

Finance & Markets

Global Soil Week 2019 Outcome Report

Markets and financial mechanisms that are accessible for rural and resource-poor smallholder farmers are often preconditions for these farmers to engage in SLM and increase agricultural output. Access to finance and markets is therefore pivotal to reduce hunger, poverty, and food insecurity while increasing human welfare. The challenge for resource-poor, smallholder farmers in Africa is to increase agricultural output while engaging in a sustainable and climate-resilient management of land and soils. However, smallholder farmers without (secure) access to land are affected by increasingly complex environmental, social, economic and political challenges such as climate change, population growth, and limited access to financial capital. Market failures such as missing markets, externalities from unsustainable agricultural practices and asymmetric information about input or market prices tend to sharply limit their ability to sustainably increase agricultural productivity.¹

In terms of creating an enabling environment when it comes to accessible and inclusive financing mechanisms and market access, two key areas limit the capacities of marginalized smallholder farmers to engage in sustainable and climate-resilient agriculture: finance and access to capital; and the

organization and logistics of production, marketing, and storage services.²

First, smallholder farmers often lack the necessary capital to increase productivity and generate profits for further investment.³ Lack of suitable collateral, especially for farmers without (secure) access to land, poses a considerable constraint for accessing finance amongst smallholder farmers. Furthermore, lack of managerial and organizational skills limits the capacity of many smallholder farmers to document their financial assets, further increasing transaction costs related to accessing finance by involving external agents if independent audits are needed.⁴ As lenders must responsibly evaluate the borrower's reliability to avoid default, providing this information is a key step in accessing finance for smallholder farmers.⁵ Additionally, external shocks such as weather variability pose a significant challenge to farmers who might need emergency capital to overcome unexpected challenges in production. This, in turn, highlights the all too common risk of smallholders falling into debt traps and incentivizes even more strongly the need for smallholder-specific finance models.

1. Todaro P, M., & Smith C, S. (2011). *Economic Development* (11th ed.). Harrow: Pearson Education Limited. (pp. 416–457)

2. Collier, P. & Dercon, S. (2014). *African Agriculture in 50 Years: Smallholders in a Rapidly Changing World?*, World Development, Elsevier, vol. 63. (pp. 92-101).

3. African Union/NEPAD (2003).

4. Collier, P. & Dercon, S. (2014).

5. Richard L. Meyer. (2015). *Financing Agriculture and Rural Areas in Sub-Saharan Africa: Progress, challenges and the way forward*. IIED Working Paper. IIED, London.

Second, weak linkages between producers and markets hinder the ability of smallholder farmers to capitalize on potential market access. Physical capital constraints such as the lack of storage, processing, and marketing facilities along with weak public infrastructure, increase transaction costs for accessing markets, especially for poorer farmers. This disincentivizes investments in sustainable production and decreases the capacity to generate additional value to agricultural products through value chain development. Subsequently, weak value chains have perpetuated the marginalisation of poorer farmers from the generation of wealth as well as accessing markets for their products.⁶

Experiences from the projects discussed during the GSW 2019 permitted to identify a set of strategies to address market failures and social constraints that affect smallholder farmers in Africa. The enabling environment created by these cases contributed to increased capacities of rural and resource-poor smallholder farmers to catch up with frontier technologies and access effective finance and market access services. For example, some projects have integrated actors along value chains for nuts and honey. In doing so, these projects have created economies of scale that outweighed market imperfections by providing cost-effective extension, production, processing, and marketing services for groups reducing transaction costs for the individual farmers. Other projects encouraged the formation of farmers associations that reduced information

asymmetries, incentivized technology adoption by
6. African Union/NEPAD (2019). Knowledge Compendium for Malabo Domestication. Chapter 4: Agricultural Value Chains and Agro-Industrialisation.

reducing risks of adoption, and pooled resources to facilitate lumpy investments in on-farm technologies or value-adding processing facilities.

The following strategies present the major findings and agreements derived from the discussion on ways of creating an enabling environment for sustainable and climate-resilient agriculture in Africa from the finance and markets perspective.

STRATEGY 1: Ensuring that donor-funded projects are context-specific

The underlying theory of the GSW 2019 that 'projects never fail, but also never scale,' includes an observation that many donor-funded development projects employ a blanket approach in pilot initiatives meant to support smallholder farmers. Consequently, some cases explored during GSW 2019 provided lessons on how to ensure more context-specific funding models and project design.

Means and ways of contextualizing donor funding:

- *local implementing agencies having authority over project design (Chia Lagoon Watershed Management; Improving ecosystem services in degraded dryland areas)*
- *implementing adaptive management processes to ensure projects adapt to community needs (Chia Lagoon Watershed Management)*
- *funding civil society to mediate participatory design (example from workshop)*
- *establishing social accountability measures which hold donors to account for project objectives and outcomes (example from*

workshop)

- committing funds for pre-assessment phases (example from workshop)

One example in support of this strategy involves allowing local implementing agencies to have authority over project design. The essence of this example is to value local implementing agencies in their knowledge of local needs. Directly related is another example, which is to implement adaptive management processes to ensure projects adapt to community needs. Workshop participants discussed that such processes are supported by applying a market-ecosystems approach, where each actor along the value chain is considered in regard to what they produce and supply to the market. This ensures that individual needs and interests are acknowledged and that the production ecosystem (e.g. upstream and downstream) is aligned to the best possible degree.

In order to ensure that such authority over project design is established and to support adaptive management processes, the role of civil society was discussed. Considerable time must be provided for in pre-project phases in order to make participatory processes a genuine reality. The funding of civil society to mediate participatory design and commitment of funds for pre-assessment phases are major lessons that donors can take away in terms of mechanisms to achieve post-project sustainability.

Finally, establishing social accountability measures which hold donors to account for project objectives and outcomes is another example regarding context-specific donor-funded projects. An example from Orissa, Eastern India, was provided in which the use of social audits was put forth as a mechanism to hold public agencies accountable for the success and ultimate benefit sharing of development initiatives throughout the State.⁷ As illustrated in the example, social audits are normally used for holding local governments accountable, but workshop participants discussed how such mechanisms could be extended to hold foreign governmental representatives accountable for donor-funded projects implemented in their country's name. How such a mechanism could come to agreement and be properly implemented was, however, left as an open question.

STRATEGY 2: Understanding the variety of financial needs amongst farmers to create suitable financial mechanisms for the different actors

This strategy relates to the reality of smallholder farmers lacking access to credit. This is often due to their cash-poor status and the general risk involved in investments within the agricultural sector. However, farmers – smallholders or not – are not all the same. Thus, they each may require different and specific financial support for practicing SLM and maintaining such practices over time.

7. ActionAid India, Bolangir Team. (2002) Samajik Samikhya: a social audit process in a panchayat in Orissa. PLA Notes, 43: 14-17; <https://pubs.iied.org/pdfs/G01976.pdf>

Means and ways of contextualizing financial services:

- *providing inputs (seedlings etc.) on credit for repayment with harvest (Limboa Ltd; One Acre Fund)*
- *offering support to farmers through a community-financed revolving fund for in-kind agricultural inputs (Chia Lagoon Watershed Management)*
- *allowing for agricultural-specific collateral such as standing crops (National Bank for Agriculture and Rural Development)*
- *establishing enabling policies that create incentives for SLM (example from workshop)*

One example gathered through the analysis of our cases was to *provide in-kind loans (seedlings, fertilizers, etc.) on credit for repayment with harvest*. This example interlinks with the strategies formulated in the extension workshop, as tying such in-kind loans to training of how to properly use them has proven successful in many cases. This example is also particularly useful in the production of cash crops – i.e. those with an established market linked to their production – but participants of the workshops highlighted that this example does not consider the production of crops for household consumption, thus without a profit margin.

A second example from our analysed cases proposed *offering support to farmers through a community-financed revolving fund for in-kind agricultural inputs*. The inclusion of ‘community-

financed’ was a particular consideration highlighted by workshop participants due to a consensus of building ownership, and thus sustainability, around these funds by them being at least partly financed by the community members who will benefit from them.

A third example involved *allowing for agricultural-specific collateral for loans, e.g. standing crops*.

As mentioned above, cash and resource-poor farmers often lack the needed collateral to enable their access to credit. This calls for innovative and context-specific loan requirements, including the identification of collateral suitable to smallholder farmers’ realities. The example of standing crops (e.g. crops that have not yet been harvested) was illustrated as one possible form of collateral, though one could also consider other on-farm products (e.g., tractors, processing equipment) as well.

The question here, however, is where to draw the line as to what makes this different from forms of collateral including one’s home, for example. Equally, the question of whether this strategy reaches the poorest farmers who may not have any such form of collateral at all, or how such a consideration can ensure that poor (smallholder) farmers do not get trapped in a cycle of debt, remains open to further considerations.



Photo by Francis Dejon/IISD

Finally, an additional consideration was to *establish enabling policies that create incentives for SLM*.

Such incentives need to encourage the production of appropriate crops (e.g. drought resistant) and could include an assessment of subsidy policies, which often incentivize the use of mineral fertilizers, contrary to the support of smallholders practicing low input SLM. Both governments and the private sector are important actors regarding such incentives, as farmers are often either reached through public extension services or privately funded programmes. Both of these service providers thus have the ability to steer sustainable production through financial or material incentives provided to farmers, whether this is in the form of subsidies or direct input provision. In connection to the enabling environment illustrated within Local Governance & Cooperation Models, the coordination of service providers is important to note here.

STRATEGY 3: Using ICT to both reduce transaction costs of payments between farmers and service providers and to improve information flows

This strategy draws on the potential of Information and Communication Technology (ICT) to contribute to sustainable agriculture, climate change adaptation, and more specifically, to access financial services and relevant financial information. The strategy is based on the complementarity of financial services and ICT, the former providing the credit, the latter facilitating access to it. It is a strategy to overcome the challenge for smallholder farmers, especially those in remote areas to place payments and other financial activities more easily.

Means and ways of using ICT to improve financial transactions and access to financial information:

- *allowing at-home payments through mobile technology (One Acre Fund)*
- *allowing for flexible repayments in instalments (One Acre Fund)*
- *providing real-time payment of produce to each farmer (Limbia Ltd.)*
- *increasing information flow through use of data (example from workshop)*
- *investing in ICT infrastructure based on supporting government policy and incentives (example from workshop)*

ICT can make repayment of credits more suitable and cost-effective for rural smallholder farmers and agribusinesses. The One Acre Fund, for example, *allows for electronic payments in instalments and for at-home payments through mobile technology*. This reduces efforts needed to travel to centralized payment centres, especially for farmers in remote areas. In the case of the agribusiness Limbia,

real-time payment of produce to each farmer is made possible through ICT. When ICT is used for information sharing e.g. of data, it also contributes to *accessing financial information and reducing information asymmetry*. The role of government, both local and national, is important here as strategic intervention through the formulation of policies or public investment in ICT infrastructure can support the financial services sector in providing access to credit and financial information to smallholder farmers. The private sector can be encouraged to further *invest in ICT infrastructure* by setting the right incentives (e.g. reviewing existing legal and regulatory frameworks in order to reduce barriers that hinder widespread roll out and usage, simplifying licensing regimes, reducing regulatory obligations, and increasing fiscal and tax incentives).

STRATEGY 4: Providing access to and building finance through community-based farmer, saving and investment groups

African (smallholder) farmers and agribusinesses increasingly need access to financial service tools that allow them to farm sustainably. As an individual, smallholder farmers face many challenges in accessing financial means. To overcome these challenges, various communities have formed groups in order to build internal financial resources and to access external funding. Workshop participants discussed relevant ways on how to achieve the formation and good functioning of such farmer, saving, and investment groups.

Means and ways to access and build finance through community-based groups:

- *targeting financial and managerial training to marginalized groups and holding regular meetings to promote group cohesion, reduce information asymmetries, collect savings and debate investments and borrowing schemes (The Kenya Agricultural Carbon Project)*
- *providing organizational support in the formation & running of cooperatives (Limbuah Ltd.)*
- *establishing women’s savings groups by educating women and girls about their economic and social rights and strengthening their voice and participation (Upscaling Evergreen Agriculture)*
- *enacting national and local laws and regulations regarding land tenure systems (e.g., group ranch titles) that guarantee services for organised farmer groups (Laikipia Permaculture Centre)*
- *supporting institutional development through community organizations (e.g., farmers clubs, self-help groups, cooperatives, joint liability groups) (National Bank for Agriculture and Rural Development)*

This strategy is strongly based on local groups that accumulate financial means through saving and borrowing money among its members. However, the discussions showed that it is beneficial if these groups go beyond saving and together decided on investments for the internal funds to grow. Farmer

groups are also a means to join forces to access external funding. Financial institutions providing finances to groups can help to better provide effective measures to a wider range of smallholder farmers than by providing them individually.

Participants perceived the formation of farmers into groups to generate or access finance as an efficient scaling strategy. The formation of farmer groups requires *institutional development through community organizations (e.g., farmers clubs, farmer organisations, cooperatives, self-help groups, saving, borrowing and investment groups, joint liability groups)* and initial capacity building through a structured process of training and support. This includes *organizational support in the formation & running of cooperatives, financial and managerial training to build capacity for financial management as well as regular meetings to promote group cohesion, reduce information asymmetries, collect savings and to debate investments and borrowing schemes.*

Furthermore, cooperation and resources sharing among farmer groups within communities were strongly recommended by some workshop participants as it can help to increase internal sources of finance. It was pointed out that it is important that these groups are inclusive and based on effective democratic leadership allowing equal access to finance and financial information to all (including women, men, and youth).

The formation and establishment of women's savings groups can, in particular, be facilitated by *educating women and girls about their economic and social rights and strengthening their voice and participation.*

An additional consideration was to create a business model for SLM to gain access to finance. Once the groups have been formed, it is up to them to organise and provide extension services to their members, to ensure information dissemination, create awareness and lobby government to receive financial means for their members. However, for farmer groups to be formed, to keep them running and for them to be an effective means to access finance, supportive conditions are required. In most cases that have been analysed, NGOs and CBOs took strong roles, but one example has shown (e.g., Apis agribusiness) that the private sector can also support farmer groups and provide financial support. Private businesses can provide production inputs, processing facilities, and other technologies, financial and managerial training, support procurement and marketing. The stronger involvement of private business in the facilitation of financial access for smallholder farmers might also be a more long-term sustainable approach than relying on the support of NGOs. The role of NGOs in support for farmers to gain access to financial resources should, however, not be devalued, and can go beyond the direct provision of credits and extension by facilitating the formation and management of groups and by lobbying and advocating farmers' needs for finance. Financial

measures offered by financial institutions need to be targeted towards smallholder farmers, especially farmer groups. This requires identifying and distinguishing between the different financial needs within a community.

Furthermore, financial institutions need to provide guidance and information to groups on how to access these financial tools. ICT can be a helpful tool in this undertaking (see Finance and Markets, Strategy 3). Governments and leading financial institutions should come together and harmonize regulations to improve investment prospects.

Examples raised were improved tax regime for farmers, the support of public-private partnerships and manageable interest rates for farmers.

Through *national and local laws and regulations*, governments can set a framework for farmer groups to access finance. In the case study by the Laikipia Permaculture Centre regulations set by the Kenyan government on land tenure systems (group ranch titles) allowed for (e.g., financial) services for organised farmer groups. Furthermore, workshop participants saw local and national governments in charge of capacity building, provision of extension services, governance, and monitoring.

A shortcoming of the financial schemes for farmer groups is that only agents directly related to agricultural production (e.g., smallholder and marginalized farmers) are targeted while agricultural input providers and agents beyond (crop) production are not considered in this strategy.

STRATEGY 5: Building capacities to access payments for ecosystem services to incentivize SLM adoption

Despite promotion efforts by government and non-governmental organizations, the adoption of SLM practices often remains low. Although SLM practices entail many benefits, they present two major challenges for their successful distribution: length of the payback period and externalities. That is, the positive effects (e.g., yield increase, water storage) derived from SLM are most often only noticeable after several years of implementation. Secondly, while the additional costs and the necessary investments associated with the adoption of SLM practices accrue at the farm level, benefits of SLM are gained by the farmer as well as by society as a whole, namely in the form of climate change mitigation and increased food security. Hence part of the challenge of achieving SLM comes down to the balance of short-term profit versus long-term sustainability, as well as the debate of what constitutes a public good. Payments for ecosystem services, such as carbon sequestration, to farmers practicing SLM is one way to compensate farmers for the social benefits they provide and to set an incentive to practice SLM.

Means and ways to access payments for ecosystem services such as agricultural carbon finance:

- *developing a SALM (Sustainable Agriculture Land Management) carbon accounting methodology, certifying the methodology*

under the Verified Carbon Standard, setting up a carbon fund for agricultural, carbon sequestering practices (The Kenya Agricultural Carbon Project)

- *setting up a carbon trading scheme for SALM (provided by the intervening NGO) and a participatory monitoring system (provided by the intervening NGO and farmer group), sharing of revenue among participants (The Kenya Agricultural Carbon Project)*

By developing a *verified method to estimate the climate benefits* of SALM,⁸ the Kenya Agricultural Carbon Project (KACP) managed to generate payments for carbon sequestration that incentivise farmers to adopt SALM, that (partly) compensate the social benefits generated by them and, at the same time, pay for the extension service on SALM provided to the farmers. The farmer groups receive the revenues from the sale of carbon credits as a group and decide as a group how to invest the money. The agriculture carbon scheme is supported by a *participatory monitoring system* where farmers with the support of farmer group leaders self-report the resulting GHG emission reductions using ICT. The workshop participants raised the concern that the self-reporting might be a burden for farmers as this might take a lot of time and resources and that the carbon revenues only make up a small share of their income.

8. Carbon savings are measured using the World Bank's sustainable agricultural land management (SALM) carbon accounting methodology, developed specifically for small-scale farms in developing countries.

Participants expressed the worry that the investment in carbon sequestering practices will end up costing more for the farmers than what they are being compensated for.

Another discussion point was that only farmer groups participating in the project are benefitting and not the entire community. Participants also expressed the need to go beyond payments for carbon sequestration and to also include compensation for other ecosystem services and social benefits such as biodiversity conservation, water management, etc.

Furthermore, the workshop group questioned whether the strong role of the NGO (Vi Agroforestry) can ensure long-term sustainability of the undertaking or whether the private sector should support the development of SALM using a carbon accounting methodology useful to their business. The discussion regarding this strategy ended with the open question on how payments for services such as carbon sequestration can be provided and ultimately, how to get governments and the private sector to invest in it.

STRATEGY 6: Creating economies of scale by setting up production, processing and marketing facilities at the community level

The challenge of developing food value chains that foster SLM while increasing the participation of those at the bottom of the global economic system has attracted the attention of not only development

agencies and national governments but also of the private sector. In this context, the GSW 2019 identified and discussed experiences related to the provision of inputs, production, processing, and marketing services for marginalized groups in Africa, such as landless youth and women. The lessons from these cases address the provision of critical inputs for marginalized groups to escape from marginalization traps. Further, these lessons depend on a reduction of adoption costs for farmers and businesses higher-up in the value chain thanks to economies of scale.

Means and ways of supporting smallholders through economies of scale:

- *providing local and direct access to inputs, storage, and processing facilities (for organic honey) so that transportation and transaction costs are reduced for marginalized honey producers (Apis Agribusiness)*
- *decentralizing and locating processing facilities in rural village centres and committing to low-level mechanization of factories, supporting more manual labour (Limbua Ltd.)*
- *organising transport of nuts/avocados from individual farmers' farms, thereby removing the burden of transport costs from farmers (Limbua Ltd.)*
- *bringing in technical and management expertise in processing and marketing of the agroforestry products (Upscaling Evergreen Agriculture)*

The creation of economies of scale is crucial for a market-driven value chain development approach, especially considering that the lessons drawn from the cases can be contextualized in profit-seeking initiatives for which the reduction of costs is determinant. The examples within this strategy portray a reduction of adoption costs for individual farmers by private businesses taking the lead in organizing joint transport, processing, and marketing services. For example, by *organising transport of nuts/avocados from individual farmers' farms, thereby removing the burden of transport costs from farmers*. Furthermore, the provision of *local and direct access to inputs, storage, and processing facilities* can be secured by agribusinesses higher up in the value chain because not only do they have the necessary financial resources, but also profit from such investments by e.g. reducing their transaction costs and securing their supply chain. Subsequently, the cases have revealed that the business sector can become an integral part of an enabling environment, as the business model itself is ensuring the provision of extension, production, and market access services to marginalized groups.

Despite these findings, participants discussed that traditional notions of economies of scale could be contrary to efforts toward SLM and the inclusion of marginalized groups. For example, conventional agricultural practices which promote monocultures endanger biodiversity and further marginalize those who lack capacities to bear adoption costs of modern, large-scale technologies. Furthermore,

it is important to note that businesses providing production, processing, and marketing services for marginalized groups are an alternative that works only in specific contexts such as when accessing niche markets. This is due to few markets being able to offer premium prices to compensate for higher operational costs used to set up value chain development services for marginalized groups.⁹ The challenge is thus looking for strategies that address alternatives for value-chain development beyond niche markets.

STRATEGY 7: Incentivizing SLM adoption through demand-driven approaches

Market-driven approaches are an alternative to incentivize mainstream SLM adoption, as marketing agricultural surpluses helps to compensate SLM adoption costs. Making use of niche markets and exploring new market opportunities provide incentives for smallholder farmers and agribusinesses to engage in SLM.

Means and ways to implement market-driven approaches for SLM:

- *access to premium markets for organically farmed macadamia nuts and avocado oil (Limbua Ltd.)*
- *accessing international consumer markets (in Germany) willing to pay a premium price for organically farmed nuts and avocado oil (Limbua Ltd.)*
- *putting in place a traceability system that*

informs consumers on the source of farm produce (Limbua Ltd.)

- *developing business models that assume upfront planning, implementation, and organic certification costs of organic honey production while offering training. Agribusinesses profit from engaging marginalized groups as part of the business market entrance strategy because of high demand for these strategies in premium markets (Apis Agribusiness)*
- *having national policies allowing Public-Private Partnerships to take place and promote investments for local market development (Example from the workshop)*
- *having local governments coordinating market agents (farmers, transporting and marketing) through Market Access and Agricultural Counsels that agree with the community agriculture development plans (Example from the workshop)*
- *focus on non-niche, domestic/regional markets. This leads to a reduction of input costs thanks to economies of scale, which compensates adoption cost (Example from the workshop)*

Initially, the discussion about this strategy focused on different ways to access niche markets.

Traceability systems and business practices with socio-environmentally responsible production standards were identified as core niche market access approaches. Participants, however, rapidly identified the need for solutions in contexts where agricultural products do not meet the demand in niche markets.

9. Other considerations such as a type of soil and commodity have been identified. Also, low mechanization practices to increase employment opportunities is a rare example that can be sustained, for example, only when premium prices in niche markets pay for it.

The argument is based on the understanding that niche markets are exclusive in essence and, therefore, cannot provide robust demand for mainstream SLM adoption. Furthermore, labels for niche markets such as organic do not necessarily translate into SLM practices.

This raised the question of how to mainstream SLM practices and the role of other stakeholders in this context. Based on experiences in Benin, workshop participants discussed how local and regional markets could provide enough demand for aligning SLM adoption with staple food production. The challenge of coordinating market agents for wider dissemination of SLM practices can, for example, be addressed by *having local governments coordinating market agents (farmers, transporting and marketing) through market access and agricultural counsels that agree with the community agriculture development plans*. For example, the Beninese participatory communal agricultural counsels were initiated to allow communities and local authorities to decide on sustainable agricultural development plans for agro-ecological zones seeking to satisfy local and regional demand for staple food production. National governments can also provide legislative frameworks for collaboration that facilitate entrepreneurs to enter into contracts with producers to jointly develop sustainable value chains. It is important to note, however, potential perverse incentives from legislative/policy frameworks that may discourage SLM, e.g. fertilizer subsidies that promote unsustainable intensification of agricultural output. Overall, the

last two strategies have discussed different means of achieving food security and SLM adoption through value chain development and market access. It is not a question on whether to focus on niche markets or main staple food production, but rather on identifying the context in which these strategies could work along with the potential risks and challenges presented by them. All this in light of increasing the prospects of commercialization for smallholder farmers and marginalized groups, understanding their differences and needs.

STRATEGY 8: Creating opportunities for value addition and SLM practices at the local level by regulating the market

This strategy calls for government regulation of the market as a way to support local production, processing and value addition, thus incentivizing SLM and ensuring a higher share of end-product value is absorbed by producer communities.

Means and ways of supporting SLM through policy:

- *requiring producers of native and endangered species (and their by-products) to establish plant nurseries for sustainability of the resource (Laikipia Permaculture Centre)*
- *providing a ban on the exports of raw products (Limbu Ltd.)*
- *exploring sourcing models which include sustainable production requirements and comprehensive support for the producer communities by having government (national and local) regulation of partnerships between*

producing communities and private entities

(Laikipia Permaculture Centre)

- *establishing policies that align incentives*
(example from workshop)

One example in support of this strategy proposed *requiring producers of native and endangered species (and their by-products) to establish plant nurseries for sustainability of the resource.* As environmental degradation is often externalized (i.e. not compensated for) by profit-seeking initiatives, governmental regulations that help protect endangered species support the sustainable production of such products as well as the local economy of producer communities. This example is pulled from the case of the endangered Aloe species in Kenya, where the Kenyan Wildlife Service, following the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), provides permits for the sale of Aloe only after establishment of a local nursery. The provision of such permits is also tied to extension services on how to propagate and care for the Aloe plant to ensure its sustainable production.

access to affordable inputs and to push agrovets to compete and offer higher quality products. There was disagreement on this point, and also concern regarding at which point government regulations could mean interfering with the market too much, thus these remain open questions.