

Part C3

Component 3: Agriculture Development and Commercialisation

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1. Component 3 –Agriculture Development and Commercialisation

1.1 Scope of activities

Financial sustainability of the SVTP irrigation investment can only be achieved through profitable agricultural production. The Smallholder Owned Commercial Farm Enterprise (SOCFE) is the organizational entity that holds ownership of collective irrigation and agricultural assets and manages these for the benefit of its members. However, the members of the SOCFEs do not currently have the agri-business skills for successful operation of viable farm enterprises. The SOCFEs will need to be highly profitable to be sustainable (Figure C3-1), and for this, their owners will need to make informed decisions on their organizational pathway, farm investments in infrastructure and equipment, cropping patterns and management systems.

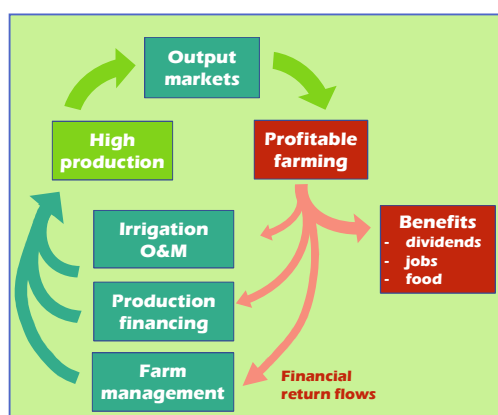


Figure C3-1: Diagram showing the irrigation scheme sustainability cycle

There will thus be a need for intensive training, mentoring and guidance for the smallholder owners and subsequently for their management and key staff. This support will be provided by an experienced agribusiness service provider for three years once the customary estates have been formed. Component 2 will support technical advice on possible development pathways and Component 3 will support technical advice on forms of organization. The activities will lead to actual farm investment, initial farm operational support and preparatory work on improving the overall agricultural enterprise environment.

Agri-enterprise planning: Upon formation of the customary estates and decision on the irrigation development pathway (under Sub-component 2.1), farm investment planning will take place immediately including formation of Smallholder Owned Commercial Farm Enterprise (SOCFEs) and agri-enterprise design. This will

address farm production, farm financing, marketing and value chain development and management requirements. This will culminate with the choice of irrigation method and preparation of the farm investment and business plan.

On-farm investment: Due to both

financial and the implementation time and sequence realities, the actual agricultural investments will not cover the entire SVTP-I area. The intention is that on-farm investments that cover remaining areas of SVTP-I will be made with SVTP-II funding in the Phase II of the program.

Value chain development:

Development of commercial value chains will be needed to enable farmers to gain access to markets and commercial services; this is essential to enable viable commercial agriculture. Such value chains are currently poorly developed due to the low level of commercial production in the area (with the exception of sugar cane).

Finance: Improving the enabling environment will require a focus on access to finance. The project will look at a range of options available, including value chain finance, the competitive challenge funding mechanism, and warehouse receipts systems. Conditional grant financing will be used to influence the type of investments being made and enhance transformative effects. The focus will be on encouraging technology development, business planning, pilot investments, business alliances, and capacity building for individual entrepreneurs or organized groups such as SOCFEs.

Competitive Challenge Fund: A competitive challenge funding mechanism could be used to encourage innovation and technology diffusion. This has been shown to be a particularly versatile funding instrument to catalyze development. A core feature is the open and competitive application process which provides successful applicants with a once-off, limited duration grant. This helps them overcome risks and uncertainties that inhibit innovation, research and development, investment, and pioneering of new approaches. Without the competitive fund

support, such activities are unlikely to happen at all. Funding is directed to those who offer the best ideas and greatest prospect of success.

Irrigation-block water and land management: Depending on the choice of irrigation pathway (described later in this component), support to the SOCFE will be tailored and matching grants provided. In models with individual farming rather than estate farming, specific attention will be provided to water management within the blocks between farms/concession holders. This will be formalized in a water management organization (WUO) or association (WUA) as appropriate. The component will also support the expansion of existing group-based agricultural ventures which are currently ongoing, such as Phata, KAMA and Kasinthula.

Applied research: There will also be support for applied research to be responsive to farmers' needs. The component will furthermore support the analysis and design interventions to follow the investments in irrigation and farm development under SVTP-II. The research focus will be on access to finance, value chain support, and support to agro-spatial approaches, harmonized with policy dialogue supported under AGCOM Project.

SOCFE setup: The SOCFE institutional form, Cooperative, Trust or Company is to be decided by the Agriculture Specialist Consultancy on Production, Marketing and Value Chain Development (i.e. the Agribusiness TA) based on a thorough review of options and implications, given the SOCFE functions. SOCFE setup and subsequent development of the commercial agricultural enterprise is the central task of the Agribusiness TA. The agribusiness development consultant will engage with the above scope of work through detailed discussion with potential participants to ensure

widespread understanding of the likely benefits.
challenges, risks, roles, responsibilities and

'Groups', SOCFEs, Cooperatives and WUAs

The **'GROUP'** is the collection of customary land-holders who have contributed individual land-holdings and are the formally registered owners of the *consolidated customary estate* under the provisions of the Customary Land Act. The designation of the 'Group' is thus a legal necessity and once the consolidated customary estate is registered (at the District Registry), the intention is that the 'Group' will lease the land to the SOCFE. The 'Group' (in the SVTP roll-out) has no function other than as the title-holding entity for the consolidated customary estate.

The **SOCFE** is the Smallholder-owned Commercial Farming Enterprise that is responsible for driving commercial irrigated-agriculture development on the leased consolidated customary estate. The SOCFE typically¹ comprises the same members as the 'Group' but is a new legal entity; a Trust, a company or a cooperative. The SOCFE is specific to the physical boundary of an irrigated block, formed by land leased from the 'group'. The decision as to which institutional form is the most appropriate will be explored and defined as part of project implementation, influenced by a legal analysis and pathway considerations.

COOPERATIVES, or co-ops, are a familiar and dominant organizational vehicle for collective-interest groups and for agricultural-development worldwide. Cooperatives are founded, among other, on the principle of voluntary membership and while eminently suitable for many collective agricultural purposes, have significant shortcomings where compulsory membership is required (such as irrigation WUAs). Cooperatives that force compulsory membership do exist globally but have serious drawbacks and alternate institutional forms for compulsory membership are preferred. Cooperatives are expected play a role in the SVTP, possibly as the preferred form of some of the SOCFEs. Separately however, different kinds of cooperatives are likely to be formed in for agricultural-supply and agricultural-marketing reasons (ie. secondary co-ops). These cooperatives would be organised on the basis of crop-type, particularly in Pathways 2 and 3 where individual farming enterprises would prevail. Membership would likely involve farmers from different blocks, or even the entire SVIP as the case may be, taking the form of, for example maize, or a bean cooperative.

WATER USER ORGANISATIONS, more commonly but less correctly termed Water User Associations (which is one form they can take), have the primary function in an irrigation context of ensuring effective and efficient scheme operations, management and maintenance. WUOs generally require that they are:

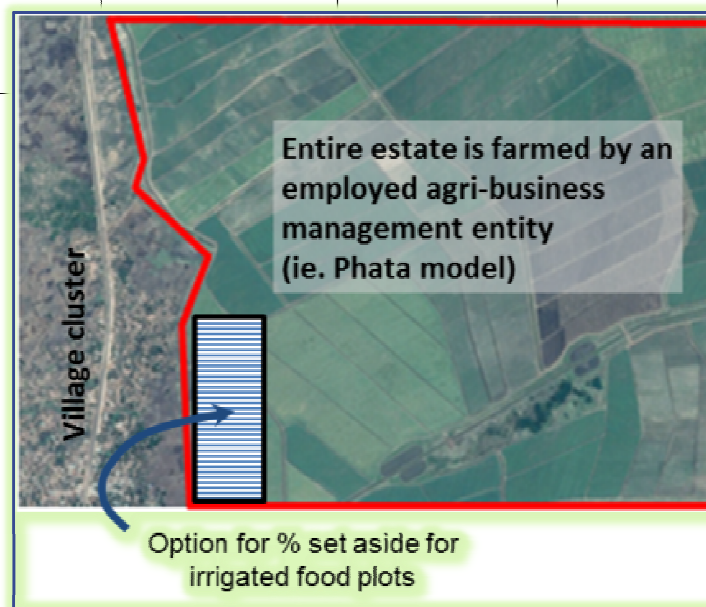
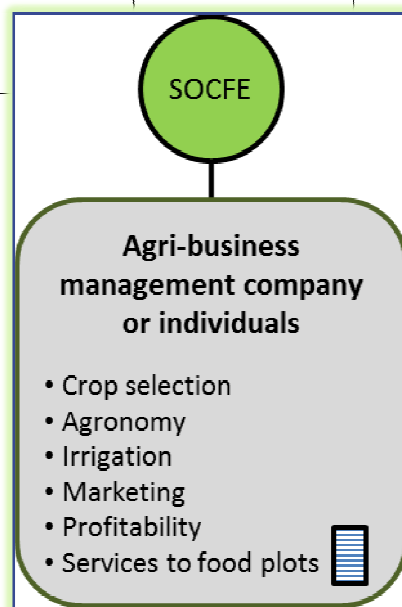
- Governed or controlled in a participatory and democratic manner by those who benefit from, and pay, for the services that they supply;
- Undertake a discrete task related to water management, often irrigation and drainage;
- Operate on a non-commercial, or 'non-profit', basis;
- Are self-funding; and
- Due to the public service nature of the tasks that they perform, are usually subject to some form of regulatory oversight by the state.

In the absence of specific laws for water user organizations, such as in Malawi, WUOs often take the institutional form of Trusts, associations, companies or co-operatives. Unfortunately all of these have shortcomings and are not ideally suited to the primary role and functions of WUOs. Reasons are grounded in the unusual organisational character of WUOs that has both public- and private-sector attributes. There is extensive literature available on the subject and which is beyond the scope of the PIM. Notwithstanding these legal impediments, the SVTP Agribusiness TA will have to maximise local experience and SOCFE ownership parameters to ensure practical and cost-effective water governance within the blocks – particularly in relation to Pathways 2 and 3.

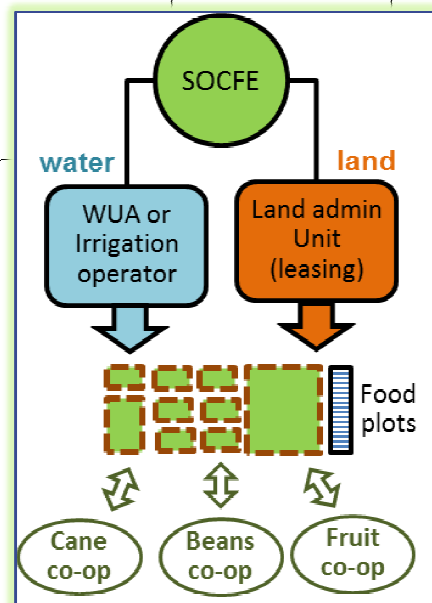
¹ There may be cases where landholders along the canal alignments are accommodated by inclusion into a SOCFE, but would not be part of the legally established 'group' which is formed on the basis of contributed land located within the boundary of the block. Such accommodations would be practically insignificant at the block scale.

Table C3-1: Irrigation Block SOCFE role and functions on key irrigation-enterprise elements

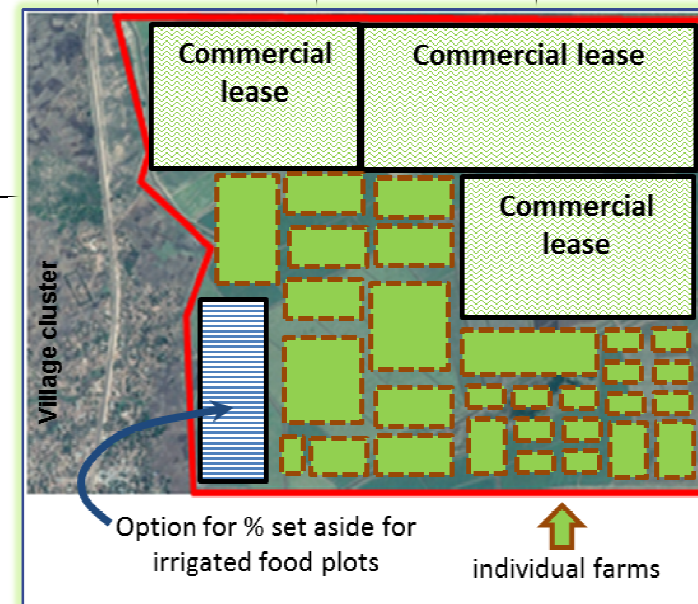
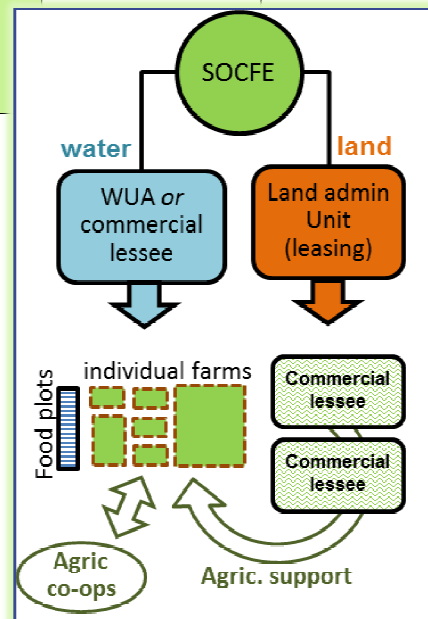
Description	Management Model	Enterprise types	Land administration within block	Irrigation services and technology	Agricultural services within block	Food plots
<p>Pathway 1 – Agri-business managers:</p> <ul style="list-style-type: none"> • The SOCFE leases land from the unincorporated group that owns the consolidated customary estate. • The SOCFE employs a commercial agribusiness management company (or individuals) and farms the estate as a single enterprise under cane or commodity crops (e.g. Phata Cooperative). • The owners would be able to provide paid labour services on the farm if they have the relevant skills, and would be able to allocate irrigable land to small foodplots, for members to use individually. • They would be paid a dividend or profit share from the estate farm according to their respective shareholding. 	SOCFE employs commercial agribusiness company or individual agricultural managers	Large-scale estate farm (cane or commodity crops)	Single agricultural estate so no internal sub-leasing.	Agri-business managers Choice based on topography, crop-type & cost factors. Pumped systems will likely limit flexibility for Pathways 2&3 in future (see main text).	Agri-business managers	Individual allocations serviced by the SOCFE as a separate project (0.04-0.2 ha)



Description	Management Model	Enterprise types	Land administration within block	Irrigation services and technology	Agricultural services within block	Food plots
<p>Pathway 2 – Smallholder agri-business:</p> <ul style="list-style-type: none"> The SOCFE leases land from the unincorporated group that owns the consolidated customary estate. The SOCFE devolves individual land ownership/use rights to specific plots based on percentage shareholding. The SOCFE oversees land-administration and water-management functions in the block through a Land Admin Unit and a WUA. Service fees are due. Individuals are allocated new individual irrigation plots. A natural process of farm consolidation into larger business units will evolve, as less-interested or less-successful farmers exit voluntarily through rental or transfer. The landholders renting out derive benefits from a food plot allocation (0.04-0.2 ha) and rental revenue. 	<p>SOCFE is a <i>facilitative organisation</i> ensuring effective land-sub-leasing and water-service provision</p>	<p>Many individual agric. enterprises with farm size expansion & economy of scale through internal sub-leasing as needed (2-10 ha business farms)</p>	<p>Plots allocated to members proportional to shareholding</p> <p>Voluntary internal land-exchange administered by SOCFE</p>	<p>WUA responsible for all block operations and maintenance</p>	<p>Other SVTP commodity-based SOCFEs established for agricultural support functions, extending across multiple blocks</p>	<p>Individual allocations serviced by the SOCFE as a sub-project (0.04-0.2 ha)</p>



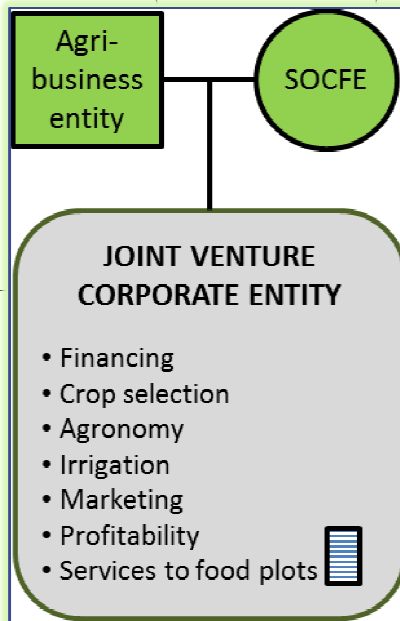
Description	Management Model	Enterprise types	Land administration within block	Irrigation services and technology	Agricultural services within block	Food plots
<p>Pathway 3 –Sub-Leased farms (mixed model):</p> <ul style="list-style-type: none"> The SOCFE leases land from the unincorporated group that owns the consolidated customary estate. The SOCFE acts as a facilitator/enabler and sub-leases portions of the customary estate to members, to outside individuals and/or agri-business companies to generate revenue. The SOCFE function is primarily one of land administration and irrigation water service provision in the block. The SOCFE owners would receive payment of net revenue pro-rata to their shareholding. Larger scale commercial lease-holders can agree to provide agricultural and water services to adjacent individual farmers on smaller farms. 	<p>SOCFE is a <i>facilitative organisation</i> ensuring effective land-leasing and water-service provision</p>	<p>Block sub-leases to commercial agri-business entities as 'anchor' tenants <i>plus</i></p> <p>Individual business farms with expansion & economy of scale through internal leasing (2-10ha farms)</p>	<p>Block Co-op administers land-sub-leasing</p> <p>Plots sub-leased to members first, all-comers after</p>	<p>Block co-op operates as an irrigation operator (WUA, Trust, WUO)</p> <p>Alternately, a commercial block sub-lessee can operate whole irrigation system as part of agreement</p>	<p>Other SVTP commodity-based cooperatives, <i>and/or</i> support from commercial sub-lessees</p>	<p>Individual allocations serviced by the SOCFE as a sub-project (0.04-0.2 ha)</p>



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Description	Management Model	Enterprise type	Land administration within block	Irrigation services and technology	Agricultural services within block	Food p
<p>Pathway 4 – Joint-Venture (JV) Enterprises:</p> <ul style="list-style-type: none"> • The SOCFE leases land from the unincorporated group that owns the consolidated customary estate. • The SOCFE establishes a contract-partnership arrangement (JV) with an agribusiness entity that covers all farm production for the supply of commodity or industrial crops (e.g. KAMA-PressCane JV for ethanol). • The SOCFE provides land, water rights, and infrastructure equity and the commercial agribusiness company provides finance, processing and secure market as equity). • The SOCFE owners would receive payment of net revenue from the JV, pro-rata to their shareholding. 	JV entity runs the farm as a single estate	Commodity or industrial crop farming at scale (approx. 500 ha)	Farmed as a single agricultural estate; so no internal sub-leasing	JV entity Choice based on topography, crop-type & cost factors. Pumped systems will likely limit flexibility for Pathways 2&3 in future (see main text).	JV entity	Individual allocations serviced by JV as a soc project (0.04-0.2 h.



From a land consolidation perspective, the starting point for any of these four pathways remains the same: the consolidation of the individual/family holdings into a single customary estate. The implementation logic would be to first decide on the farm development pathway. This will then be followed by the establishment of the smallholder owned commercial farm enterprises (SOCFEs), who lease the land from the 'Group', with the intention of pursuing estate farming, based on the chosen Pathway. It is expected that most Groups will choose Pathway 1. Should this avenue not find a positive outcome either through member preference or lack of viable commercial partners, then other pathways would be developed (Figure C3-3). Similarly, with SOCFEs institutionalized to maximize flexibility for different pathways vis-à-vis different possible future functions of agriculture, land and water, subsequent adaptation in the block arrangements is enabled.

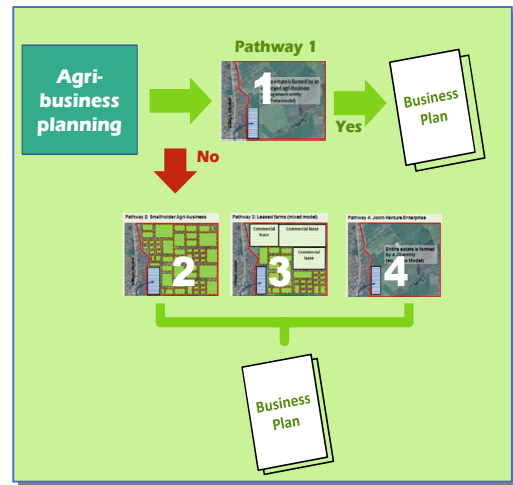


Figure C3-3: Pathway 1 and fallback

1.2 SOCFE establishment: considerations

Flexible evolution of scheme type and different SOCFE roles

The four irrigation block configurations allow for reflexivity to the realities of social preferences and market drivers at commencement; and allow for evolutionary change between the different scheme types over time (Figure C3-4). The establishment of a SOCFE constitution with provisions for alternate pathways is therefore essential. The underlying premise is that market and social forces, and the forces of circumstance such as the availability of suitable agri-business partners, will drive scheme evolution to the most effective outcomes in a reflexive and dynamic way. This requires that there are no undue organizational constraints created to the alternatives at the time of SOCFE establishment.

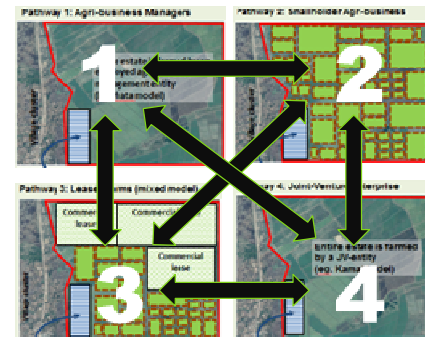


Figure C3-4: Scheme type can evolve from one form to another as internal and external forces may dictate.

In Pathways 1 and 4, the SOCFE will act as a manager or JV partner, while in Pathways 2 and 3, which are not farmed as single estates, the SOCFE will have to cover a wider range of responsibilities including:

- Internal membership and finances,
- Contract relationships with external parties (lessees etc.).
- land rentals and allocations, and
- water-distribution and levies.

Each of these would have to be addressed specifically in the SOCFE establishment and support process. The detailed tasks are described in the Agricultural Development and Commercialization

Consultancy ToRs, summarized at the end of the section and included in Annex 2.

Internal land administration (Foodplots and Pathway 2 and 3)

This would apply to the irrigable land of the SOCFE and would include individual lease-agreements, and the administration of block leases to outside entities. At SVTP the block of land is leased by the SOCFE from the 'Group' who own the consolidated customary estate. The SOCFE is solely responsible then for ensuring that both land administration and irrigation service provision takes place in an effective and profitable way – for the benefit of the SOCFE members. While the arrangements for billing will be separated as practical, the establishment of internal leases aids the enforcement of payment of irrigation service-fees as these can be part of the lease-agreement itself. This applies to the leasing of individual farms to SOCFE members, as well as to foodplots if the SOCFE decides to allocate a portion for that purpose.

In practical terms, the geometric arrangement of the envisaged surface irrigation layouts will enable the re-allocation of irrigable farms to be done systematically, with due attention to social and safeguards processes. The regularized irrigation fields resulting from construction of the irrigation system are already mapped, and easily physically demarcated by canal length, or other irrigation layout. Registers of irrigable plots, so demarcated, would need to be maintained at the SOCFE offices.

Sub-block leasing (Pathway 2 and 3)

A further issue is the extent to which transactions involving land access can take place between members, and between members and non-members, particularly within the context of Pathways 2 & 3 (Figure C3-5). Under this scenario, it is preferable that these transactions are permitted to take place, allowing both SOCFE members, and other people/companies as decided by the SOCFE members, to exit or enter the scheme in order to maximize the level of use of the irrigation scheme. There is no legal impediment to sub-leasing, given the CLA's allowance for the creation of "customary estate sub-leases", and it would therefore be possible for the SOCFE to establish this facility on behalf of the members.

The member would hold a "customary estate sub-lease" for the portion of land which they are entitled to use, and could create a further sub-lease to transfer this use right to another member or non-member. It may be desirable for the SOCFE to mediate this process, rather than this being left to private arrangements between members/non-members, and the extent to which these transactions would be permitted can be regulated for in the by-laws of the SOCFE. Ensuring suitable legal provisions in the context of the CLA and the institutional form of the SOCFE is a central part of the Technical Assistance Consultancy.

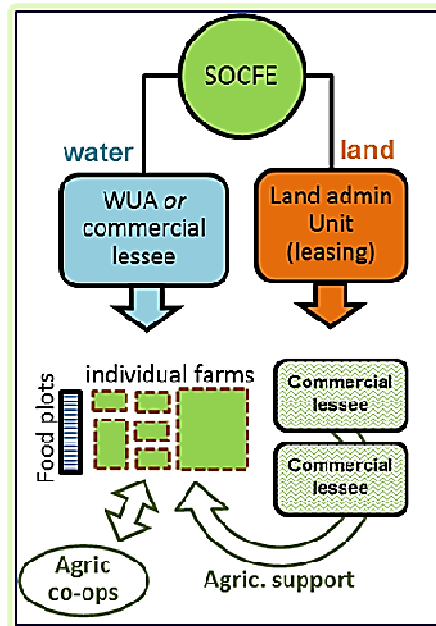


Figure C3-5: SOCFE dual land and water management functions in Pathway 3.

Water administration, operations and maintenance (Foodplots and Pathway 2 and 3)

Each SOCFE, under any envisaged pathway, will purchase bulk water from the scheme Water Supply Operator on the basis of a Water Purchase Agreement. Water will be measured at the point of release into the SOCFE boundary, or the practical hydraulic equivalent thereof. From that point onwards, water operations and maintenance within the SOCFE block boundary is the responsibility of the SOCFE itself.

In the case of pathways 1 and 4, which involve professional agri-business managers or partners, internal irrigation management is a routine part of the estate farming operations. In the case of Pathways 2 and 3, the SOCFE would have to delegate or assume water service provision activities within their block. The SOCFE establishment process would make internal legal provision for these roles – through bye-laws and/or other legal instruments. The development of irrigation water management skills (operators, WUA administration etc.) in parallel with support to the existing Government WUA support unit as a longer-term training entity, are essential to enable Pathways 2 and 3. The Technical Assistance consultancy undertaking this work would therefore include a clear definition of water-management roles and facilitate the necessary understanding that water-management and crop-farming activities must be addressed separately at scheme operational levels. Crop farming would be facilitated by separate agricultural cooperatives (secondary co-ops) formed around commodities and related value-chains. The following would require consideration:

- i) SOCFE acts as a water service provider,** complementing its role as a land-administrator. A land-rental and irrigation service fee would be billed to those leasing, on an agreed internal tariff basis. Prior experiences on WUA formation in the IRLADP¹ project in Malawi which was focused on small and medium sized schemes, should inform details of the water management approaches that are promoted and supported.

In the case of larger sub-leased holdings, where the SOCFE has invested in irrigation infrastructure, the maintenance of the irrigation assets will have to be specifically addressed. A combination of the SOCFE as an operator for the distributary system, with farm-level O&M through participatory, farmer-involved organization is one practical option. The decisions on irrigation technology and external factors influencing the pathway at the time of formation will shape the final organizational form.

- ii) A Water User Organisation of lessees is established.** The SOCFE would be supported to recruit, train, organize and administer internal water operations and maintenance. Participatory irrigation-management would be applied to the farm level for larger lease-holdings and when multiple smaller farms, to the unit-level. The unit-level is a lower tier hydraulic boundary, such as the area covered by a tertiary canal, or a center-pivot system (30-100 ha).

Where technically required due to complexity or preferred for practical or cost reasons, O&M tasks can be outsourced. Contract management training and institutionalization in the SOCFE Bye-laws or articles of establishment, will be important.

¹Irrigation, Rural Livelihood and Agricultural Development Project (IRLADP)

Cooperative legislation is not well-suited in a setting of customary-landholdings, but with land owned by the 'Group' and asset ownership vested in the SVTP SOCFEs, the particular context offers opportunity to develop workable water management solutions for the SOCFE blocks. Comparative analysis of legal suitability of Trusts and Cooperatives, particularly informed by the IRLADP experiences will be an essential early task for the Technical Assistance consultant.

Irrigated food plots on part of the estate

There are good reasons for, and experience in the Shire Valley supports the inclusion of small irrigated food plots into the farm plan. Both Kama and Phata cooperatives already established in the Shire Valley, have made provision for irrigated food production as needed by their members. The provision of substantive irrigated food plots (illustrated in Figure C3-6), of between 0.04-0.2 ha, would aim to balance the fresh-food deficit in members households.



Figure C3-6: Irrigated food plot

In Pathway 2 and 3, those not able to pursue the rigors of irrigated business farming can make their % of land available to others who want to lease it – either between the individuals or with the SOCFE as the lessor. The exit of some members from active farming, but remaining as % shareholders and food-plot growers, would enable farm consolidation needed for business oriented agri-enterprise.

The question of irrigated food plots requires a number of items to be finalized in the farm business planning process:

- Size of food plot;
- Irrigation system type (surface irrigation is the default, dragline-sprinklers or drip systems require pumps);
- Responsibility for the day to day practical operation and maintenance (could be substantial, up to 50 ha in size)
- Responsibility for paying of the costs related to the food plot irrigation system;
- Financial implications and SOCFE budgeting, for irrigated food-plot O&M.

The above responsibilities in relation to irrigation services to food plots need to be expressly addressed in the SOCFE establishment process and detailed business plan, to ensure functional, financial and social clarity is achieved.

1.3 Technical design choice

The choice to use pressurized field-irrigation systems, such as center-pivots, lateral move, dragline sprinklers or drip, introduces important constraints to future pathways. The size of the indivisible hydraulic unit is the area serviced by the irrigation pump station and is in most, if not all, cases going to be much greater than the individual smallholder farm size that would be expected in Pathways 2 and 3. This would have the effect of forcing the multiple landholders who are allocated % shareholding portions under the pump station (or pivot, or lateral move sprinkler), to group together to operate the irrigation system. The group would have to address pump maintenance, electricity supply costs, cropping and irrigation scheduling, and given the practical inseparability of these elements, such a technical choice will likely result in the establishment of a second-level production cooperative with all of the resultant challenges that arise.

Thus while pressurized field-irrigation systems are practical, water-efficient and widely used for estate sugar-cane irrigation, in the SVTP-created SOCFEs, the choice of these will constrain individual enterprise. If pressurized irrigation systems are preferred, then the choice of numerous smaller hydraulic units would lend flexibility. In the case of pivots for example (Figure C3-7), smaller 3-4 tower pivots of 20-25 ha in total coverage, are at the peak of cost efficiency and solar-powered systems are readily available and cost-effective in Southern Africa. Such a choice would translate to more numerous indivisible farming units, potentially supporting more numerous medium-sized agri-enterprises.

Surface irrigation systems (Figure C3-8) have higher labor and organizational demands but the nature of the system leaves flexibility on how portions are both consolidated and re-divided later as may be needed. This flexibility is however subject to the design parameter of furrow run-length. The design choice of shorter furrow run-lengths, to arrive at reasonable plot dimensions, warrants attention.



Figure C3-7: Cane irrigation with centre-pivot



Figure C3-8: Cane irrigation with furrows

1.4 Agricultural Development

Farm investment planning

The actual farm investment on the irrigation block will take place immediately after a farm organization and agri-business planning process is completed. This process would be supported by specialist service providers as well as by the farm management entity, once it is appointed. The management arrangement will be different for the four different pathways and will be structured as required, and reflected in the agri-business plan.

The farm investment planning stage would last for about one year for each irrigation block, but engagement with multiple blocks in cycles will extend over the full project duration. At the conclusion of the process, farms would be ready to commence production. The sequence of investment planning, financing and construction activities are shown in Figure 3, and include:

- A decision of which pathway to adopt and the appropriate type of irrigation system; decisions on crop choice, rotations, livestock, fisheries, technology to be used for tillage, crop establishment, crop husbandry, harvesting and irrigation water application technology;
- Decisions on farm equipment, basic infrastructure (potable water, electricity connection, access road), engaging the service provider, and farm management and staffing the SOCFE/company with relevant professionals;
- Irrigation method; various viable options will be discussed with the enterprises based on crop choice, micro-topography, soils, etcetera;
- Securing of financing for equipment and production costs;
- Identification and contact with possible markets; and,
- Preparation of the farm investment and business plan.
- Farm management and staffing;

These are expanded in some detail below. PIM users are also referred to the Agricultural Development and Commercialization TA Terms of Reference, which is summarized at the end of the section.

Farm Operation Support

Farms will need strong technical support to achieve sustainable profitability. The project would provide technical advice, training and mentoring on agronomy (specifically including integrated pest management and safe management and application of agricultural chemicals), irrigation management, marketing, business management, land use planning, environmental management and other topics during the initial three years of operation. This would be provided through the project by service providers, with a clear set of responsibilities under a contractual mechanism and dependent on a transition to hired services for longer term management. Additionally, support would be provided to develop effective communication within the value chains for each commodity produced. This would take the form of value chain platforms involving all interested entities, farmers, inputs suppliers, off-takers, transporters, financiers, public and private extension, commodity associations.

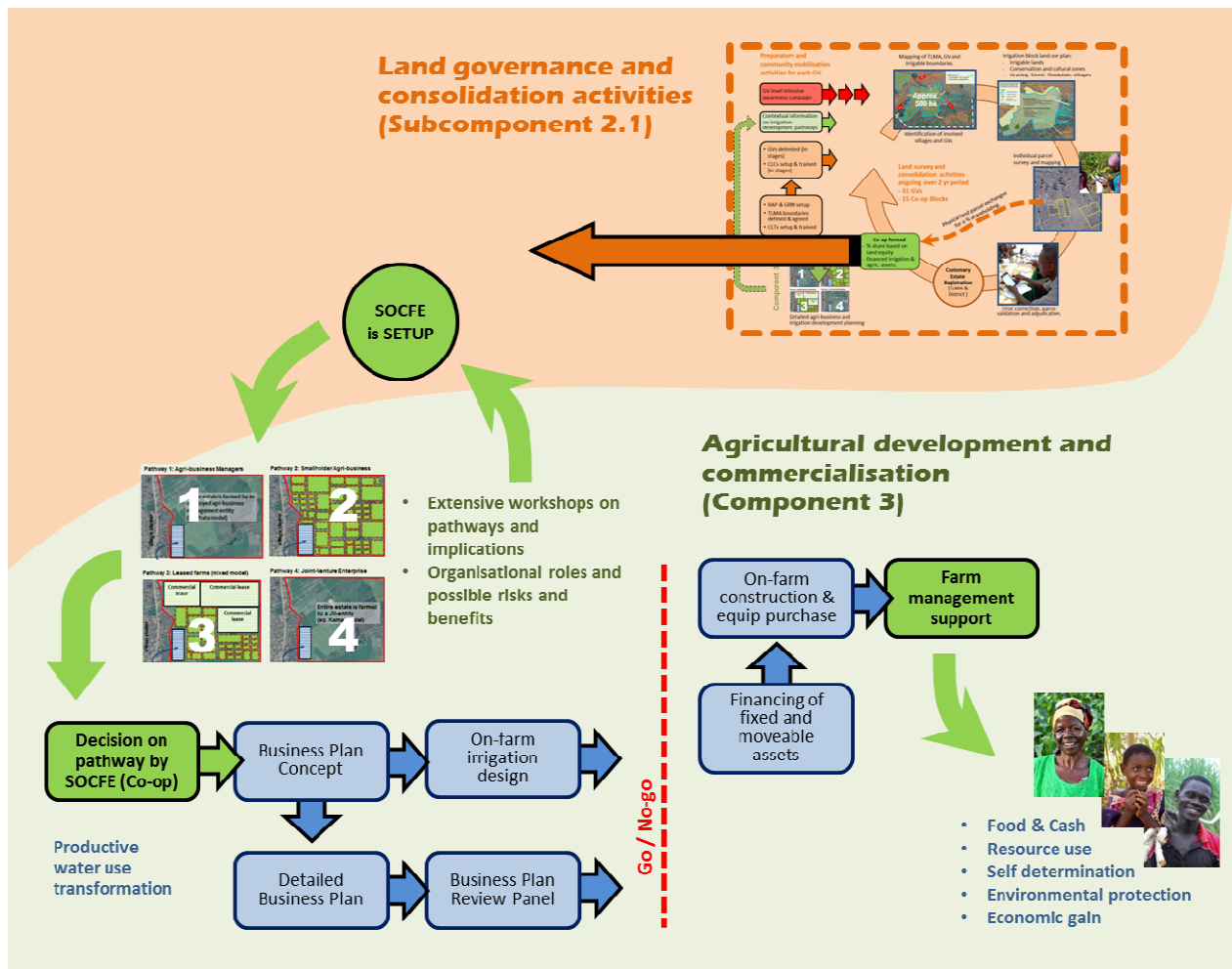


Figure C3-9: Planning sequence of SOCFE formation and on-farm agricultural development process

Capital Investment Support

Investment support will be provided through the project to enable capital investments in the SOCFEs based on their business plans. Much of this will be made available as a grant, or as a partial grant. There are clear justifications for the usage of grant:

1. market failure in the Malawian financial sector where long term finance is currently unavailable for farmers and farmer organizations;
2. capital investments cannot be self-financed by the target beneficiaries due to their existing lack of bankable resources and commercial history;
3. externalities which generate development impact to rural livelihoods; and
4. incentive for financial institutions to create new financial services to farmers and farmer organizations.

The project support for the various project beneficiaries and clients is summarized in Table C3-2.

Table C3-2: Matching grant facility for on-farm development and agricultural acquisitions within the SOCFE boundary

INVESTMENT CATEGORY	DEVELOPMENT PATHWAY				EXISTING PRODUCERS
	1	2	3	4	
	Project Investment Support/Grant				
Main Water delivery	100%	100%	100%	100%	Negotiable
On Farm Irrigation & Roads	90%	90%	90%	90%	0%
Farm Fixed Assets	70%	70%	70%	0%	0%
Farm Moveable Assets	50%	50%	50%	0%	0%
Farm Overhead Costs/Yr 1	50%	50%	0%	0%	0%
Farm Production Costs/Yr 1	50%	50%	0%	0%	0%

Under these financing scenarios, all farms would receive investment as a grant to provide *access* to irrigation water (ie. bulk supply infrastructure). Existing producers, such as Illovo, would however only gain *access* to the bulk water supply on a negotiated fee basis. Separately from the issue of access to the bulk water supply, all farm models would pay water charges based on a single, standardized volumetric fee.

They would receive a 90% grant for land development to the point where land is irrigable, with the balance to be provided by the farm owners through loans from “patient capital” providers and possibly through provision of “in-kind contribution (labor and/or materials)” by the owners.

For Pathways 1, 2 and 3, the project would provide a 70% grant for investment in farm fixed assets and a 50% grant for farm moveable assets. In both cases, the balance would be obtained as loans from quasi-public investment organizations (e.g. CDC, AgDevCo) and from local commercial financiers. No project support would be necessary for Pathway 4 investments, as this would be provided through the JV partner.

The project would also provide a 50% grant for the costs of Farm Overheads and Farm Production Costs in Year 1 of production only. The balance of these costs would be provided through partners in productive alliances (see Para 58 below), including through local commercial banks and produce off-takers. There would not be any need for support of this nature under Pathways 3 and 4, and the businesses undertaking production in these farms would be expected to make adequate provision for this in their investment financing.

Investment Assessment Panel

The project will recruit an expert team of independent evaluators to assess investment proposals by SOCFEs, on the basis of their business plans. It is proposed that the panel would consist of a commercial financier, at least two private agribusiness representatives, an irrigation agronomist and a project representative, most likely the Component 3 lead.

The panel would be recruited and paid for by the project. The panel will be responsible for evaluating the business proposals which will be the basis on which the project financing will be awarded. Specifically, the panel would not approve project support for investments where the level of project support would make the investment inherently financially non-viable. The process of evaluating the

business proposals will be cyclical with a batch of proposals received for evaluation in the periodic calls of proposals from the SOCFEs. It is recommended that this be done every three months.

The SOCFEs will be encouraged to develop these proposals in collaboration with the buyers and other value chain entities who may be involved. Most important will be to establish the commercial linkages with buyers, services providers, inputs suppliers and financiers. The independent evaluators will ensure transparency and meritocracy in award of financing, based on an objective assessment of the business plans guided by clear selection criteria. The selection criteria would include verification of technical and financial viability, acceptable management skills, access to markets for inputs, services and produce, and likely access to matching non-project finance.

On-farm Investment Assessment Panel

- Recommends use of matching grant
- Independent evaluators
- SOCFE business plans reviewed
- Quarterly sittings and reports

Productive Alliances

The Malawi Agricultural Commercialization Project (AgCom), is supporting the development of Productive Alliances between farm Producer Associations and off-takers, as well as with other commercial entities in the value chains for the main commodities chosen for production by SOCFEs. The SVTP would review the experience and lessons from the implementation of the AgCom project, and seek to provide SOCFEs with similar access.

The SOCFEs, in Pathways 1 and 4, will be organized into groups involved in the production of particular commodities. These groups will be the key hubs towards production of the commodities, which will be linked and sold to respective buyers (off-takers). Their prime role is therefore to generate the products for commercialization, based on market demand. In Pathways 2 and 3, the SOCFE has a more facilitative character, administering land and water services, with farm production and marketing the responsibility of other entities, or individuals.

Off-takers can be linked to the various forms of producers either formally or informally. The off-takers will determine the requirements of the products in terms of volume, quality and negotiate price derivation processes. Other value chain participants will offer technical assistance, access to finance and farm services to ensure an effective productive alliance and highly productive agriculture.

The service provider contracted to support Agricultural Development and Commercialization will facilitate and broker the building of productive alliances with key non-farm commodity value chain entities. SOCFEs will be provided with business support to prepare their business plans and liaise with off-takers and other value chain entities to agree on contractual terms and conditions. The service provider would provide ongoing mentoring and brokerage support to both SOCFEs and other value chain entities to the point where the relationships are enduring through development of positive experience and trust.

Institutional Development and Multi-Stakeholder Support

Support for the development and strengthening of appropriate institutions would take place throughout project implementation. The following would be provided:

Formation of a Representative Farmers Union. This would be a forum where the different blocks can discuss common issues related to agriculture in the Valley and the SVTP in particular. It is anticipated that this would evolve into a broader representative organization involving farmers' association and participating value chain entities. This would then be an effective advocacy body for all participants;

Applied research support. This program would be responsive to farmer organizations' needs, and ultimately, farmers would be encouraged to pay a levy on their crop revenues to ensure sustainability of the research. There are various models for crop-research levies, from public-private collaborations to address specific emergent challenges and/or opportunities, to systematic end-point levies applied to major offtakers and distributors. Modalities for provision of this specialist mechanism to ensure longer-term research support would be determined in consultation with Government, private sector stakeholders and farmers during project implementation.

Assessment of Development of Agro-Spatial Zones.

The development of Agro-Spatial Zones has been proposed as a means of removing constraints to competitiveness of agriculture/agribusiness, and facilitating the investments that promote sector competitiveness. To determine if spatial solutions are justified in the case of commodities and activities sponsored through the SVTP, the project will support Government to analyze this and determine suitability of Agro-Spatial zones in the project area.

Specifically, it will provide support to the Malawi Investment and Trade Centre (MITC) and Ministry of Industry and Trade to review the legal framework in the country and establish the feasibility of spatial zones. These can be in form of: Special Agricultural Economic Zone (SAEZ); Agri-Industrial Park; or Agri-clusters in the project area. This will require, variously, new transport infrastructure, along with warehouses, cold-chain infrastructure and measures for climate mitigation. The analysis will determine government's commitment to this and the ability to rally different government and private institutions behind this commitment. Agri-spatial solutions are a relatively new concept, and there are very few examples of agri-zones or agri-industrial parks worldwide that will provide lessons.

Prior to a feasibility study, the project will support Government to answer a number of questions including:

- 1.** What kind of "processing" of basic agricultural products is projected to be done in the agri-zones or agri-industrial parks?
- 2.** Why is this transformation / processing not taking place now on a greater scale?
- 3.** What are the market, government, and private sector failures that are presenting a challenge to this kind of processing (e.g. infrastructure constraints, investment climate challenges, lack of organization or information among the private sector)?
- 4.** Are there early indications of any demand from the private sector that they will be interested in locating in one of these parks/zones, and for which products / processes?
- 5.** What are some of the outcomes expected?

6. Are there any identified specific sites for these parks/zones, and why? (If not, diagnostics include site assessment exercise.)
7. What would be the primary objectives of the agri-spatial solutions?

Basis for Production Choices

An analysis was conducted during project preparation to determine:

- The crops and other productive activities that are best suited to the agronomic conditions of the Shire Valley, particularly when grown under irrigated conditions;
- The likely gross margins for the crops best suited to the productive environment;
- Produce which will have a ready market either in Malawi or in the region; and
- Crops which are easily handled, transported and stored without elaborate transformation or investment in processing and storage facilities (beyond those that already exist in the SVTP locality).

This analysis showed that the following six crops would have highest priority for inclusion in the cropping program for the proposed SVTP during the first five years of scheme implementation: sugarcane, dry beans, pigeon peas, cotton, soya beans, and maize for grain production. Sugarcane is already the major commercial crop in the project area with a well-developed value chain and it is envisaged that the crop will retain this status for the foreseeable future. However, expansion of sugarcane under the project will be limited due to capacity constraints at both the Illovo mill and the existing manufacturers of ethanol. Dry beans, cotton, maize, pigeon peas and soya beans are well established crops in Malawi in general, and are considered easy to grow, store and market locally and in the region.

It is therefore proposed that the farmers will be advised to initially grow cotton, soya beans and pigeon peas in summer, and maize and dry beans in winter, until such time that value chains and market opportunities for other crops can be determined. Provision will also be made for enhanced production of livestock, using irrigated crop residues as fodder, and for aquaculture. Subsequently, after farms have gained experience in irrigated agriculture, it is proposed that a small part of the irrigated area be used for high value crops such as banana, mango and citrus, for which there are ready off-takers and markets.

Finally, it is proposed that each household participating in the schemes will be allocated approximately 0.1 ha of irrigated land for production of household food crops. Farmers will be free to grow crops of their choice on this land, provided that they pay for irrigation and other farm services (e.g. plowing, plant protection). This entry strategy will enable the scheme to make a commercially viable start, while



Sugarcane will continue to be grown and processed by the Illovo estate, and the outgrowers currently producing for it.

The new smallholder farms will not be able to grow sugarcane because of capacity constraints at the Illovo processing facility.

The alternative crops planned for SVTP are:

- Dry beans
- Pigeon peas
- Cotton
- Soya beans
- Maize (dry)

allowing for a transition from subsistence farming. The emphasis will be placed on developing the capacity to grow these crops at a commercial scale commensurate with international best practice.

This cropping system is reflected in the financial model prepared for the project. However, it must be emphasized that decisions on the actual crop mix will be made by the farmers as part of the decision-making processes for initial farm investment and subsequent farm management. Moreover, the design of the farms will be such as to allow for a substantial degree of flexibility in the crop mix and production systems employed, allowing farms to respond to actual technical and market conditions.

Livestock and aquaculture

Livestock, especially cattle, make up an important component of smallholders existing assets and incomes (Figure C3-10). It is expected that smallholders will demand to continue livestock production after the irrigation scheme is constructed. However, livestock grazing is incompatible with intensive irrigated crop production. It is therefore proposed that the project supports more intensive livestock production, leading to enhanced income from livestock, through the following interventions:



Figure C3-10: Livestock are an important asset to smallholders

- Identifying and setting aside non-irrigable areas attached to each SOCFE for livestock raising through the land-use planning process, that would include maintenance of livestock movement corridors and provision of livestock watering points;
- Encouraging SOCFEs to harvest suitable crop residues (from soya bean, pigeon pea, maize and dry beans) and retain crop bi-products (cotton seed) for feeding to livestock owned by SOCFE owners;
- Provision of technical support for enhanced livestock production, especially using more intensive techniques; and
- Provision of support for development of commercially viable livestock value chains linking the farmers' production to markets.

The availability of abundant water resources that will be made possible by the project presents opportunities for the resuscitation and expansion of fish farming in the project area (Figure C3-11). There are good markets within Malawi for freshwater fish as an alternative source of protein. The project will support efforts to enable viable aquaculture enterprises to be developed in conjunction with each SOCFE. These would potentially occupy the area located in-between the irrigated lands and, or any water storage facilities developed as part of the water conveyance system for the project as a whole.



Figure C3-11: Aquaculture ponds

The project support would include:

- Identifying areas attached to each SOCFE for aquaculture through the land-use planning process;
- Encouraging SOCFEs to invest in aquaculture facilities, and to enable use of any crop or livestock bi-products in fish production;
- Provision of technical support for aquaculture production operations; and
- Provision of support for development of commercially viable aquaculture value chains linking the farmers' production to markets.

1.5 Integration with other agricultural development initiatives

SVTP II:Some elements may not be completed in SVTP-I, and will be continued in SVTP-II. The SVTP is developed in close alignment with the Agricultural Commercialization Project (AGCOM), now being prepared for World Bank financing. Specifically, initiatives concerning the development of appropriate financial services and products, produce standards, industry and business regulation, inter-action and support from the Malawi Industry and Trade Center (MITC), and possible development of spatial zones for commodity processing that may be supported by the AGCOM will be relevant for SVTP clients. Some of these initiatives, where relevant to the success of SVTP, may be directly supported in SVTP-II.

Policy analysis and market review:The activities above will be complemented by the overall policy dialogue that will be supported by the AgCom project, aimed at integrating smallholder farmers, farmer groups and SMEs into national, regional and global value chains.

While anticipating formation of commercial farmerenterprises (SOCFEs) under component 2.1, the project shall continue to explore and adapt with complementary models and potential growth pathways. The project shall undertake substantive-sub-sector analysis, including more in-depth interviews with domestic, regional and international investors and markets to get better ideas of agribusiness competitiveness and growth options, including those that would focus on increasing private investment in production, and to a larger extent on trading and value addition.

The project shall utilize the Diagnostic Toolkit for promotion of SME growth in the project area. Analysis will look at value chain actors, particularly SMEs within the area, and determine how their linkages can be strengthened in upstream and downstream value chain activities in order to prepare for larger private investments to be realized under SVTP.

1.6 Summary of Agricultural Development and Commercialisation Technical Assistance TOR

Financial sustainability of the SVIP irrigation investment can only be achieved through profitable agricultural production. However, the owners of the Smallholder Owned Commercial Farm Enterprises (SOCFEs) do not currently have the agri-business skills for successful operation of viable farm enterprises.

The SOCFEs will need to be highly profitable, and for this, their owners will need to make informed decisions on their organizational pathway, farm investments in infrastructure and equipment, cropping patterns and management systems. They will need to be linked to Commercial Value Chains for production and sale of their produce. Such value chains are currently poorly developed due to the low level of commercial production in the area, with the exception of sugar cane. Development of commercial value chains will be needed to enable farmers to gain access to markets and commercial services; this is essential to enable viable commercial agriculture.

Main objective of the TA

To provide specialized training, mentoring and value chain development services to enable SOCFEs to function as viable and profitable commercial farms.

There will thus be a need for intensive training, mentoring and guidance for the smallholder owners and subsequently for their management and key staff. This support will be provided by an experience agribusiness service provider for three years once the customary estates have been formed.

OUTPUTS

1. The most suitable legal basis for establishment of each SOCFE established.
2. SOCFE organization and development chosen by customary estate owners.
3. Appropriate irrigation systems for SOCFEs identified and installed.
4. Technically and financially viable business plans prepared to inform farm investment and initial operation prepared.
5. Farm equipment and infrastructure items effectively financed and installed.
6. Professional SOCFE managers identified and employed.
7. Operational and production costs accurately calculated, financed and inputs sourced.
8. Farm production commenced using appropriate techniques and management.
9. Effective commercial linkages between SOCFEs and key value chain entities established.

The full TOR for the Agricultural Development and Commercialization TA consultancy is included in the PIM Annex 2.

