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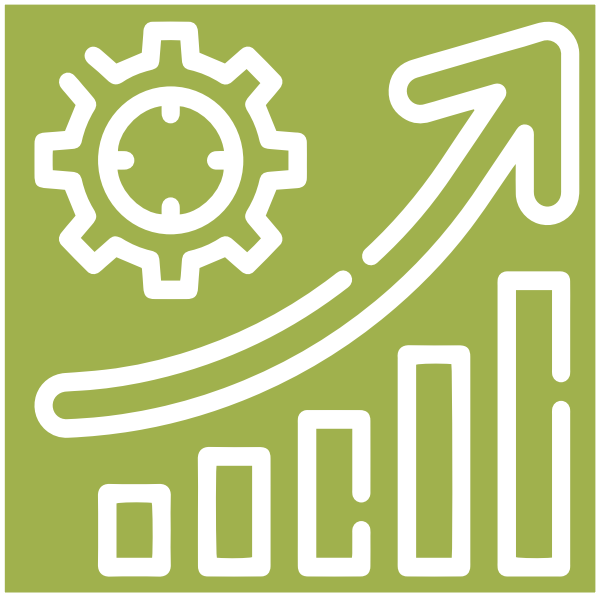
EXTENSION SERVICES TO INCREASE PRODUCTION AND PRODUCTIVITY OF AGRICULTURAL INVESTMENT



A MANUAL FOR GOVERNMENT OFFICIALS

EXECUTIVE SUMMARY

Implemented by

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

MINISTRY OF AGRICULTURE

Contents

List of abbreviations

AIS	Agricultural Innovation Systems
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung
CFS-RAI	World Committee on Food Security – Principles for Responsible Agricultural Investment
EHAIA	Ethiopian Horticulture and Agricultural Investment Authority
ESIA	Environmental and Social Impact Assessment
FAO	Food and Agricultural Organization
FPIC	Free, Prior and Informed Consent
GDP	Gross Domestic Product
GIZ	Gesellschaft für Internationale Zusammenarbeit
GTZ	German Agency for Technical Cooperation
ILRI	International Livestock Research Institute
ICT	Information Communication Technology
JICA	Japan International Cooperation Agency
LSAIs	Large-Scale Agricultural Investments
LSLBI	Large-Scale Land Based Investments
MoA	Ministry of Agriculture
MoARD	Ministry of Agriculture and Rural Development
NCSTC	National Council for Science and Technology Communication
OECD	Organization for Economic Development and Cooperation
NGO	Non-Governmental Organization
PILAC	Project on Improvement of Local Administration in Cambodia
RAI	Responsible Agricultural Investment
RGIL	Responsible Governance of Investments in Land
SDG	Sustainable Development Goal
SECoP	Social and Environmental Code of Practice
SEMS	Social and Environmental Management System
S2RAI	Support to Responsible Agricultural Investments
UNDP	United Nations Development Programme
UN-REDD	United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation
UNDG	United Nations Sustainable Development Group
VGGT	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security

Preface

Access to land and secure long-term tenure rights are essential conditions for rural development, food production and security, and social peace. The distribution and use of land is also connected to specific thematic areas of the Sustainable Development Goals, such as the achievement of SDG 5 on gender equality. As land is a limited resource, its distribution is often disputed by various actors. The competition for land may be further aggravated by commercial agriculture and forestry investments. Such investments are often intended to generate value, both for the overall economy (via land revenues and taxes) as well as for local communities (by improving livelihood and job opportunities and enabling the transfer of know-how). But if investments do not follow internationally agreed principles and guidelines as well as the national legal framework, they run a high risk of having negative consequences for communities and the environment alike. Investments may lead to land use disputes, expropriation, and displacement. They may also lead to environmental degradation, worsening the socio-economic situation of already disadvantaged groups.

Population growth, climate change, and global supply chain disruptions for agricultural inputs and staples are some of the drivers of food insecurity, poverty, and hunger. Investments in land, when carried out in a sustainable manner – considering ecological responsibility, social equity, and economic performance – can contribute to tackling these challenges. To ensure that investments in land are beneficial not only for the investors, but also for other actors, certain aspects must be considered when designing sustainable and profitable investments in land.

This is where the Responsible Governance of Investments in Land (RGIL) project, commissioned by the European Union and German Federal Ministry for Economic Cooperation and Development (BMZ), comes in. Implemented by GIZ in Ethiopia, Uganda, and Laos, the project aims to ensure that investments in land are productive, that they contribute to sustainable land management, and that they respect the rights and needs of local populations, in particular vulnerable groups and women. RGIL works together with target communities, political partners, and investors – as well as with civil society organizations, academia, and investor associations – on the implementation of good land governance based on international principles such as the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT) and the Committee on World Food Security Principles for Responsible Investment in Agriculture and Food Systems (CFS-RAI).

A series of guides and manuals were developed and validated in a participatory and iterative process with stakeholders, after assessing capacity development needs and analysing existing international and national guidelines, regulations, and training materials. They combine important elements from existing products and training events, and apply them specifically to the process of land-based investments and in relation to identified problems in each country. The various guides and manuals complement each other thematically and can be used both as individual products and as a complete toolkit in the respective country-specific context.

This publication is a short version of the manual on "Extension Services for large-scale Agricultural Investments to increase Production and Productivity" which aims to provide practical guidance for government officials in improving their skills related to agriculture extension service provisions to large-scale agricultural investments. It is meant to be used along with the full version of the manual as well as with the "Introductory Manual on responsible land-based investments for Governments" as part of the Ethiopian RGIL capacity development toolkit.

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1. Introduction

Ethiopia aims to become a food-secure, middle-income country by 2025. While development has to date mostly focused on smallholder agriculture, in recent years the Ethiopian government has strategically promoted large-scale agricultural investments (LSAIs) to help further the country's overall development. However, evidence suggests that investment in commercial farming requires considerable and systematic attention and support. This is because some of the land targeted for commercial development is considered as previously unoccupied, conflict-prone, and/or with limited access to infrastructure. Further complicating factors are land ownership and ensuring the responsible use of land resources.

Well-functioning agricultural extension schemes are needed to steer, advise, and support agricultural investments in a systematic manner, and Ethiopia has an Agriculture Extension Strategy in place. But there are substantial capacity gaps in the government entities that would have to operate such schemes, according to the results of a capacity needs assessment conducted by NIRAS-IP Consult and the GIZ RGIL project in Ethiopia in 2021 (NIRAS-IP Consult, 2021). The assessment identified the need to design a guide for an effective and efficient agricultural extension service that is both **demand-driven** and **client-oriented** within the domain of public structure.

The capacity needs assessment resulted in a manual titled "Extension Services to Increase Production and Productivity of Agricultural Investment". Aimed at government officials in Ethiopia, it is a guide to providing agricultural extension services to LSAIs in Ethiopia. This is an executive summary of the full manual. It is meant to be used together with the full manual as well as with the "Introductory Manual on Responsible Land-Based Investments for Governments" as part of the Ethiopian RGIL capacity development toolkit. As the first manual of its kind in Ethiopia, the manual on extension services – and the present summary – should be seen as a starting point to initiate the process of agricultural extension services to help LSAIs increase production and productivity in Ethiopia.

2. Principles and Guidelines

Responsible Agricultural Investment (RAI) has gained increasing attention over the last decade, spawning a range of international, continental, and national principles, guidelines, standards, and codes of practice. The extensive documentation available promotes agricultural investments that benefit all actors: investors, governments, and local communities (Guijt et al. 2018). Applying RAI in an appropriate and context-specific way is critical for governments to achieve their sustainable development objectives. And it helps to ensure that LSAIs have positive economic, social, and environmental impacts. However, evidence on global operationalization of RAI shows that most investors and other actors do not know much about it, and that many agricultural investments are still not well aligned with RAI principles.

Many of the concerns around RAI were voiced in 2014 in the Committee on World Food Security – Principles for Responsible Investment in Agriculture and Food Systems (CFS-RAI). Other important packages, principles, and standards that will help to ensure the implementation of responsible agricultural investment are the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and

Forests in the Context of National Food Security (VGGT), Guiding Principles on Large-Scale Land-Based Investments in Africa (LSLBI), and Free, Prior and Informed Consent (FPIC), described in section 2.1. A code of practice that specifically addresses the Ethiopian context – Social and Environmental Code of Practice (SECoP) for Responsible Commercial Agriculture in Ethiopia – is described in section 2.2.

2.1. International codes of practice

According to **CFS-RAI**, responsible investment in agriculture and food systems should respect, protect, and promote human rights. This includes the progressive realization of the right to adequate food in the context of national food security, in line with the Universal Declaration of Human Rights and other relevant international human rights instruments. The ten principles of CFS-RAI thus guide and define the overall promotion and implementation of responsible farmland/large-scale agricultural investment. The principles can be grouped into three basic aspects of responsible investment: (1) governance: enabling policies and institutions; (2) social impacts: food and nutritional security; and (3) responsible use of inputs: land, labour, soils, water, and chemicals (see Figure 1).

Figure 1: Three aspects of responsible investment, as covered by the CFS-RAI principles. Source: Guijt et al. (2018)

Under **ten principles** of CFS-RAI (CFS, 2014):, agricultural investments should:

1. Contribute to food security and nutrition
2. Contribute to sustainable and inclusive economic development and the eradication of poverty
3. Foster gender equality and women's empowerment
4. Engage and empower youth
5. Respect tenure of land, fisheries and forests, and access to water
6. Conserve and sustainably manage natural resources, increase resilience and reduce disaster risks
7. Respect cultural heritage and traditional knowledge, and support diversity and innovation
8. Promote safe and healthy agriculture and food systems
9. Incorporate inclusive and transparent governance structures, processes, and grievance mechanisms
10. Assess and address impacts and promote accountability

As with the CFS-RAI, the FAO's (2012) **VGGT** are also based on human rights. And as with all international standards, the VGGT should be interpreted and applied in consideration of the national context, in accordance with national legal systems and their institutions. In general, the VGGT seek to (1) improve tenure governance by providing guidance and information on internationally accepted practices; (2) contribute to the improvement and development of the policy, legal, and organizational frameworks; (3) enhance

the transparency and improve the functioning of tenure systems; and (4) strengthen the capacities and operations of implementing agencies. The VGGT are voluntary in nature and global in scope. They can be used by state and non-state actors.

The **LSLBI** were issued by African Union Member States to ensure that investments in land benefit Member States and key stakeholders. The LSLBI seek to ensure that all LSAI activities observe international human rights declarations and conventions as well as regional declarations. The guiding principles are based on the interests of Member States to ensure that investments promote inclusive and sustainable development by defining the appropriate terms and conditions under which investments are conducted.

FPIC refers to the right of indigenous peoples to give or withhold consent to actions that will affect them, especially actions affecting their lands, territories, and natural resources (Springer & Retana, 2014). Obtaining **consent** requires that the people involved in the project allow indigenous communities to say "Yes" or "No" to the project at each stage of the project, according to the decision-making process of their choice. The process of obtaining consent must be **Free** from force, intimidation, manipulation, coercion or pressure by any government or company; consent must be obtained **Prior** to government allocation of land for particular land uses and prior to approval of specific projects, and giving the people affected enough time to consider all the information and make a decision; and consent must be **Informed**, in that the people affected are given all the information needed to decide whether to agree to the project or not (Hill, Lillywhite, & Simon, 2010; UN-REDD, 2013).

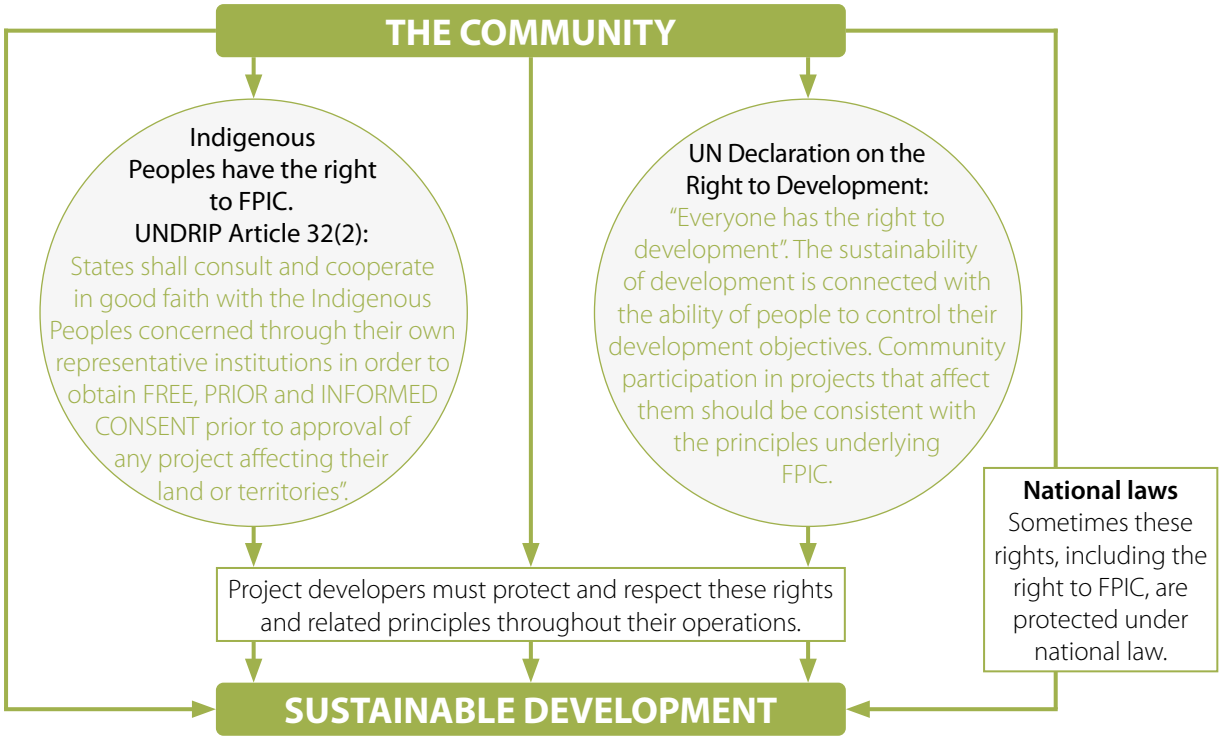


Figure 2: Simple overview of source and application of FPIC. Source: (Hill, Lillywhite, & Simon, 2010

There are three main stages for **implementing RAI** (Guijt et al. 2018):

(1) Mobilize understanding, commitment, and capacity to work explicitly with the principles;

(2) Apply the principles in business operations; and

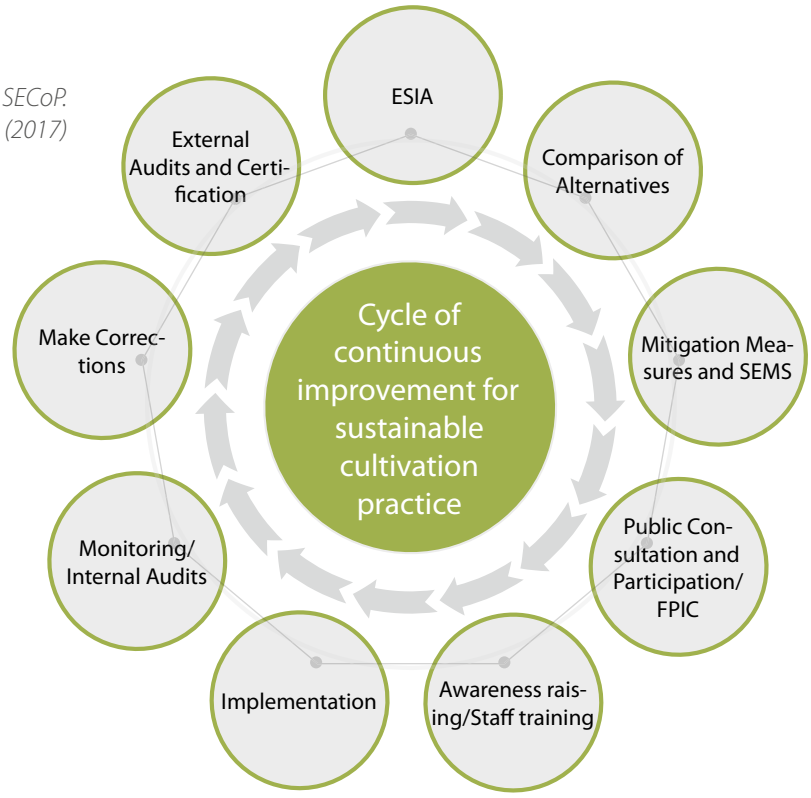
(3) Embed the principles into your institutions.

These stages can be applied by individual organizations and they can be incorporated into general policy and financing conditions.

2.2. Social and Environmental Code of Practice (SECoP) for Responsible Commercial Agriculture in Ethiopia

The Social and Environmental Code of Practice (SECoP) for Responsible Commercial Agriculture was designed by the Ethiopian Horticulture and Agricultural Investment Authority (EHAIA) in 2017 to help investors ensure that their investments are inclusive, sustainable, transparent, and respect human rights. The SECoP derives from the commitment made by the Ethiopian Government to develop such guidelines for implementing agricultural investment in a responsible manner. It integrates and builds upon the efforts of several international initiatives, such as the above-mentioned CFS-RAI, VGGT, LSLBI, and FPIC, harmonizing the main principles of these initiatives and adapting them to the Ethiopian context. The main reason for designing SECoP was to offer a scheme that helps the agricultural investment sector adopt practices that are socially and environmentally friendly. Moving forward, the relevant government authorities should raise awareness of SECoP among investors and monitor compliance. Compliance will help minimize the impact on human and natural resources and consequently enable the sector to compete in the international market.

Figure 3: Cycle described in the SECoP. Source: Adapted from EHAIA (2017)



Under SECoP, investors can be certified for three levels of compliance: Bronze, Silver, and Gold. Farms must produce evidence of compliance with all requirements for which they are seeking accreditation. The government authorities mandated to support agricultural investors should therefore familiarize themselves with the principles of SECoP.

3. Agricultural extension services

LSAIs cannot drive the desired transformation nor achieve their intended socio-economic and environmental objectives without the support of an efficient and effective extension system.

For the purposes of this manual, agriculture extension is defined as a continuous process which occurs over a period of time to help clients, – i.e. agricultural investors/farmers – progressively move from a given situation to a desirable situation by providing valuable information and advice and then systematically helping them to acquire the necessary knowledge, attitudes, and skills to make the best use of their factors of production for improvement of production and productivity (Oakley & Garforth, 1997).

3.1. Role of the government

The agricultural extension system of Ethiopia remains predominantly state-run and uses mainly a public system structure to provide services. For this reason, policies and development priorities set by the government usually determine extension strategies and systems. The current agricultural extension system, however, is smallholder focused. By not being specifically targeted at LSAIs or tailored towards the needs of agribusiness activities, it is unable to provide an optimal service amid a rapidly changing business environment.

The **government** should play **three key roles** in relation to **LSAI** (Deneke & Gulti, 2016; ENFF, 2021; FAO, 1997; ILRI, 2010; MoANR, 2017; OECD, 2014):

(1) **coordinate relevant stakeholders** in establishing sustainable platforms with strong and stable institutional arrangements. Ensure permanent funding and staff arrangements, and develop a strong system of results-based monitoring and evaluation to improve performance. The platforms should lead to effective links between research, extension services, and farmers/agricultural investors. The platforms can also serve as a system for knowledge management.

(2) **create an enabling legal and policy environment** and formulate harmonized and coherent policies and legal frameworks in the area of agricultural extension, infrastructure, trade, finance, tax, insurance, the environment, and other areas that can facilitate agricultural investment and directly influence the decisions of investors. Evidence shows that attracting private investment in agriculture relies on a wide set of policies that go beyond agricultural policy and include macro-economic and sector-based policies. Therefore, agricultural investment policies should be harmonized with other parallel policies and enabling conditions.

(3) **Develop needs-based capacity for stakeholders** to address three dimensions of capacity development: the individual dimension, the institutional dimension, and the policy dimension. The three dimensions influence each other in a mutually synergetic way: the strength of each dimension depends on – and determines – the strength of the others (UNDP, as cited in Tropical Agriculture Platform, 2016). The individual dimension involves helping people improve their skills, knowledge, and performance through training, experience exchange, motivation, and incentives. In this dimension, the role of government may include providing assistance to people involved in agricultural investment. The **institutional/organizational dimension** refers to improving organizational performance through strategies, plans, rules and regulations, partnerships, leadership, awareness of organizational politics and power structures, and strengthening organizational systems, processes, and roles and responsibilities. In this dimension, the role of government may include improving its organizational performance for better quality services and provision of assistance to public and private institutions. The **policy dimension** refers to creating a policy enabling environment, the broad social system within which people and organizations function. In this dimension, the role of government may include making legal and regulatory amendments or reforms to create an enabling environment for organizations to support LSAIs at all levels and in all sectors (Anonymous, 2013; GTZ, 2010; Tropical Agriculture Platform, 2016; UNDG, 2017).

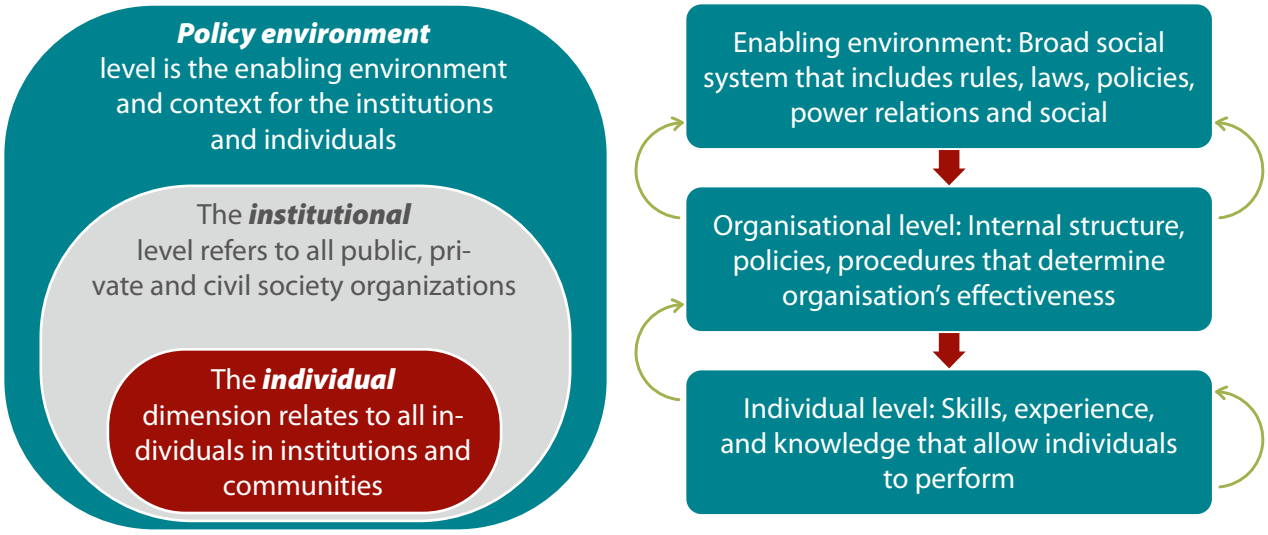
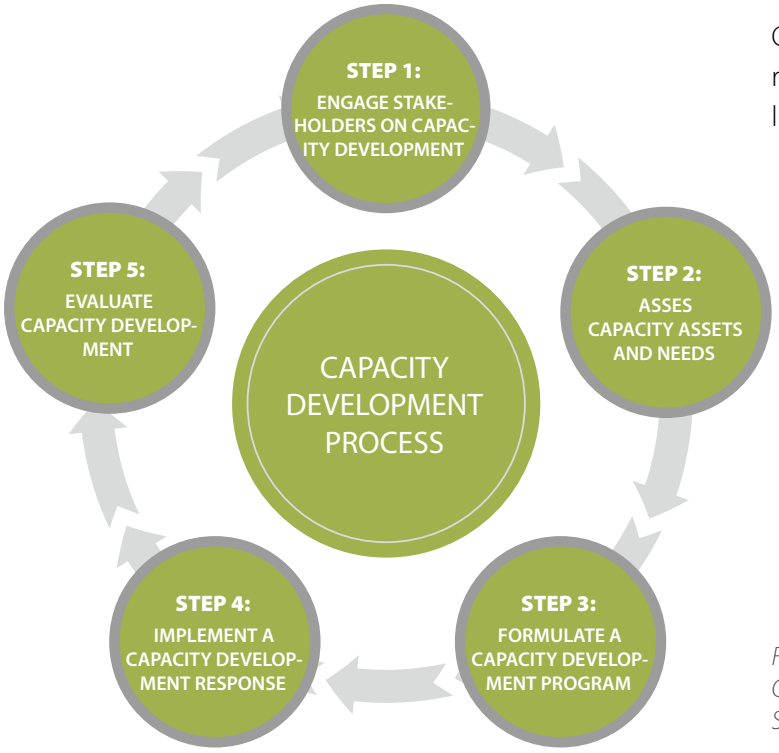


Figure 4: The three interconnected dimensions of capacity development. Source: Anonymous (2013); Bester (2015)



Capacity development should be carried out in a five-step approach, as illustrated in Figure 5.

Figure 5: The Five Steps of the Capacity Development Cycle. Source: UNDG (2017); UNDP (2009)

3.2. Building extension services that meet investors' needs

A first step in developing an agricultural extension programme is to identify the actual needs of agricultural investors. This is done by conducting a needs assessment. The results of the assessment will form the basis for efficient and effective extension services.

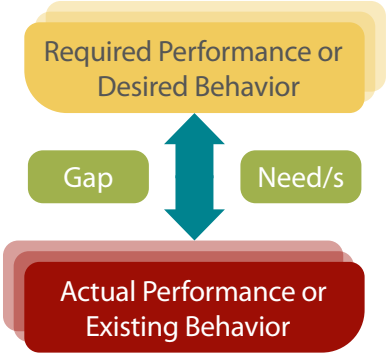


Figure 6: Identifying need/s and gaps. Source: Adapted from: PILAC & JICA (n.d)

Figure 7: Agricultural extension services help investors to move from a given situation to a desirable situation.

As part of the agricultural extension process, extension workers may assist investors by giving training, information, and advice on how to solve problems. This will equip the client with a stronger understanding of the nature of their problems and enable them to identify and decide on the best solutions. Extension services can help point the investor in a certain direction, but the decision is ultimately the investor's (Albrecht et al. 1989).

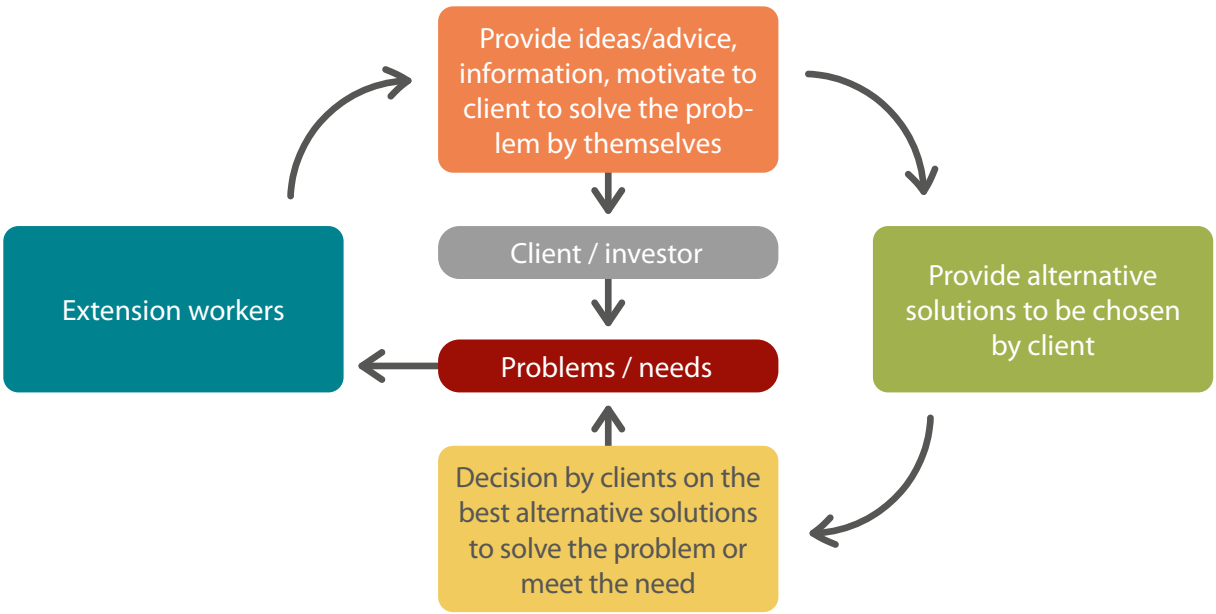


Figure 8: Simplified process of extension.

Extension services are guided by widely accepted principles that form the basis for consistent decisions. Some of these principles that relate to agricultural investment are the principle of interest and need, the principle of cultural difference, the principle of participation, the principle of adaptability, the principle of grassroots organization, the principle of leadership, the principle of whole family, the principle of co-operation, the principle of satisfaction, and the principle of evaluation (Oakley & Garforth, 1997; JICA 2008).

Agricultural extension should be seen as a system of four interlinked components: (1) technology generation; (2) technology demonstration, verification, and transfer; (3) technology utilization; and (4) agricultural policy. Swanson, Sands, & Peterson, 1990, as cited in Swanson, Bentz, & Sofranko, 1997). Within the agricultural extension **system**, there are four fundamental elements of agricultural extension **services** Oakley & Garforth (1997): (1) knowledge and skill development, (2) technical advice and provision of information, (3) motivation and empowerment for self-confidence, and (4) agriculture investors' organization.

Figure 9: The four fundamental elements of agricultural extension services.

Agricultural extension applies various guiding principles to a specific situation to fulfil the needs of the target group. It covers issues such as planning; advice on specialized topics and methods; determining resource requirements and allocating resources; and monitoring and evaluation (Bolinger, et al. as cited in Directorate for Agricultural Extension Services of Ghana, n.d). The dominant approach used today is the "Demand-driven Agricultural Extension Approach", also varyingly called "Client-Centred Extension Approach (CCEA)" or "Client-Oriented Extension Approach (COEA)", or even "Client-Focused", or "Client-Based**"**. It means that extension systems should respond to what clients, farmers, or agricultural investors ask for to satisfy their educational, advisory, technological, informational, and input supply needs.

Promoting client-oriented advice is incorporated as one of the main issues among the nine pillars of the national Agriculture Extension Strategy of Ethiopia MoANR, 2017). Client-based approaches help extension organizations adapt to new situations and are characterized by flexibility, effectiveness, efficiency, and accountability (Reshma, Sreedaya & Bindhya, 2020). Such approaches emphasize the importance of two-way communication, i.e. between the agricultural extension service providers and its clients. This way, the supply side (the extension service provider) knows and understands the needs of the demand side (farmers and investors) (ibid.).

In a client-centred approach, training and advisory work are at the core of the extension service. It is mainly aimed at supporting the clients (agricultural investors) in achieving their production and productivity objectives by providing them with information, training, and advice. The approach thus requires well-trained advisers and mature personalities who are knowledgeable in the area of the technical subject matter and can provide advice on appropriate technologies, using ICT support tools for communication, extension methodology, adult learning principles, extension training course design, extension material development, facilitation, training course evaluation, and establishing linkages (GIZ and NIRAS-IP, n.d). Equipped with these relevant competencies, the extension service provider shall support the client-centred process through participatory identification of problems; participatory design of solutions; demand-driven provision of training, advice, and information and technology; and participatory acquisition of feedback.

Agriculture is becoming increasingly complex, as there are dependent interactions among stakeholders at multiple levels. A systems approach is required to deal with these complex interactions (Blum, 2007), such as that proposed by the Agricultural Innovation System (AIS). The AIS promotes a client-centred agricultural extension approach that can facilitate the transfer of knowledge, exchange of information, and networking among actors (see Figure 11).

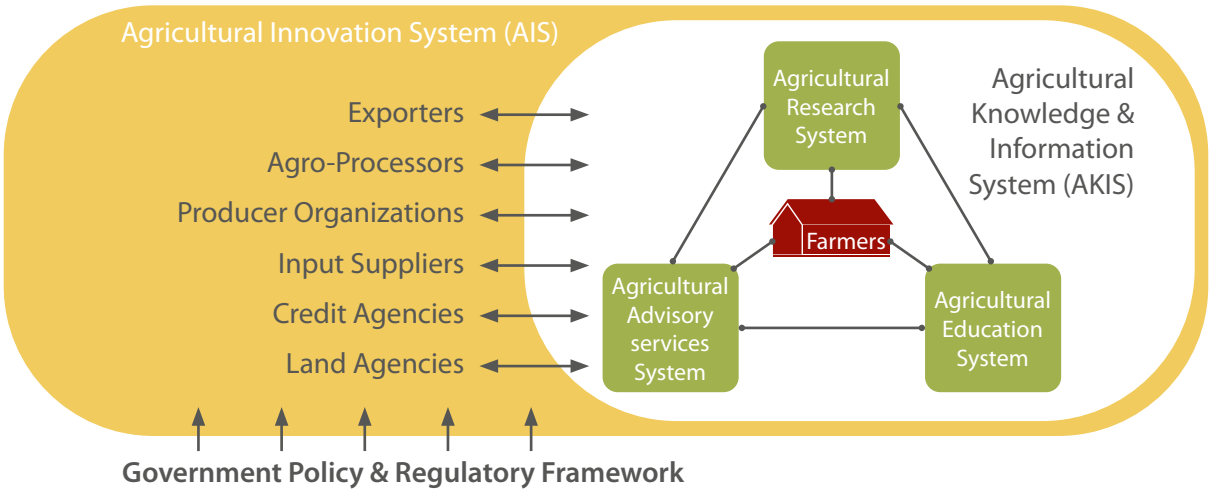


Figure 10: Agriculture advisory services as a component of an Agricultural Innovation System (AIS). Source: Riveral et al. (2006), as cited in Blum (2007)

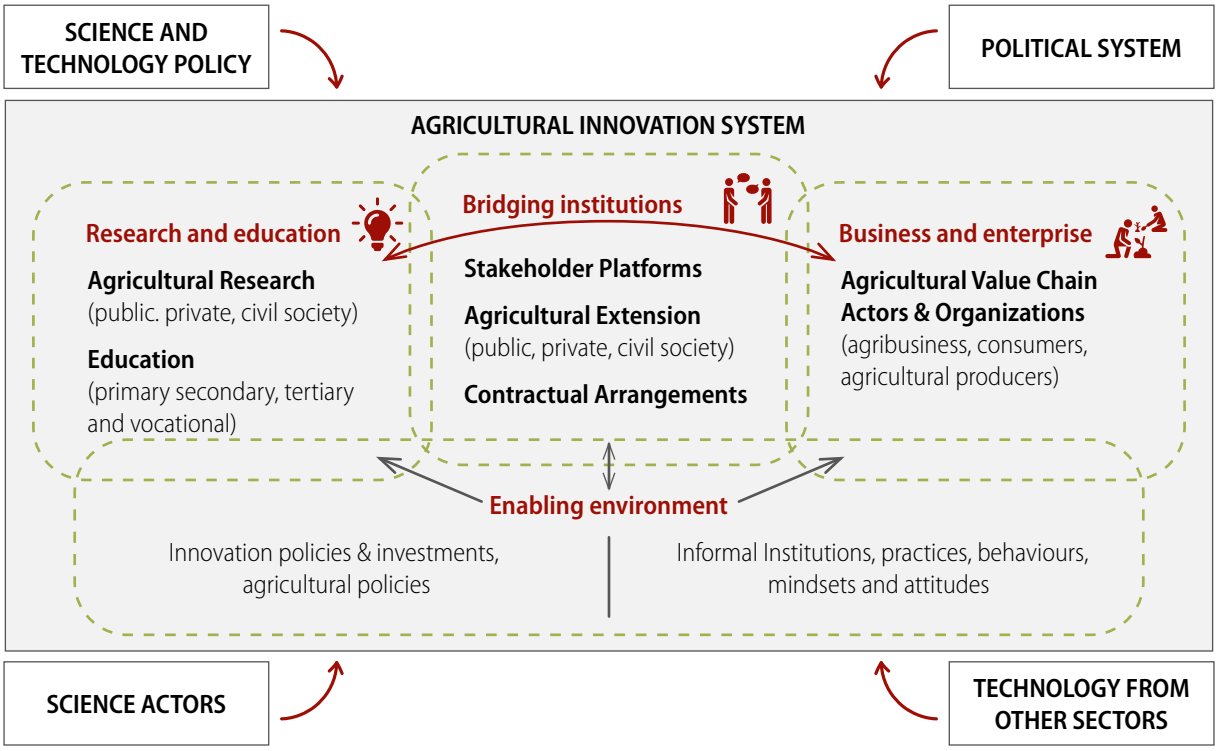


Figure 11: Conceptual diagram of an AIS. Source: Tropical Agriculture Platform (2016)

Communication is a core element of the client-oriented extension approach. In addition to being technically competent in the subject, extension workers must be good communicators, so as to transfer the information, knowledge, and skills to the target users. Communication has functions in the

following areas: information, motivation and persuasion, training and coaching, and command and control. Information and communication technologies (ICT) are increasingly used in the agricultural industry (Sousa et al. as cited in Nyarko & Kozári, 2021) and can strengthen the links between extension, research, and agricultural investors. Agricultural extension officers, therefore, serve as the main link between investors and other players within the agriculture sector. They should have good knowledge of ICT and use this expertise to help investors improve their productivity (Purnomo & Lee, as cited in Nyarko & Kozári, 2021).

Extension methods comprise the communication techniques between extension workers and target groups. In a client-oriented extension approach, the extension worker should apply an interactive communication method. This means that there should be an immediate exchange of information back and forth between the agent and the target audience to ensure a common understanding in real time and help to avoid any misunderstandings. The extension worker should also have good **facilitation skills** (MANAGE, 2021).

As large-scale agricultural extension is a new initiative in Ethiopia, delivering a high-quality extension service means that special attention must be paid to **human resource development.** This should be done through extension education and training, applying **adult learning principles**. The principles should be used during the whole education and training process, from course design and material development to implementation and evaluation. Applying the principles shall ensure that any communication and learning are undertaken in a way that meets the needs of adults (particularly agricultural investors).

4. Selecting appropriate technologies and practices

Extension service providers should introduce large-scale agricultural investors to new technologies and scientific knowledge appropriate to their needs. To this end, it is important that extension workers keep abreast with and continuously assess the latest technological developments.

To enhance adoption of appropriate technologies, extension workers should identify the desired characteristics of an innovation and/or technology. For example, does a given technology use local materials, is it a labour-based method; does it promote local empowerment and positive environmental impacts? Characteristics of an innovation and/or technology that enhance adoption include relative advantage, compatibility, complexity, trialability, and observability (Rogers, 1995; Van der Ban & Hawkins, 1996; Kitinoja & Kasmire, 2002).

Identifying, developing, adopting, or adapting an appropriate technology is an iterative process that starts from the assessment of need-based technologies all the way to monitoring the progress of adoption (see Figure 12). There are four major elements that are involved in the process of technology transfer: (1) define the needs and problems for which technology is required; (2) identify and modify the appropriate technology; (3) develop "custom-made" technology; (4) validate and test in the field (Richards, 1992).

Moreover, there are some success factors that determine the sustainability of technology transfer: (1) participation of target audience or client in the process of technology transfer; (2) links between stakeholders

and their joint commitment to achieving a common objective; (3) perceived benefits of the transferred technology to the target group; (4) ensuring that the technology is well-suited to the context (5) fostering autonomy, self-reliance, and utilization of local resources (Mgendi, Shiping & Xiang, 2019).

Extension workers should know the process so that they can effectively transfer technologies.

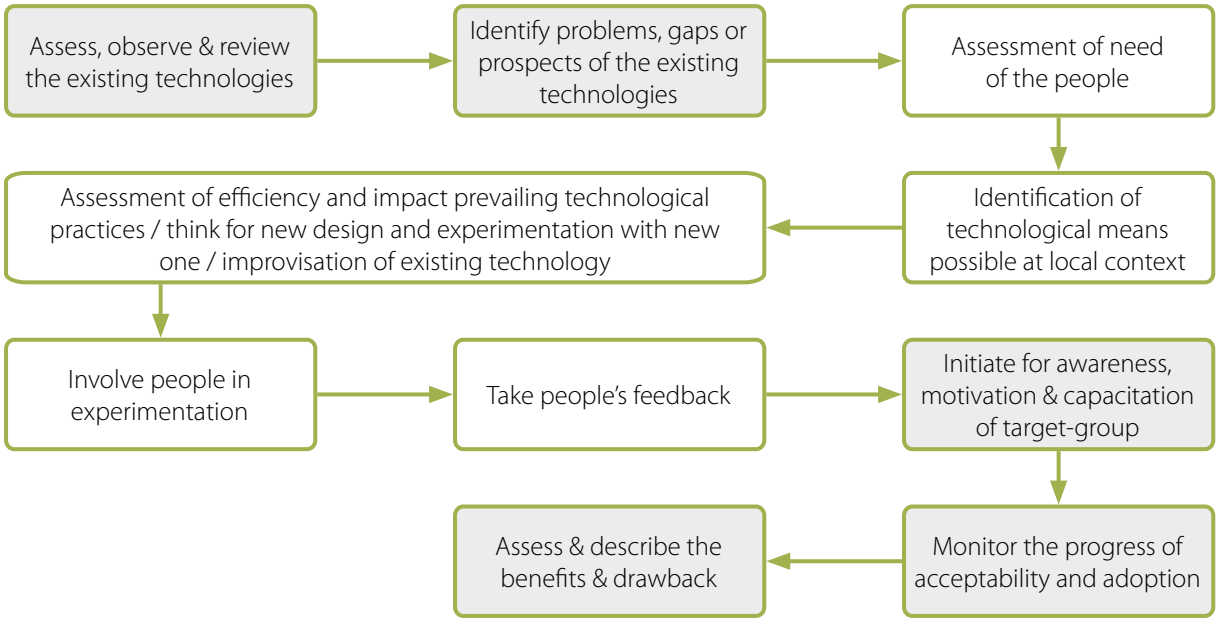


Figure 12: Process of appropriate technology transfer. Source: Adapted from NCSTC (2020 & 2021)

Advances in agricultural technology have vastly changed the ways that modern farms and agricultural operations work. Not all advanced technologies are necessarily appropriate for all farms: factor to consider include technical applicability, cultural compatibility, economic feasibility, and environmental friendliness (Singh, n.d). However, knowing what technologies are available is important. Therefore, agricultural investors should be informed about technologies in the area of agro-processing, productivity enhancement, climate-smart technologies to build resilient production systems, improved farming practices, post-harvest handling, and loss reduction technologies and practices.

4.1. Linking investors to markets

Markets linkages connect the organizations involved in producing the products and delivering the services for markets in the aforementioned AIS. The commodity market in Ethiopia has been characterized by prohibitively high transaction costs, evidenced by a lack of sufficient market coordination between buyers and sellers, a lack of market information, a lack of trust among market actors, a lack of contract enforcement, and a lack of grades and standards (Gabra-Madhin & Goggin, 2005 and Mohammed, 2017, as cited in Temesgen, 2020).

Finding ways to link agricultural producers to markets is key to improving the production system of LSAIs. Efforts to establish market linkages require an understanding of the types of markets and the target group. Formal markets offer the best returns for large-scale producers, as they are a more regulated version of the market system and the transactions are based on defined legal frameworks. Producers must meet specific quality standards and apply best practices for the production and handling of goods (Ferris, et al. 2014).

There are many approaches and interventions to market linkages, including contract farming and certification schemes. In LSAIs, market linkage interventions should focus on linkages that improve production, productivity, and profitability in formal market settings. It is the role of the extension service provider to inform and advise agricultural investors on approaches that best fit the conditions. In this regard, information and communication technologies (ICTs) can be used in various forms to support the market orientation of advisory services (Blum, Cofini, & Sulaiman, 2020). The use of ICTs is crucial for access and sharing of information both by commercial farmers and extension advisors in order to improve marketing (ibid.).

Overall, agricultural extension should facilitate the exchange of market information and help to establish partnerships and a network in the AIS.

4.2. Linking investors to agricultural finance

Access to finance is critical for the growth of the agricultural sector. The decisions of agricultural producers to invest in agriculture are closely influenced by access to financial instruments and an enabling environment (Karlan et al. 2012a and Cai et al. 2009, as cited in Ruiz, 2014). However, financial sector institutions in developing countries lend a disproportionately lower share of their loan portfolios to agriculture compared to the agriculture sector's share of GDP (World Bank, 2020). In this regard, a lack of appropriate risk mitigation products or mismatch of available financial instruments discourage agricultural producers from adopting improved technologies, purchasing agricultural inputs, and making other decisions that can improve the efficiency of their businesses. Improving access to finance would increase their investment choices and provide them with more effective tools to manage risks (Karlan et al. 2012a and Cai et al. 2009, as cited in Ruiz, 2014). In this regard, the extension system should recognize the need for agricultural finance, identify constraints to obtaining such finance, and help improve access to finance for agricultural investors.

There is a broad spectrum of finance providers with different capabilities, return expectations, and social impact focus. Finance providers can provide agricultural financing either directly to borrowers or indirectly via other institutions (e.g. investment funds). They offer a diverse set of financing products and forms of capital. The agricultural extension system should therefore identify potential agricultural finance providers in the AIS that are appropriate to the needs of agricultural investors and help to connect them. The extension system should also help investors access farmer's organizations/unions, local equipment manufacturers/suppliers, microfinance institutions, non-governmental organizations (NGOs), and financial institutions by informing them about major service providers (Zwedu, 2014). And it should support investors in forming partnerships with the Ethiopian Commodity Exchange (ECX) and with cooperatives.

The agricultural extension system should facilitate the establishment of sustainable agriculture extension multi-stakeholder platforms aimed at, among other objectives, influencing agriculture finance for LSAIs in the AIS. The platforms should be well structured to ensure proper participation of key LSAIs actors, and they should be based on and guided by a set of principles. This will help with collaborative efforts for exchange of information; sharing of best practices on the basis of shared responsibility, accountability, and transparency; and building sustainable partnerships and networks amongst relevant stakeholders.

The main role of government in the AIS, in regard to financial linkages, is to create an enabling environment and facilitate or broker such linkages among financial actors and agricultural investors.

5. Conclusion

This executive summary delivers the main points of the full manual of the same title. The manual – the first on its kind in Ethiopia – should be seen as a starting point to initiate the process of agricultural extension services to help LSAIs increase production and productivity in Ethiopia. Many aspects in the document may not yet be sufficiently developed or are only generally formulated. It will be the mandate of the relevant departments of the Ministry of Agriculture, in collaboration with key stakeholders, to periodically review and update the present version of the manual, based on experience, feedback, and lessons from reality. Updates will also be required as a result of changes in policy, including the recently introduced pluralistic extension approach. This new approach incorporates an appropriate mix of public and private extension delivery mechanisms, which is intended to benefit LSAIs.

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