extremely diverse project, space needs to be given for the interweaving of new and old, which is especially true in the contexts of smallholder farms. However, the innovation process take root and offered multiple additional value chains. 

Case 3: Diversification of value chains for flexible risk management

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In the late 1980s, the Farmers’ Field School – a way to allow controlled and traceable prosopis charcoal production services and logistics.
Combining local and external knowledge and ideas to enhance innovative capacity (1 + 1 = 3) Linking multiple sources of knowledge enhances the capacity to develop new knowledge and ideas, which in turn can increase the problem-solving capacity and the ability to address social, economic and environmental challenges. The combination of local and external knowledge is essential to achieve this goal. The JOLISAA team documented almost 60 cases covering smallholder farmers and their interactions with different stakeholders, such as researchers and extension workers, NGOs, their own farmer organisations, other stakeholders such as private business in the “real world”, development experts, practitioners and policymakers from elsewhere (see Message 1 and aloe case). Linking multiple sources of knowledge enhances the capacity to develop new knowledge and ideas, which can lead to the unexpected emergence of new value chains. Innovation still unfolds today: some local people started burning and trading – to find ways to control prosopis by cutting it, as a way to protect trees in arid areas. Therefore, the charcoal burning and trading were banned at the time, and this example of innovation was also an asset for the local and national economy by ensuring the livelihoods of smallholders and other local stakeholders always keeping in sight the overall aim of improving the sustainability of local systems in different periods of time and specific to a changing context. In this externally driven intervention all played a role in unexpected directions over many years or even decades. Innovation cannot be planned from the outset, as it evolves and changes over time, and needs to be guided by the actors on the ground, not by rigid pre-planned prescriptions about what to do and how to do it. Hence, innovation processes need to be more flexible and adaptive, and the role of policymakers should be in the innovation process to take root and offered multiple opportunities for local people (Cheng et al 2013).

Support unintended innovation processes

Innovation does not happen in a vacuum. JOLISAA study highlights the importance of external support in fostering the potential for innovation processes to emerge. Support to smallholder farmers and processors is crucial to facilitating the engagement of smallholders with both formal and informal value chains through regulation and suitable arrangements. Linking multiple sources of knowledge enhances the capacity to develop new knowledge and ideas, which can lead to the unexpected emergence of new value chains. Innovation still unfolds today: some local people started burning and trading – to find ways to control prosopis by cutting it, as a way to protect trees in arid areas. Therefore, the charcoal burning and trading were banned at the time, and this example of innovation was also an asset for the local and national economy by ensuring the livelihoods of smallholders and other local stakeholders always keeping in sight the overall aim of improving the sustainability of local systems in different periods of time and specific to a changing context. In this externally driven intervention all played a role in unexpected directions over many years or even decades. Innovation cannot be planned from the outset, as it evolves and changes over time, and needs to be guided by the actors on the ground, not by rigid pre-planned prescriptions about what to do and how to do it. Hence, innovation processes need to be more flexible and adaptive, and the role of policymakers should be in the innovation process to take root and offered multiple opportunities for local people (Cheng et al 2013).

Any attempt to foster innovation processes through public interventions has to be mindful and careful. The history of each case was explored going back many years, and showed that, sometimes, the interventions developed in a locally understandable way, without challenges, including issues of sustainability of local systems in different periods of time and specific to a changing context. In this externally driven intervention all played a role in unexpected directions over many years or even decades. Innovation cannot be planned from the outset, as it evolves and changes over time, and needs to be guided by the actors on the ground, not by rigid pre-planned prescriptions about what to do and how to do it. Hence, innovation processes need to be more flexible and adaptive, and the role of policymakers should be in the innovation process to take root and offered multiple opportunities for local people (Cheng et al 2013).
Combining local external knowledge and ideas to enhance innovation capacity

Listing multiple sources of knowledge enhances the capacity of local communities to identify and access the support they need to develop innovations. Such synergies benefit both society and open up opportunities. Self-production can help bridge local food and nutrient gaps.

Although the innovation processes “fit the social” will be dynamic, they can be strengthened, speeded up and made more sustainable through appropriate arrangements. Knowledge of different types and sources that respond better can support innovation processes. Such processes can involve technologies, training, information, finance and other resources.

In market-oriented environments, two types of support are needed: (1) facilitating knowledge creation, access and dissemination; and (2) stimulating knowledge use in the local innovation process.

Innovators should be provided with the support they need to scale up and sell the knowledge and technology they have developed. They need to train local workers in the business aspects of the technology, in addition to the technical aspects.

Innovators and innovators

Involving local communities in the design and implementation of new technologies and business models can help ensure that the solutions are appropriate and sustainable. They also need to be able to access local resources, such as financial and human capital.

Supporting innovative innovation processes

Innovative processes should be planned from the outset, taking into account the specific needs and requirements of local stakeholders. Such processes should be supported by local communities and stakeholders to ensure that they are successful.

Innovators can also be trained in the use of innovative technology, which can help them to access and use the resources they need to develop innovations.

Innovators can be supported by local communities, such as local farmers and small businesses, who can help to bring their innovations to market.

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Building on local dynamics: 5 policy recommendations for enhancing innovation by African smallholder farmers

Introduction
The rapid changes and global challenges facing African agriculture are dynamic, complex, and diverse, necessitating rapid and flexible innovation processes that can respond to locally emerging needs. Donors and researchers have noted that innovation processes have often failed to take advantage of local resources or to support meaningful change, especially in smallholder agriculture. Donors and smallholder farmers have sought better ways of interacting with one another, and of ensuring that innovation is not only carried out, but also followed through to benefit local farmers.

Building on local dynamics: 5 policy recommendations for enhancing innovation by African smallholder farmers

1. Build on “in the social wild”


A new approach to outsourcing innovation research, which is more dynamic, flexible and demands a different mindset than traditional research, can be fully integrated into local practice. Similarly, social or institutional change may come first and lead to a desire for the new technologies and/or adoption of new technologies. In such a process, the innovation system is dynamic, continuously changing. Donors and academics must recognize this.

Recent findings from the Joint Learning in Innovation Systems in African Agriculture (JOLISAA) Project show that smallholder farmers are actively innovating individually and in cooperation with other farmers, research and development (R&D) institutions, and other stakeholders. Smallholder farmers are thus more active participants in innovation processes than previously acknowledged, valued and encouraged.

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Recent findings from the Joint Learning in Innovation Systems in African Agriculture (JOLISAA) Project show that smallholder farmers are actively innovating individually and in cooperation with other farmers, research and development (R&D) institutions, and other stakeholders. Smallholder farmers are thus more active participants in innovation processes than previously acknowledged, valued and encouraged.
A fundamental change must be made in the way projects are managed and funded. R&D and policy actors need to take responsibility for driving such change. donor agencies should develop specific guidelines under their portfolios that encourage the use of project-oriented approaches. These guidelines should be guided by the principles of monitoring and evaluation, understanding and enhancing innovation, and encouraging dynamic and adaptive collaborative processes. This means that projects must learn as they are implemented, aligning funding with changing needs and priorities, and providing a balance between short-term and long-term commitments. A distinction must be made between activities meant to support the innovation process and those meant to enhance adoption.

Fit for purpose

The five key recommendations that came out of the JOLISAA workshop in Kenya in May 2013 identified additional concrete suggestions on how to take action on these recommendations:

1. Continue governments and donors to change the way they fund innovation.

A fundamental change must be made in the way projects are managed and funded. R&D and policy actors need to take responsibility for driving such change. Donor agencies should develop specific guidelines under their portfolios that encourage the use of project-oriented approaches. These guidelines should be guided by the principles of monitoring and evaluation, understanding and enhancing innovation, and encouraging dynamic and adaptive collaborative processes. This means that projects must learn as they are implemented, aligning funding with changing needs and priorities, and providing a balance between short-term and long-term commitments. A distinction must be made between activities meant to support the innovation process and those meant to enhance adoption.

2. Support unpredictable innovation processes

EIOs should provide support for creating, managing, and operating platforms adapted to the specific context and objectives of the innovation process. These processes may unfold along unexpected trajectories – the introduction and management in Marigat, Baringo County, Kenya. They need to be able to understand and adapt to new situations and opportunities and provide the necessary support for idiosyncratic processes – the joint learning process during the JOLISAA project.

3. Encourage access to diverse value chains to lower the innovation risks

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4. Support innovative and proactive smallholder family farmers

In a vibrant innovation process, all stakeholders express their innovation capacity and initiatives is also critical, e.g. in the case of soy in Benin. The Agricultural Advisory Services Department (AASD) in Benin, in its efforts to increase adoption of soy in Benin, developed a Participatory Extension Systems in Africa workshop (Triomphe et al 2014), downloadable at www.jolisaa.net.