CAMBODIA AGRICULTURAL VALUE CHAIN PROGRAM

(CAVAC)

PROGRAM DESIGN DOCUMENT

April 2009

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ABBREVIATIONS AND ACRONYMS

ACIAR	Australian Centre for International Agricultural Research
ADB	Asian Development Bank
AFD	French International Development Agency
AIF	Agribusiness Innovation Fund
AQIP	[AusAID] Agriculture Quality Improvement Program
ASEAN	Association of South East Asian Nations
AusAID	Australian Agency for International Development
AWP	Annual Workplan
BDS	Business Development Service
BDSP	Business Development Service Provider
BEE	Business Enabling Environment
CAAEP	[AusAID] Cambodia - Australia Agricultural Extension Program
CAMIP	[CIDA] Cambodian Agriculture Marketing Improvement Program
CARDI	Cambodia Agricultural Research and Development Institute
CARDI-AP	[AusAID] CARDI Assistance Program
CARF	Cambodia Agricultural Research Fund
CAVAC	Cambodian Agricultural Value Chain Program
CDRI	Cambodian Development Research Institute
CIDA	Canadian International Development Agency
D & D	Decentralisation and Deconcentration
DAALI	[MAFF] Department of Agronomy and Land Improvement
DAE	Department of Agricultural Extension
DAO	District Agriculture Office
DANIDA	Danish International Development Agency
DTL	Deputy Team Leader
EIA	Environmental Impact Assessment
F&V	Fruit & Vegetable
FFS	Farmer Field School
FMS	Farmer Marketing School
FWUC	Farmer Water User Community
FY	Financial Year
G-PSF	Government-Private Sector Forum
GOA	Government of Australia
IA	Implementing Agency
IFAD	International Fund for Agricultural Development
IFC	[World Bank] International Finance Corporation
ILO	International Labour Organisation
IRRI	International Rice Research Institute
ISAEA	Irrigation Scheme Agro-Ecosystems Analysis
JICA	Japanese International Development Agency
M & E	Monitoring and Evaluation
MAFF	Ministry of Agriculture Forestry and Fisheries
MBPI	Merit Based Pay Initiative
MEF	M&E Framework
MOC	Ministry of Commerce
MOWRAM	Ministry of Water Resources And Meteorology
MSME	[USAID] Micro, Small and Medium Enterprise Program
MTEF	Medium Term Expenditure Framework

ABBREVIATIONS AND ACRONYMS

MTR	[CAVAC] Mid Term Review
NARS	National Agricultural Research System
NCDD	National Committee for Decentralisation and Deconcentration
NSC	National Steering Committee
NSDP	National Strategic Development Plan
O & M	Operation and Maintenance
OAE	[Provincial] Office of Agricultural Extension
PBA	Program Based Approach
PBES	Provincial Business Environment Scorecard
PCO	[CAVAC] Provincial Coordination Office
PD	Program Director
PDA	Provincial Department of Agriculture
PDD	Program Design Document
PDWRAM	Provincial Department of Water Resources & Meteorology
PIF	Provincial Investment Fund (NCDD)
PMG	Priority Mission Group
PMO	[CAVAC] Program Management Office
PPD	Public Private Dialogue
PPP	Private Public Partnership
PRDC	Provincial Rural Development Committee (NCDD)
PSD	Private Sector Development
QA	Quality Assurance
R&D	Research and Development
R&E	Research and Extension
RGC	Royal Government of Cambodia
ROU	Record of Understanding
SAW	Strategy for Agriculture and Water
SMG	Sector Monitoring Group
SNEC	Supreme National Economic Council
SOA	Special Operating Agency
SWAp	Sector-Wide Approach
TA	Technical Assistance
TIP	Technology Implementation Procedure
TL	Team Leader
TMSG	Technical Management Support Group
TOR	Terms of Reference
TSC	[MOWRAM's] Technical Service Centre
TWGAW	Technical Working Group on Agriculture and Water (for the SAW)
UNDP	United Nations Development Program
USAID	United States Bilateral Development Agency
USDA	United States Department of Agriculture
VC	Value Chain

EXCHANGE RATE

AUD $1.00 = USD $ 0.68 (January 2009)

CAMBODIAN FINANCIAL YEAR

January-December

CAMBODIA AGRICULTURAL VALUE CHAIN PROGRAM (CAVAC)

PROGRAM DESIGN DOCUMENT

1. INTRODUCTION

This design document is for a program that aims to increase farmer incomes in rice-based farming systems of Cambodia - initially in three provinces - through accelerating the value of agricultural production. The program will commence in 2009 and be implemented over a five year period.

2. DEVELOPMENT AND INSTITUTIONAL CONTEXT

2.1. National Development Context

Demographic. Cambodia has a population of around 14 million and a population growth rate of 1.7% pa. An estimated 40% of the population is under the age of 15 and 60% under the age of 25. Approximately 84 percent of the population is rural.

Economic growth and structure. Peace, stability, a generally sound macro-economic environment and export-led growth over the past decade has enabled Cambodia to make considerable progress following an extended period of conflict that destroyed most of the educated middle class and key economic, judicial, and social service delivery institutions. Real GDP has grown by an average of around 9% p.a. since 1998, underpinned by garment exports, tourism, construction, and to a lesser extent agricultural expansion. Growth in rural areas has lagged urban areas due to low agricultural productivity. Agriculture growth declined from an average of 11.9 percent in 1994-97 to just 2.6 percent in 2000-03. Since 1997, agriculture has experienced the slowest growth rate in the economy of all sectors. Recent (small) increases in production are attributed more to favourable climatic conditions than increased productivity. These growth differentials have led to considerable changes in the structure of the economy. Agricultural share of GDP has declined from 46 percent in 1994 to 32 percent in 2005. Over the same period, industry has grown from around 14 percent to 27 percent. The most dynamic sectors of the economy have been electricity, gas and water; textiles, wearing apparel and footwear; and hotels and restaurants. Despite these trends the proportion of the economically active population primarily engaged in agricultural activities has remained constant at about 70%.

Poverty. As a result of strong economic growth performance, average poverty rates have declined from around 47% in 1993 to 35% in 2004. However, while urban areas have experienced significant improvements, rural areas have lagged behind. Around 90% of all poor households live in rural areas, with the proportion increasing. While growth in the urban economy combined with rural-urban migration goes some way towards addressing this issue, it is not sufficient given the high proportion of the total population that resides in rural areas and the high proportion of working age and near-working age individuals in the total population.

Gender. Due to economic growth, structural change and improvements in human development outcomes over the last fifteen years, gender inequality has become less pronounced. Significant gender equity issues do remain in areas such as income generating opportunities and the control of household assets which are reinforced by ongoing structural inequalities (e.g. female educational achievement) and broader society attitudes to gender.

Future Prospects. Considering the much lower economic growth performance of the agricultural sector *vis-à-vis* other sectors, rural poverty is likely to become increasingly entrenched with the 2015 MDG target for poverty reduction unlikely to be met unless the underlying issue of low agricultural productivity is addressed.

2.2. The Agricultural Sector

Rice-based farming systems are the backbone of Cambodia's agriculture, providing a livelihood for over 80% of the rural population. The rice-based farming systems are mainly practised in two regions: the Tonle Sap Region and the Plains Region plus partly in the Coastal Region.[1] Rice-based farming systems include all agricultural primary or value added commodities produced in association or rotation with rice. This includes vegetables, legumes, some fruits (generally non-paddy), and livestock. Rice-based farming systems in Cambodia are undergoing radical change, including a shift from rain-fed transplanting systems, which make relatively poor use of land and labour, to direct-seeding of modern varieties. There has also been massive growth in recession rice systems (i.e. cultivation at the end of the wet season in areas inundated by lakes and rivers during the monsoon season) and a steady increase in irrigation infrastructure providing increased opportunities for crop intensification and diversification into other higher-value crops.

Crop production. Crop production accounts for about 44 percent of the total agricultural sector, followed by fisheries (32 percent) and livestock (16 percent). Rice production is by far the predominant activity accounting for 2.4 million ha or over 90% of the total planted area, and about half of gross value-added from crops. Fruit and vegetable (F&V) production is the next most important category of cropping with a planted area of around 140,000 ha. About 20% of rural households engage in some production of F&V, covering a broad range of F&V varieties. There is substantial scope for crop productivity increases. With most crop activity subsistence-based, low input, rain-fed, and centred around rice production, yields of rice and other major crops remain low by South-East Asian standards. Future productivity gains will depend on increased yields and cropping intensities, and diversification in higher value crops such as F&V. Much F&V is undertaken on a small-scale and opportunistic basis, but has the potential to generate far higher returns than rice. This is reinforced by the fact that households involved in F&V production tend to have better living conditions and higher literacy rates than those that are not.

[1] Tonle Sap Region (Kampong Chhnang, Kampong Thom, Siem Reab, Otdar Mean Chey, Banteay Mean Chey, Battambang, Pousat provinces); Plains Region (Kampong Cham, Svay Rieng, Prey Veng, Kandal, Phnom Penh, Takaev, Kampong Spueu provinces); Coastal Region: (Kampot, Kep and Koh Kong provinces).

Markets and marketing. Global trade in paddy is estimated at 25-27 million tons per year with programed consumption growth of 3% per annum. As a result of dramatic productivity gains following the Khmer Rouge era, Cambodia has been a small net rice exporter since 1999 with exports slowly increasing to an estimated 2 million MT of paddy per year (export of milled rice is minor). Most unmilled paddy is exported through informal channels, mainly to Vietnam and Thailand. As Vietnam and Thailand are two of the world's major rice exporters, a substantial portion of Cambodia's paddy exports to these countries is in fact re-exported to Cambodia in value-added form. This provides significant opportunities as well as competitive pressures for Cambodia. International consumer markets tend to be highly differentiated according to quality, creating opportunities for the production and marketing of higher-valued products and brands. In particular, the opportunity exists to develop niche markets for products such as organic rice and aromatic rice, and to capture additional value-added activity before export. In general, however, marketing channels tend to be poorly developed. Typically, traders from nearby towns collect marketable surplus from farmers for sale to larger traders/processors/exporters, often at prices well below those available in nearby urban centres.

Cambodia currently imports an estimated 60-80% of its commercially traded F&V[2], mainly from Thailand and Vietnam, offering immediate import-substitution potential for an expanded local industry. There is also considerable longer-term potential for developing an export trade, particularly to ASEAN countries. Internationally, F&V exports have been consistently growing at around 10% per year, and developing countries have been capturing sizeable share of this trade. There may also be significant market opportunities for organic products in both local markets and in major developed countries.

2.3. Institutional and Policy Context

2.3.1. National Context

National Institutional Context: RGC scorecard on economic policy reforms and general management of the economy has improved steadily over recent years. Further improvements in state effectiveness requires commitment to strengthening rules-based governance over political and commercial decision making. Transparency International's 2006 *Corruption Perceptions report* on transparency of government processes ranked Cambodia 162 out of 180 countries. The civil service is under-paid relative to both living costs and prevailing salary levels in the private sector. Government employees must therefore find other means of supplementing their incomes. Another direct consequence of low remuneration in the civil service is the rent-seeking behaviour that is evident at all levels of Government. In terms of the private sector the World Bank *Doing Business 2008 Report* ranked Cambodia 145 out of 178 countries for ease of doing business, citing policy uncertainty, poorly protected property rights and a weak judiciary as major concerns.

[2] Statistical information on the F&V sector is weak. The range given is based on best estimates available.

The relationship between civil society and the RCG has varied over time. Cambodia has an active civil society which has grown to more than 1800 NGOs active across all sectors serving a variety of functions. NGOs play a particularly important role in the area of service delivery, making services more accessible to the most vulnerable in society. Periodic crackdowns on NGOs that advocate on sensitive issues have undermined the important role they play as an instrument for improving government accountability and transparency.

Rectangular Strategy. Accelerating poverty reduction in Cambodia is about broadening growth – with particular emphasis on rural areas and raising agricultural productivity and incomes. The essential nature of this task is well recognized by the RGC as set out in the Rectangular Strategy (2004) which includes the enhancement of the agricultural sector as one of its four strategic growth triangles. The Rectangular Strategy is currently being revised with more focus on rural development and in particular on agriculture and water.

National Strategic Development Plan. The RGC fully recognises that the engines of growth since the early 1990s (garments, tourism, and construction) need to be complemented with other sources of growth that are more rural, broad-based, and pro-poor. Reflecting this, the current National Strategic Development Plan (NSDP) (2006-10) emphasises:
(i) good government;
(ii) enhancing the agricultural sector;
(iii) rehabilitation and construction of physical infrastructure (including water);
(iv) private sector development and employment; and
(v) capacity building and human resource development (with 60% of resources to be invested into the rural sector).

'Decentralization and Deconcentration' Reforms. As part of its overarching framework, the NSDP requires RGC Ministries to plan in a multi-sectoral, coordinated manner following the Decentralization and Deconcentration (D&D) Reform process. This framework is designed to promote:
(i) the transfer of responsibilities and resources to sub-national levels; and
(ii) engagement with provincial and sub-provincial administrations, CBOs, NGOs, and rural households.

Gender Reforms. There has been considerable progress in establishing the institutional foundation and policy environment for gender equality in Cambodia. The 1993 Constitution clearly reflects the principle of gender equality, and domestic laws recognize the rights of women in employment and inheritance. Budget allocations for gender mainstreaming have been provided at the national and provincial level and progress has been made at the commune level with the number of gender sensitive priorities in commune plans increasing steadily. RGC has committed to increasing the number of women in decision-making positions, but little progress has been made. Women are under-represented at the commune level, in the National Parliament and in the judiciary; and less than 10 percent of civil servants are women.

2.3.2. Agricultural Policy Context

Strategy for Agriculture and Water. The Ministries of Agriculture Forestry and Fisheries (MAFF) and Water Resources and Meteorology (MOWRAM) collaborated to prepare the Strategy for Agriculture and Water (SAW), which was approved by RGC in March 2007. The vision of SAW is to 'ensure enough, safe and accessible food and water for all people, reduce poverty, and contribute to economic growth while ensuring the sustainability of natural resources'. Its Goal is to contribute to poverty reduction, food security and economic growth by:
(i) enhancing agricultural productivity and diversification; and
(ii) improving water resources development and management.

The SAW strategy comprises eight key components covering issues associated with partnerships; enabling environment; natural resources; human and financial resources; empowerment of people and communities; agricultural productivity; and commercial agriculture. The SAW is to be implemented through five national development programs:
(i) institutional capacity building and management support program for agriculture;
(ii) food security support program;
(iii) agricultural and agri-business (value-chain) support program;
(iv) water resources, irrigation and land management program; and
(v) agricultural and water resources research, education and extension program.

While considerable progress has already been made in developing the overall SAW framework, further development is required for it to become fully operational at program, program and expenditure planning levels. Terms of reference and ministerial task managements for the design of the above mentioned programs have been established (including the role of donors). Four of the five program designs are expected to be completed by the end of 2008. While the activities under the SAW are of public sector nature, these activities also aim to coordinate and regulate the private sector (notably including farming communities) towards the common national goals. Over time, all relevant ongoing and pipeline programs (both RGC and donor funded) will be integrated under the SAW with the program design documents outlining the placement and role of individual programs.

Gender policy. Recognising the dominant role of women in agricultural production and in order to contribute fully to the objectives of national socio-economic development, MAFF has established a Policy and Strategy for Gender Mainstreaming. This policy is designed to ensure that gender equality is addressed in every strategy, program and plan concerning the delivery of agricultural services. MAFF has also established a Gender Unit as the over-arching body responsible for overseeing the implementation of this policy. However, the Unit is generally not sufficiently resourced in human and financial terms to implement the policy effectively.

3. PROBLEM IDENTIFICATION AND ANALYSIS

3.1. Problem Identification

Growth in agricultural productivity and output in the rice-based farming systems has been slow leading to flat rural incomes and small inroads into rural poverty reduction.

3.2. Problem Analysis

A number of underlying binding constraints are holding back agricultural productivity improvements. These can be divided into those related to:
i.) production inputs
ii.) agricultural markets
iii.) skills and information, and
iv.) the business enabling environment.

Value Chain Model. This problem analysis draws heavily on the "value chain" model which refers to the process whereby production that is surplus to subsistence needs is transformed, combined with other products, transported, packaged, and displayed until it reaches the final consumer. In this process the raw materials, intermediate products and final products are owned by various actors that are linked by trade and services, with each adding-value to the final product. Value chain actors are those who directly deal with products and include farmers, traders, processors, and marketers. There are also a range of other public and private services involved in this process of creating value, including business development services, transport and financial services, and research and extension services. Establishing favourable enabling framework conditions such as laws, regulations and capacity for their enforcement is also highly relevant to the process.

3.2.1. Production Inputs

Land. The small average land holding in Cambodia adversely affects productivity by fragmenting the industry and making it difficult to achieve commercial scale without excessive transaction costs. With the increasing pressure on land, Cambodia is in the process of resolving legal aspects of ownership and inheritance rights to land. Current plans to re-allocate large plots of land are highly controversial while land titling may influence land ownership patterns in the future by facilitating land transactions, possibly leading to some consolidation of farms into larger units, or emergence of cooperative contract farming. However, there seems to be little immediate prospect of large-scale land reform implemented for the benefit of smallholders. Many households remain dispossessed of land with only 20% of farmers holding formal title to the lands they cultivate.

Capital. Access to capital is frequently cited as a major constraint, for both farmers and agribusiness, but there exists some debate over this issue given the high level of liquidity in both the informal and formal sectors. The banking industry in Cambodia is evolving rapidly. ACLEDA is currently the most prominent bank positioned between micro-finance and large-scale lending that is mobilising local savings for on-lending at competitive rates.

Agricultural inputs. Access by farmers to the seeds, pesticides and other inputs that are required to increase agricultural productivity varies considerably. Farmers, particularly those near urban centres, are well serviced through small traders. The majority of farmers are, however, locked into low input-low output production systems, and have limited capacity to purchase agricultural inputs unless they are provided on credit. The cost of many inputs is also probably higher than it needs to be given that supply chains rely heavily on informal imports from neighbouring countries. There are also concerns about quality, for example in terms of seed germination rates, and purity of fertilisers. In addition, the labelling and instructions for use are often in other languages.

Water. Farmers in most parts of the country are faced with a shortage of water during key growing periods in the wet season and throughout much of the dry season and are therefore restricted to growing a single crop of paddy each year. The degree to which farmers are able to cope with shortages and excesses of water is fundamental to their ability to improve productivity and diversify production. Subsistence farmers are further very risk-averse as regards investments in higher value crops, unless water supply can be assured. The core problem is the absence of reliable water supply during critical periods of the production cycle, giving rise to dependency on the vagaries of the weather. Many irrigation areas are dependent on recession irrigation leaving farmers vulnerable to the effects of proposed new hydroelectric and irrigation developments along the Mekong River. Irrigation rates are relatively low.[3] With Cambodia currently using only a small fraction of its total water resources, there is considerable potential for increased irrigation development as a means of improving yields and cropping intensities. There is also considerable potential for improving the utilisation of existing irrigation capacity. There are approximately 1,000 irrigation schemes in Cambodia with the *potential* to irrigate about 437,000 ha. Less than half this area, however, is actually being irrigated and even that at very low levels of efficiency. A range of factors contribute to this situation including poor planning and design as well as weakness in the O&M system which has resulted in a cycle of neglect and disrepair followed by rehabilitation.

Water Management System. Irrigation is made up of a network of headworks, primary, secondary, and tertiary systems. At each level there are different levels of shared responsibilities between RGC and end users for their construction and O&M. The RGC is solely responsible for construction and O&M of headworks and primary distribution networks. For secondary and tertiary systems this responsibility is shared with communities through Farmer Water User Communities (FWUCs). A major constraint is the inability of RGC to provide sufficient technical and financial support for O&M. For schemes below 200ha which are in principle the sole responsibility of FWUCs there is a lack of capacity to develop and maintain the schemes. There is in particular a lack of expertise in engineering design; user group mobilisation and management; and a lack of resources affected by poor pricing and collection rates. The Government failure to provide sufficient support post-establishment to FWUC through extension services is a major contributing factor. A related issue is the

[3] Sources give dry season irrigation capability as ranging from 1-10% of arable area. If wet-season, recession and supplementary irrigation is included the range is around 30% - but this is mainly for one annual crop only.

tendency of Government to postpone the process of creating FWUCs until irrigation systems have been completed/rehabilitated which compounds O&M issues.

3.2.2. Agricultural markets

Market organisation. Lack of proper market organization contributes to fragmented supply chains, with a myriad of collectors, traders, and small-scale millers operating in the market. Farmers tend to lack storage and drying facilities and at the same time are usually in need of cash, making them weak sellers. Limited competition between local millers places downward pressure on farmgate prices[4]. High cost structures associated with production, milling, packaging, levies, transport, customs, Camcontrol[5], police, port, and shipping combined with bureaucratic delays makes shipment through official channels such as Sihanoukville Port financially unattractive. Development of the F&V industry is particularly constrained by a lack of commercial-scale production and disorganised supply chains.

Production-market linkages. Well developed production-to-market linkages between farmers, traders / agribusinesses (providers of market information, input supplies and produce marketing and processing as well as financial services) underpin the efficient operation of all VCs. Local, national and global markets generate demand for products. Good knowledge of markets enhances good production strategies which generate other enterprise opportunities or added-value by supplying goods and services along the entire continuum of market transactions which constitute the VC. There is evidence that more sophisticated production-market linkages are *beginning* to emerge in Cambodia e.g. contractual relationships between farmers/producers and rice millers for the supply of pure lines of higher-value paddy. In some cases these relationships extend to supply by the miller of seed and agrichemicals, often on credit. The development of improved linkages is however constrained by:

- a lack of whole-of-value-chain mapping for core products including analysis of production, post-harvest, processing, storage and handling, and marketing issues with special focus on the description of the enterprises that service these functions.
- poor communication between agribusiness enterprises and farmers on marketing and production opportunities, which limits doing business with each other.
- a general lack of successful examples that can be used as models.
- the perceived risk associated with starting a new enterprise and the high-cost of doing business in Cambodia vs. neighbouring countries.

Market-related infrastructure. Limited access to reliable or efficient market infrastructure is a major constraint to VC development in many areas. For example, inadequate drying and storage facilities, requiring the crop to be moved soon after harvest; public markets where farmers can sell their surplus produce tend to be poorly organised and unhygienic; there are few facilities such as wholesale hubs for storing and bulking-up produce; limited processing facilities such as juicing, drying and canning (for F&V); transport facilities such as rural roads and river ports are frequently in poor condition; and there is limited electricity reticulation in many areas,

[4] Associated with this are poor local milling practices resulting in low mill-outputs and low quality milled rice.

[5] Camcontrol is the RGC department under MoC charged with export/import certification - including of processed food.

which necessitates the installation of relatively expensive diesel generators to power agribusiness operations.

3.2.3. Skills and information

Agricultural skills and knowledge. Lack of knowledge is a serious constraint to productivity improvement and diversification. Farmers depend largely on their traditional, indigenous knowledge and their neighbours for farming practices. Lack of knowledge about post-harvest treatment and storage is also an important constraint; as is lack of relevant technical information for agribusiness development post-farmgate. In reality farmers have few other sources of information. The development, and uptake, of improved agricultural technologies in Cambodia has been generally slow. Although research has been credited with returning Cambodia to national rice self-sufficiency after chronic food shortages during and following the Khmer Rouge period productivity gains for other crops, encompassing intensification, diversification, and improved market-orientation, have been far less dramatic.

Market information. A key function of developing strong production-market linkages is to facilitate the transmission of price signals between various VC actors (information about demand). Farmers generally have little information about demand, especially in distant markets. They also suffer from lack of knowledge about many other aspects of demand such as the quality and quantities required, timing of demand, where to sell, and how to negotiate with traders. 'Snapshot' surveys are of only limited value to farmers since they become out-dated very rapidly. The challenge is to disseminate the price signals that traders routinely track every day into a system that can also meet the needs of producers. Rapidly expanding coverage of mobile telecommunications coverage opens up important opportunities for improving the flow of critical market information to key VC participants.

Sources of information and skills. Research and extension services are a key source of information and skills for VC actors. However they operate in a difficult environment characterised by underfunding and serious human resource constraints. Research and extension work is severely constrained by lack of funds to the point of being non-functional in many areas. Compounding this is the relative absence of demand/needs driven approaches and linkages between research and extension and the actors in the value chains.

Significant research is required on the development of improved varieties, production systems, and management practices if the potential productivity gains on offer are to be realised. Research is also required addressing important post-farmgate issues. Due to the particular characteristics of the Cambodian agricultural sector, the research that is required will in many cases involve substantially modifying (rather than merely adapting) proven technologies developed elsewhere in the region. The agricultural research sector however remains weak and is heavily reliant on donor support (there is little privately funded research). To illustrate the challenge of the situation, CARDI, the premier research organisation in rice-based farming systems, faces difficulties in acquiring sufficient funding to maintain its operational capacity. There is a real risk that core professional staff, many of whom have been trained overseas at significant cost, will be lost from the system (and this is already occurring).

Agricultural Research Sector. Major constraints of the research sector include:

- Insufficient funding. Operating budgets are generally insufficient and many key services/disciplines are still sourced from outside the country under temporary program-based funding arrangements. This creates institutional uncertainty caused by reliance on stop-go program-based funding, adversely affecting staff retention, maintenance of R&D infrastructure, and implementation of longer term research programs (e.g. crop breeding).
- Human resource constraints. Although growing, the number of foreign trained higher-degree practitioners remains low. This results in highly variable research and research management skills.
- Poor coordination of research funding and activities due to limited capacity, resources, communication and harmonisation between individual research organisations and donors. This has led to duplication and inefficient use of limited resources.
- Poorly developed linkages between researchers, extensionists, and farmers, affecting the relevance of R&D efforts and ultimately slowing adoption. Research needs to be better connected with market driven-priorities. It also needs to address downstream components of the VC such as post-harvest handling, processing and marketing.
- Limited private sector involvement in the public research system, both in terms of setting research priorities and implementation of research programs. Those few companies large enough to fund their own research tend to source providers from outside the country.

Extension services in Cambodia are generally weak and have limited capacity to transfer to farmers improved technologies and information on even basic topics such as use of improved varieties and optimal fertiliser applications. The development of a multi-channel approach to service delivery provides a way forward to address this. In many SE Asian countries there has been a move away from Government delivery towards greater involvement of the private sector in providing farmer extension services, but this trend is not particularly evident in Cambodia to date. In some areas traders are providing farmers with improved skills and information on agriculture through 'embedded' services – services effectively paid for out of the margin that the trader makes on the eventual sale – but examples of this are still relatively few. Another approach is through seeking funding from alternative sources (i.e. Commune Councils, contract farming and other commercial arrangements, farmer organisations and ultimately individual farmers). The role of mass media is also a potentially important dissemination mechanism and while mass media outreach has improved dramatically in recent years, it carries little substantive content on farming practices.[6]

Government Extension System. Government extension services are established within a national framework, nominally having national coverage. However, unless funded under specific government or donor programs, there are few active, adequately skilled and resourced extension workers able to effectively deliver market-relevant extension messages. Government extension efforts are particularly constrained by:

[6] NGOs can play an important and effective role in agricultural extension but the coverage of farmers reached through this channel is patchy. Sustainability is usually greater if NGOs can integrate their efforts with other (government or private sector) organisations, and thus build capacity in these systems.

- Unsustainable funding and management arrangements.
- Insufficient adequately skilled and resourced extension workers, particularly at district and lower levels, due to poor remuneration and conditions. Refresher training opportunities are limited, leaving many government extension workers without up-to-date knowledge. Operational resources such as portable extension aids (audio-visual, chairs, tables, etc) and operating funds e.g. for transport are often completely lacking.
- Poor communication between research and extension providers and agribusiness. This is due in part because extension workers are not geared to market access challenges and opportunities. The result is that very few extension technologies for farmers focus on marketing and agribusiness related solutions and the linking of farmers to other VC actors.
- Lack of suitable extension methods and materials. Historically, extension delivery has usually had a strong focus on formal instruction, whereas participatory approaches (such as Farmer Field Schools (FFSs)) are likely to be more appropriate for Cambodian farmers. While there are reasonable libraries of published technologies available that are suitable (or can be readily adapted) for use by *extension workers* there are insufficient *farmer-level* training materials produced from these documents.
- Poor coordination and communication between Government extension stakeholders leading to fragmentation of and inefficiencies in extension delivery.

3.2.4. Business Enabling Environment

It is widely recognised that the general business enabling environment (BEE) in Cambodia is a significant constraint on agricultural growth and productivity, especially when compared with the situation in neighbouring countries. The impact of better access to information, finance, inputs, improved physical market infrastructure etc. is likely to have limited effect without parallel improvements in the BEE, encompassing aspects such as robust and well understood policies and associated legal and regulatory frameworks; effective public private dialogue (PPD); and improved industry capacity for self-organisation and self-management.

Policies and regulations. There is some resolve at national level to address some of the major policy constraints through development of the SAW. Work on this is on-going, but will require considerable external support to operationalise the associated policy, regulatory and program frameworks. Associated with the development of these frameworks, there is an urgent need for the skills of responsible government officials to be strengthened in key areas. Policies that affect agribusiness and smallholder farmers are generally poorly known or understood throughout much of rural Cambodia. Officials (and others), especially at provincial level, are often unaware of national policies; and when they are, they often impose additional transaction costs (both formal and informal) which mean that contact with public officials tends to be time-consuming and costly. There are many well-documented examples of this. They include, for example, high road transport costs (unofficial payments effectively double the cost of moving produce around the country); the extremely high cost of exporting produce through Sihanoukville Port; and arbitrarily imposed business registration costs.

Public private dialogue (PPD). Robust PPD is usually regarded as a key component of a supportive BEE, enabling stakeholders at various levels to identify and discuss priority issues and reforms in an open, transparent manner. A good start has been made in establishing PPD mechanisms including the Private Sector Forum (G-PSF) and the Provincial Business Environment Scorecard System (PBES). However, PPD processes at both provincial and national levels are still embryonic and fragile. They need to be expanded geographically, and deepened in terms of giving agribusiness issues greater prominence and SMEs greater voice.

Industry representative organisations. The private sector, at both producer and agribusiness levels, is generally poorly organised to play an advocacy role or to undertake other 'industry good' activities. There are very few industry organisations in existence, and even fewer with an agribusiness focus. Those organisations that do exist tend to be poorly organised, underfunded, underskilled, and ineffective. The local Chambers of Commerce are not perceived to be representative of either small business or producer interests, and are not particularly effective.

Alternative investment models. Considerable investment in market-related infrastructure is needed in many areas. The amount of investment required in many cases is beyond the capacity of government (especially local government) to finance. The pace of development is therefore determined by availability of external donor funding (grant and loan). Alternative investment models need to be investigated. Mobilising private capital through Private Public Partnerships (PPPs) has proven to be a successful mechanism for financing similar development needs in other developing countries.

Business skills development. Many agribusinesses have limited business management skills in key areas such as business planning, accounting, market assessment, marketing, human resource management, and quality assurance. Limited availability of suitably packaged information and Business Development Services (BDS) to support the development of these skills is another important constraint to development of target VCs.

Gender. Issues of gender cut across all agricultural productivity binding constraints. Women play a central role in rice-based farming systems and the household economy. More than 65% of women are farmers, they are responsible for 80% of food production, and contribute nearly 75% of all agricultural labour.[7] In addition to this, they carry the main responsibility for housework and the care of children, and are usually responsible for managing food security in the family and ensuring that there is sufficient food on a daily basis. As well as providing the greater share of agricultural labour, they spend approximately the same amount of time in wage-employment as men. If a woman is employed, her additional income is usually an essential part of the household's capacity to meet basic needs. While the majority of agricultural women have historically been engaged in subsistence production, many are now turning towards agribusiness in order to supplement household incomes. Women tend to dominate petty trading activities, with recent estimates that over 80% of F&V traders, for example, are women. However, beyond petty trading, women have

[7] The main areas where men are responsible are related to irrigation, field management and the care of farm animals.

generally limited opportunities due to lack of access to credit, skills, information and technology.

Significantly, women have less opportunity than do men to participate in community activities, training and other opportunities that enhance knowledge and skills or improve their management and leadership roles due to their heavy workloads. At present there are few female-focused self-help groups such as women's farmer associations or entrepreneur groups in existence, despite the demonstrated effectiveness of these mechanisms elsewhere. Agricultural extension services tend to be male dominated, and extension methods and information content substantially fails to address the differing needs of women, despite the dominant position of women in production activities. The problem of providing effective extension delivery for women farmers is compounded by the fact that over 50% of women are illiterate or have less than an elementary level of education. Agricultural research is also not well geared to address the immediate needs and activities of female farmers.

With respect to land, women, as a group, are particularly vulnerable to dispossession. Land registration is usually in the name of the husband only, especially in rural areas. Even where the names of both the wife and husband appear on a land title, men still make the major decisions in relation to the use of the land. Women's ability to establish a legal claim to land, secure viable divorce settlements, and provide formal collateral for loans are all adversely affected as a result. Protecting the land tenure rights of women will become increasingly important as pressure on land becomes more intense. Women-headed households working in agriculture who tend to have smaller landholdings are particularly vulnerable to losing their land and falling into poverty.

4. DEVELOPMENT ASSISTANCE CONTEXT

4.1. Development Assistance in Cambodia

International development assistance to Cambodia is estimated to be equivalent to 8.4 percent of GDP in 2007. Donors pledged in excess of US$689.2 million in 2007 and over the past decade total ODA has exceeded US$5 billion. On a per capita basis this is slightly above most other low income countries. The top three donors are Japan, USA and the ADB. Other significant partners are Australia, France, Britain, Denmark Sweden and more recently China. The World Bank and UN agencies also have a strong presence. The large number of major development partners operating in Cambodia presents significant challenges in terms of coordination. In 2006, NGOs made a substantial contribution in Cambodia's development, providing over US$50 million of their own funds and implementing US$63 million of donor assistance.

The *2006 Survey on Monitoring the Paris Declaration on Aid Effectiveness* found that a key binding constraint in terms of better ownership of the development agenda and better alignment of development partner assistance in Cambodia was weak government systems. At the same time, development partners must further align their planning cycles with those of RGC and better use the NSDP to guide their own prioritisation of assistance to Cambodia.

4.2. Development Assistance in Agriculture

Donor support for agriculture in Cambodia has been relatively neglected when considering the importance of the sector in addressing poverty. Support has actually trended downwards in the last five years from around 8% of total aid disbursements to less than 5%. Until recently, support in the agricultural sector has been significantly off message in regard to the *Aid Effectiveness* agenda with a large number of uncoordinated donors and programs. The situation has improved following the establishment of the Technical Working Group (TWG) on Agriculture and Water in 2004 for which Australia was co-facilitator. The process of aligning donor programs in the agricultural sector with the SAW is agreed but not yet well advanced as donor agencies are still waiting to the see the quality of the SAW program designs. Importantly, a number of donors have made ongoing funding and/or staff commitments to the design of the SAW programs.

4.2.1. Australia

Australia has been a major donor in the rural sector in Cambodia since 1990. Australia has provided the vast majority of donor funding in Cambodia to develop agricultural research and extension capacity, through both AusAID and ACIAR. In recent years around 40% of bilateral program expenditure has been devoted to directly addressing rural poverty through efforts to improve agricultural production and marketing. Australia has developed solid working relationships with key agricultural ministries, and has made a significant contribution in a number of high profile areas. These include the establishment of CARDI and DAE and supporting the transition to a rice surplus. Examples of recent programs include: Cambodia-Australia Agricultural Extension Program (2001-7), CARDI-Assistance Program (2002-6), and the Agricultural Quality Improvement Program (2002-08).

4.2.2. Other Donor Programs

Other donors are funding a range of programs focussing on agricultural productivity through, for example, working with agribusiness as a conduit to improving rural incomes, or through their involvement in addressing wider BEE issues. As has been mentioned donor attention in this sector is however relatively under-subscribed (see Appendix 1 for description of other donor programs).

4.3. AusAID Policy and Country Cooperation Strategy

GoA policy. A focus on agriculture and rural development is consistent with current GoA policies and priorities which stress that poverty reduction and the achievement of the MDGs is the single most important objective for the aid program. Major emphasis is placed on: the central role of economic growth in reducing poverty; the need to strengthen support for private sector-led development initiatives; the critical role of infrastructure as a driver of economic growth; and the central position of good policy as a foundation of both economic growth and good governance. A focus on agriculture is also consistent with the emerging GoA policy related to the increasing challenge of food security.

Development Cooperation Strategy. A focus on agricultural productivity is also consistent with the recently finalised Australia-Cambodia Development Cooperation Strategy 2008-2015. The overall goal of the strategy is to assist Cambodia reduce poverty and achieve sustainable development with a strategy component focussing on 'rural poverty alleviation through agricultural development'. Further details on relevant strategy objectives are as follows:

Strategy Objectives 2010	**RGC Development Outcome 2015**[8]
1.) Increased agribusiness activities and outputs in selected provinces 2.) Improved rural infrastructure	Accelerated growth in the value of national agricultural production

4.4. Cambodia Aid Program Lessons Learned

In 2007 an independent Effectiveness Review of the Cambodia Country Strategy 2003-2007 recommended Australia be more selective in its engagements, focusing more strongly on key interventions and delegating others to development partners better placed in those sectors. It identified the agricultural sector as one where Australia should maintain a strong engagement. The Effectiveness Review also noted that policy engagement by development partners in Cambodia in some areas is becoming costly and unwieldy. Development partners should engage in RGC sectoral coordination forums based on their comparative advantage and presence in particular sectors. It was recommended that Australia should lead the harmonisation effort in the agricultural sector.

4.5. Key Lessons Learned in addressing agricultural productivity

Lessons learnt when addressing agricultural productivity have provided both a rationale and informed the intervention. Internationally, a number of completed and ongoing aid activities that focus on the development of agricultural market systems as a means of addressing agricultural productivity have achieved particular success.[9] Two important common lessons identified were:

i.) market development needs to take a systemic approach. Rather than addressing symptoms and filling gaps through direct support, emphasis should be placed on systematically and methodically analysing why the gaps are there and working on solutions that enable local market players to fill them.

[8] Achievements under the strategy objectives are expected to influence progress against the RGC development outcome. Strategy objectives will be reviewed leading into the 2010-2015 period.

[9] For example, the Katalyst program in Bangladesh trained over 1,300 traders in agricultural inputs and as a result, 239,000 farmers have benefited directly, increasing both incomes and earnings per acre by up to 50%. See Appendix 2 for more details on Katalyst lessons learnt. Other programs include SEDF in Bangladesh; Commark in southern Africa; BSMDP and BDS Kenya in Kenya; FIT-SEMA in Uganda; Prosperity Initiative in Vietnam; Propcom in Nigeria; and GTZ in Nepal and Thailand.

ii.) market development can provide a highly sustainable approach if it builds on private sector capacities and incentives.

There is also a wealth of experience in Cambodia from AusAID-funded rural sector programs as well as from other donors. Some of the key lessons include:

- Production Inputs (Water Management): Farmer organisations must be involved in the planning and management of irrigation schemes if they are to be sustainable. Emphasis needs to be placed on building the O&M capacity of farmer organisations prior to investing in scheme rehabilitation.
- Agricultural Markets: The private sector is better placed than government to facilitate production and marketing linkages. Emphasis should be placed on working with private sector actors (e.g. input suppliers, produce traders, farmer enterprises) to enhance their role in the development process; and with those providers who have the strongest incentive to continue to offer the solution after the Program has ended its support.
- Skills and Information (Extension and Research). Extension and research systems established with donor-funding have difficulty being sustained by public agencies after program closure. Emphasis should be placed on developing a multi-channel approach to research and extension delivery, and on developing a broader funding base for these services. Research and extension efforts have historically not been adequately market-driven, and many have failed to provide anticipated benefits as a result. More emphasis needs to be placed on knowledge *exchange* with farmers and agribusiness.
- Business Enabling Environment. Efforts to improve agribusiness activity and investment in VC development need to be matched with improvements in the BEE, with particular emphasis on improved Public Private Dialogues (PPD).
- Gender. Gender issues need to be considered in detail in both design and implementation if they are to be addressed effectively. Gender outcomes are often difficult to assess due to inadequate M&E frameworks and data collection processes.

4.6. Rationale for AusAID Intervention

AusAID, the RGC and donors have engaged in ongoing dialogue since 2005 on measures that can be taken to increase agricultural productivity and reduce the rural/urban divide, and have agreed to coordinate their efforts through support for the National Strategic Development Plan. AusAID has agreed to play a lead role in the ongoing development and implementation of the SAW and more broadly in support for rural livelihood development. Given the recent or imminent closure of AusAID's current suite of rural development programs[10]; the continuing relative lack of overall donor funding in rural development; the importance of the development challenge; the range of useful lessons from both Cambodia and internationally that can be drawn; and the directions of the new country strategy, there is significant rationale for the support of a major new initiative in this area.

[10] An important exception is the Enterprise Challenge Fund (ECF) for Asia and the Pacific which is operational in ten countries, including Cambodia since April 2008. There is the potential for important synergies and complementarities between the ECF and CAVAC.

4.7. Design Process

The Program was initially conceived in 2005 by the AusAID Rural Sector Monitoring Group (SMG), building on the work of a Scoping Mission in late 2004. The SMG proposed three main interventions:

(i) development of rice-based farming systems through a value chain (VC) approach;

(ii) support for integrated rural development targeting communities suffering from high vulnerability; and

(iii) support for policy analysis and ongoing dialogue with government.

Following acceptance of this general focus (with the exception of the issue of vulnerability), AusAID commissioned the Cambodia Agriculture Sector Diagnostic Report in 2006. This report was used to develop tender documentation for a 5-year program of support following a 'design and implement' approach, the contract for which was awarded in January 2007. The initial Program Design Document was not accepted by AusAID in late 2007 leading to the termination of the 'design and implement' contract (with the exception of various small start-up activities that did continue to be implemented in parallel with the extended design process - see Appendix 3 for a list of interim activities).

5. PROGRAM STRATEGY

5.1. Overview

Program Strategy: To develop mutually beneficial partnerships, market connections and competitive advantages between key actors along target VCs, thereby increasing total investment and generated value for stakeholders, particularly smallholder farmers.

To enable higher productivity and higher incomes, the Program will follow a value chain approach applied to rice-based farming systems. The value chains of targeted agricultural products will provide the core and unifying basis for Program support. The value chain approach has been chosen because it takes a systemic approach to analysing the factors behind current productivity levels. By reviewing the interactions and relationships of VC stakeholders it is possible to identify points of intervention where efficiencies can be improved thereby increasing total generated value and the ability of stakeholders to capture a share of this generated value. This contrasts with the majority of previous aid interventions that have focused on single productivity constraints which has not led to the systemic improvements in VCs that are required if agricultural productivity is to increase in a sustainable manner.

Given value chain development is generally "market-pull" rather than "producer-push" the approach chosen does not require the direct targeting of farmers. Rather it can be expected that farmers/smallholders will respond positively to the "market-pull" of agribusiness and other downstream / enabling factors. This approach is also expected to reduce the level of production uncertainty which to date has led

smallholders in particular to be highly risk averse and reluctant to undertake value-added activities unless assured of direct and immediate benefits.[11] Underpinning the decision to support value chains is that progress will increasingly occur and be sustained on commercial grounds so that when development assistance is phased out, the various players have commercial incentives to remain engaged.

In line with best practice value chain approaches, CAVAC addresses enabling environment constraints in addition to input supply, production and marketing operations. As such, CAVAC's strategic focus has been designed to address the current constraints identified in rice-based farming systems in Cambodia.

5.2. Selected constraints

The Program will stimulate the development of rice-base farming system VCs so that smallholder incomes are improved on a sustainable basis by addressing a number of key constraints. Four main constraints have been identified and these will provide the strategic focus of the Program.[12] Addressing each constraint is associated with aid interventions at various points along the value chain (see Figure 1).

The first constraint is associated with the weakness of agribusinesses within the rice-based farming system throughout the length of the value chain from smallholder to final market and is therefore the natural centrepiece of the Program.[13] The support for agribusiness is ultimately concerned with increasing the ability of farmers to participate in higher-value markets. Support across the whole Program will be expected to align with the nature and location of agribusiness activities to the maximum extent possible.

The second constraint of water management is identified as holding back smallholder farmers from graduating from mainly subsistence to the production of high-value crops for commercial market due to the inherent risk of doing so in the absence of the water control certainty. The third constraint relates to research and extension weaknesses which are currently constraining the generation of information to farmers on best practices and seed availability for crop diversification and market based production. The last constraint is associated with the business enabling environment

[11] Examples of low-risk non-optimal behaviour include: (i) the low use of cash inputs (especially improved seed, fertiliser and pesticides), which are prerequisites to improved productivity; and (ii) lack of participation in downstream value chain opportunities.

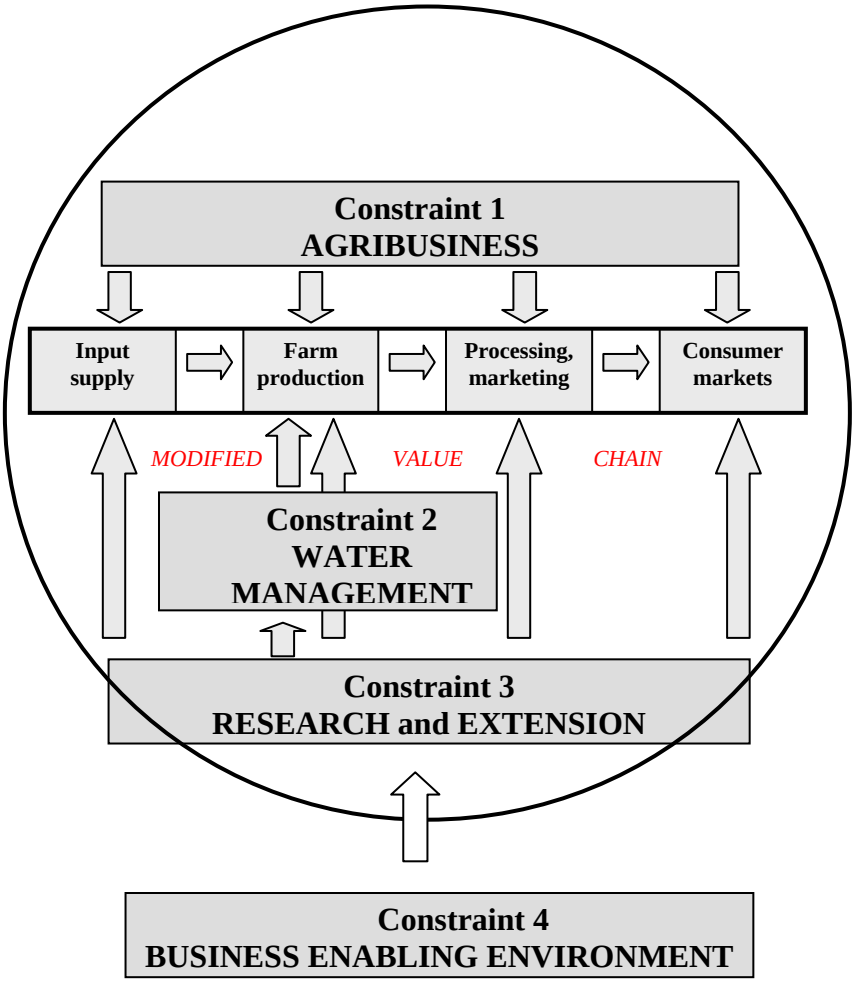
[12] The choice of constraint draws on significant in-country analysis and was determined by i.) significance of constraint ; ii.) extent to which Cambodia recognises constraint (based on reference in SAW); iii.) assessed capacity of development assistance to help address constraint; iv.) Australian aid experience in Cambodia; v.) ongoing activities of other donors. Even though further research will be undertaken by CAVAC on the selected VCs there is sufficient confidence that the basis for selecting the constraints will remain valid.

[13] The term 'agribusiness' as used here includes businesses (including farmer organisations) providing farmers with inputs, and those buying produce from farmers and ensuring that it reaches market in final form. It encompasses businesses engaged in processing (e.g. rice millers), storage, transport, credit supply and other trade-related activities. Size may range from the typical 1-family businesses to larger companies. The capabilities and developmental needs of these different categories of agribusiness vary widely.

issues that impact on the above three constraints as well as more systemic BEE issues associated with national policy and program development.

The approach recognises that not all rice-based farming system constraints to agricultural productivity are being fully addressed by the Program. This includes issues related to land and capital[14]. These constraints will need to be closely monitored with respect to ongoing implications for Program effectiveness.

Figure 1: Agricultural Value Chain with Identified Constraints



5.3. Key Elements of Strategy

Complementing the value chain approach are four key strategic elements:
i.) links to Strategy on Agriculture and Water (SAW)
ii.) alignment with Cambodian systems and people
iii.) value chain partnerships
iv.) specific strategic issues (associated with each constraint).

[14] This is does not imply that issues of land and capital are ignored under the Program. See discussion on design alternatives considered for more detail (Section 5.8).

5.3.1. Strategy on Agriculture and Water

To be a successful and sustainable aid intervention CAVAC must be closely aligned and integrated with the Strategy on Agriculture and Water (SAW). The Strategy was approved in March 2007 and programs for each of the Strategy components are currently in the process of being finalised. The effectiveness of SAW implementation is critical to rural development and will have a large bearing on the effectiveness of CAVAC. Many of the value chains constraints that are beyond the scope of CAVAC have been identified to be addressed under the SAW. Furthermore, progress in the SAW implementation can be expected to consolidate and sustain the achievements of CAVAC.

The Program has been designed to fully support the important strategic directions signalled in the SAW, particularly those relating to increased emphasis on commercial agriculture. In terms of moving forward, CAVAC will have a three pronged approach to both promote SAW effectiveness and ensure that CAVAC continues to support the emerging SAW policy and implementation framework.

- First, the Program will support the ongoing development of SAW and other policy and implementation frameworks through the establishment of a policy support funding facility managed through CAVAC.

- Second, the Program will evolve in a manner that ensures it remains fully aligned and integrated with relevant SAW programs as the detail of these programs are further elaborated. This may require on-going adjustment of the CAVAC design in order to ensure that conformity and complementarity is maintained. It will also require on-going collaboration with other 'sister' programs that are initiated under the SAW so that synergies are maximised and duplication minimised.

- Third, CAVAC will become a 'cornerstone'/'signature' program for informing the continued development of the overall SAW framework. Results from the policy studies and trials supported under CAVAC, together with 'lessons learned' through the implementation of CAVAC, will be actively fed back into the SAW and other relevant national policy frameworks and programs. This will occur through CAVAC Team Leader and Deputy Team Leader participation in the Technical Working Group for Agriculture and Water (TWGAW) and CAVAC Component Managers and Specialists participation in the Technical Management Support Groups (TMSGs) of SAW Program 3 (Agri-business), Program 4 (Water Resources, Irrigation and Land Management) and Program 5 (Research, Education and Extension).

5.3.2. Alignment with Cambodian systems and people

During the implementation of CAVAC every effort will be made to utilise Cambodian programs, systems, and people. Where this is not currently possible and/or appropriate the Program will look to tailor approaches that will progressively lead to greater alignment to local systems and conditions. The Program will encourage and nurture the adoption by Cambodians of new practices and ways of thinking. Every approach chosen under CAVAC needs to be framed with the question of whether it can be sustained once the aid intervention finishes. For example, in terms of agricultural

techniques / extension / research supported it will be necessary to ask whether these are appropriate to Cambodian conditions. In terms of promoting new governance practices in water management, for example, it will be necessary to ask whether they are appropriate to the RGC's ongoing administrative reform process. In terms of interventions at the district and village level it needs to be assessed whether the interventions are appropriate to local governance structure and gender relationships.

5.3.3. Partnership approach

Understanding and forming strong partnerships with and between all value chain stakeholders is recognised as the key to success for CAVAC and its sustainability. Key partners include:

Farmers/Smallholders. Consistent with the focus on VC development, the primary target group comprises smallholders engaged in rice-based farming systems who have access to adequate land and other resources to meet their subsistence needs and produce a marketable surplus, or who have reasonable prospects of reaching this position over the medium term. This is assessed to comprise of over 80% of all farming households. To enable this, the Program will be involved in working with a wide range of farmers and farmer organisations. This group will be largely self-selecting on the basis of their own self-interest.

Private sector. The private sector will play a driving role in developing target VCs and increasing productivity, investment, and profitability. Traders and agribusiness operators, who provide the principal focus for developing the production and market linkages that will drive VC improvements, form an important secondary target group for CAVAC. They will be directly involved in identifying VC development opportunities; investing in the development of these opportunities; identifying and implementing research and extension programs; and defining and advancing discussion on BEE issues. To achieve this, the Program will be involved in working with a wide range of private sector groups, including input supply and produce traders, agribusinesses involved in downstream VC activities (processing, distribution, marketing), and various industry representative organisations.

Government: Government will play an integral role in the Program. This role will vary considerably across the different elements of the Program as determined by overlap between Program objectives and the roles and responsibilities of RGC. Further differentiation will occur at the administrative level due to the specified roles of national, provincial and local authorities as broadly mandated under the "Deconcentration and Decentralisation" (D&D) reform process.

Civil Society and NGOs: Various NGOs with appropriate skills and capacity may be contracted on a case-by-case basis to assist with the implementation of field extension and/or research activities in specific locations.

Mass Media: Access to mass media in Cambodia is rapidly expanding. Rural households highly appreciate content that covers their daily needs, including for example information on agriculture, health, education and business. The strategy emphasises developing an enhanced role for mass media in reaching a potentially large number of VC participants, particularly farmers, with technical and market

information by building the capacity of local broadcasters to prepare programs with relevant agricultural content.

Development Assistance Partners: CAVAC will actively seek to link with other donor programs (see Appendix 1 for list). Programs that are likely to offer particularly strong synergies include those that are oriented more towards production-support activities in target VCs. These programs will offer a ready-made supply interface for the agribusiness development activities proposed under CAVAC. Other programs that are more agribusiness-oriented, such as USAID's MSME Program and CIDA's CAMIP, are likely to offer a range of emerging agribusiness and VC development models that can be scaled-up under CAVAC.

5.3.4. Strategic Approaches for addressing constraints

Strategic approaches have been identified for each VC constraint that sets out the strategic focus, issues and intervention choices that have been made by the Program while recognising the different roles of the public and private sectors and other partners (see Appendix 4 for detailed description).

- Agribusiness in the value chain. Identified market demand will drive this component. Market opportunities will be progressively developed as foundations for partnerships between agribusiness enterprises and smallholders. Key challenges include the identification and subsequent commitment of agribusiness to form mutually beneficial partnerships with farmers and the effective taking in to account of local governance and gender issues. While taking an "honest broker" role in terms of the interplay between the private sector and RGC the program will focus on the direct provision of skills, information and start-up capital to agribusiness. Successful models from ongoing donor assisted programs in Cambodia will be drawn on. The basis of sustainability is expected to be commercial (rather than institutional). As a first priority, the Program will focus on agribusiness that supports the market linkages of targeted water management schemes (see next dot point).

- Irrigation and water management. The Program will focus on the O&M and rehabilitation of small and medium irrigation schemes. This approach leverages off previous capital investments whilst acknowledging that sub-optimal O&M has historically been a major reason why many irrigation systems fail or are operating far below capacity. Addressing the weak governance arrangements for O&M in what is a complex institutional environment in a manner which is sustainable will be the largest challenge to be faced. The identification of market linkages will be integral to this process in order to establish a sound financial basis for FWUC operations. The effectiveness of the partnerships established with both the provincial water management authorities and the individual farmer water user groups will be the key to success. The development of linkages with the ongoing programs of other donors in water management (e.g. large-scale capacity building programs within MOWRAM) will enable greater aid effectiveness. Recognising the challenge of institutional sustainability there will be moves to increasingly align and integrate support to within RGC programs and systems.

- Research & Extension. Underpinning the approach will be the promotion of partnerships between researchers, extensionists, agribusiness and farmers in order to ensure that interventions are market relevant. Market relevance combined with sufficient coverage and sustainability are considered to be major challenges. All major funded research activities will by definition have an extension component and multiple research and extension delivery partners will be utilised. A broad range of research partnerships will be established including those under the National Agricultural Research System. For extension, the Program will engage substantially through government partners and systems whilst enabling and promoting the private sector wherever possible. To promote sustainability there will be increasing integration with the nationally funded research program (to be developed and implemented under the SAW) while the use of government extensions services is to occur increasingly through local government planning processes. In terms of focus there will be strong links with the agribusiness and water management components.

- Business enabling environment. Issues of focus will be identified on the basis of their potential to reduce transaction costs and encourage increased investment in target VCs. The utilisation of existing public private dialogue (PDD) processes will be important mechanism to both identify and progress issues particularly at the provincial level. This will often occur through engagement with other like-minded donor supported initiatives that have already made headway. Higher level national policy issues that affect the development of rice based farming systems will also be pursued through a separate funding mechanism. With all enabling environment promotion the biggest challenge will be the lack of awareness of policies that affect agribusiness and smallholder farmers in rural Cambodia compounded by issues of implementation. The strong linkages that will be established between the BEE support and the other parts of the Program is intended to be an important means of informing the BEE debate and the translating of policy into action.

5.4. Poverty[15]

The alleviation of poverty provides the overarching rationale for CAVAC (thereby ensuring consistency with the goal of the Country Strategy). CAVAC enables poverty reduction by increasing the income of smallholder farmers who are the primary beneficiaries of CAVAC. The vast majority of smallholders in Cambodia currently live in poverty (or near poverty). 80% of smallholders engage in subsistence or near subsistence agriculture with landholdings of less than 2 hectares and face severe problems meeting basic household food security, healthcare and educational needs.

The program does not have a specific poverty targeting approach. Among smallholders there exists a wide range of socio-economic situations ranging from the poorest households with little or no land and chronic hunger[16] to those households that are self sufficient with current or potential food surpluses. Of these smallholders not all will be in a position to take advantage of and benefit from the development of

[15] See Appendix 5: Poverty Analysis for more detail.
[16] The landless account for around 20% of the rural population.

key agricultural VCs. It is recognised by the Program that the principal beneficiaries among smallholders will be those that will have the capacity to produce a marketable surplus. These are not the poorest smallholders and some of them may already be living above the official poverty line. The most vulnerable rural families will however benefit indirectly from CAVAC due to improved on-farm labour opportunities and more favourable food prices as the smallholder sector grows.

In terms of the level of influence that CAVAC will have on smallholder incomes (and therefore poverty) it needs to be noted that CAVAC addresses only one of a number factors that determines the livelihoods of smallholder households. Arable farming determines only part of smallholder income. On average the poor in Cambodia may depend directly on crops for only 15-20% of their income (CSES, 2004).[17]

5.5. Gender[18]

In terms of both impact and strategic approach issues of gender are integral to the Program. In terms of impact, women make up the majority of CAVAC intended primary and secondary beneficiaries: 65% of women are smallholders who are responsible for 80% of food production and make up 75% of rural labour force. Furthermore, women play a dominant role in petty trading activities. The Program has also the potential to impact on broader gender relations given that rice-based farming systems are central to social interaction, cultural identity and gender roles and relationship. To be judged as an effective development assistance intervention it will be necessary for the Program to demonstrate that:
i.) women have benefited from CAVAC to an extent that reflects in an equitable manner the predominance of women stakeholders in the sector
ii.) the benefits accrued to women from CAVAC do not exacerbate broader gender inequities associated with cultural roles and relationships that continue to exist in Cambodia.

To achieve this, a strategic approach will be adopted that directly acknowledges the important role of women in both the production and marketing process and their special role in the business trading environment. This will occur through the promotion of three broad measures:
i.) the integration of equity issues with respect to Program capacity building activities (see box below);
ii.) the strong representation of women's needs and interest in all program stakeholder groups i.e. community interface and industry representative groups; and
iii.) supportive program management processes that incorporate gender analysis and ongoing M&E that will be carried out on a gender-disaggregated basis.

Promoting Equity in Capacity Building
- training opportunities will positively target women (and women instructors) wherever the opportunity exists
- gender issues associated with the field of training will be adequately raised

[17] Other important income generating activities include livestock. Note, there does exist flexibility to consider other VCs at a later stage in program implementation.
[18] See Appendix 5: Gender Analysis for more detail.

- appropriate training methodology will be applied given that 50% of women are illiterate or have less than an elementary level of education
- training arrangements are appropriate for female attendance given other work and family commitments

Specific gender approaches associated with each constraint include:

- *agribusiness*: VC analysis and agribusiness proposals to include gender beneficiary analysis (e.g. assessing changes in women's workloads); media programs will be specifically designed to target women as well as men.
- *water management*: promote women's active participation in FWUCs processes; ensure that gender issues are a required element of O&M plans; promote infrastructure bidding contracts that support gender equity in employment.
- *research*: research will take specific account, during the selection process, of the potential benefits of the proposed activity for women *vis-a-vis* men; actively seek to involve women in implementation of field research programs.
- *extension*: mechanisms will be adopted that ensure women are fully involved in the identification and implementation of village-level extension activities; extension materials will be specifically designed to target women as well as men; consideration will be given to extension contractors that involve female as well as male extensionists.
- *business enabling environment*: ensure that the gender dimension of all BEE issues are fully analysed and considered.

5.6. Anti-corruption

Cambodia is assessed to have a high level of corruption within public institutions. There are also strong indications that corruption has steadily worsened since 2000. The livelihoods of smallholders who make up the majority of the poor and vulnerable can be affected by corrupt practices - sometimes to a large degree - in areas where Government plays a significant role. Aid interventions that apply governance reforms and standards that could threaten the established order are less likely to be successful.[19] Conversely, aid activities that are marginal in terms of impact on the network of personal connections and the seeking of rent have a clearer chance of success. For this reason, areas of Program focus where actual or perceived corruption occurs have been identified and mitigation measures established. These measures address corruption in three broad ways: building constituencies for anti-corruption reform; reducing opportunities for corruption; and changing incentives for corrupt behaviour. Specific measures include:

- *agribusiness*: engagement occurs directly with agribusiness to ensure that RGCs participation in the market is appropriate
- *water management*: promotion of improved governance arrangements for O&M including better transparency
- *extension*: support and utilisation of non-traditional extension providers (i.e. outside of government)
- *business enabling environment*: focus on building constituencies for anti-corruption reform through, public private dialogue, strengthening of industry

[19] Based on assessment of the independent Strategy Effectiveness Review.

representation, and mass media information campaigns; support for appropriate legal and administrative frameworks.

5.7. Environment

Activities that are, or are likely to result in significant negative environmental impacts will require an environmental impact assessment (EIAs) to identify potential impacts, and the development of an environmental management or action plan to avoid or mitigate major impacts. Any proposed activity with significant negative impacts that cannot be avoided will be rejected on the basis of being unsustainable. EIAs will be an integral part of Feasibility Studies conducted for all major irrigation scheme rehabilitation programs and market-related infrastructure programs funded by the Program. Similarly, EIA will be conducted for any major off-farm VC investment facilitated by the Program e.g. investment in improved input supply or output processing facilities. In relation to on-farm production impacts, aside from those associated with irrigation development, most products and production systems with which the Program will be involved are likely to be smallholder-based and highly dispersed, and to be relatively low-input or even organic in terms of pesticide use. They are therefore likely to have minimal negative environmental impacts. Sustainable use of chemical inputs (fertilisers and pesticides) and sustainable management of land and water resources will be a key thrust of all farmer extension activities.

5.8. Design alternatives considered

5.8.1. Value Chain Approach

Value Chain vs. Enabling Environment Approach. The advantage of pursuing a pure enabling environment approach is that once the appropriate policy settings are in place the market can take care of itself and there is no risk of market distortion. However, it is also recognised that addressing a single constraint is often not a sufficient catalyst towards higher productivity. There is evidence that a more systemic approach to stimulate productivity requiring multiple interventions along the value chain is more effective (this also provides the rationale for not focussing solely on the agribusiness constraint, for example, in the design of CAVAC).

Value Chain vs one product (rice). The adoption of a Value Chain approach will increase the relevance of program activities because Program stakeholders rarely operate on a one-commodity basis (even in rice). The Value Chain approach thus appears to reduce the main risk associated with a single-commodity approach, whilst ensuring focus on value chains of high impact.

5.8.2. Choosing Partners

Working with agribusiness vs. working with farmers / farmer organisations. To date, the majority of donor-funded development programmes in Cambodia have preferred to directly target farmers rather than attempted to work with traders. The important exceptions to this are the USAID's MSME and CIDA's CAMIP. The main reason for

this choice is the assessment that smallholders will be in a position to respond positively to the "market pull" of agribusiness who are currently under represented in the value chain. Furthermore, targeting agribusiness is a more efficient way of supporting (indirectly) large numbers of smallholders.[20]

Working with agribusiness vs. working with government
i.) agribusiness entrepreneurs usually have a better working relationship with farmers/producers than government;
ii.) working through traders has the potential to be more cost-effective and sustainable than working through government; and
iii.) private sector entrepreneurs are generally more effective than government in recognising and capturing emerging market opportunities, for their own (as well as farmers') advantage.

5.8.3. Addressing Other Value Chain Constraints

There are a number of reasons why other identified Value Chain constraints are not being addressed by CAVAC. They include: the constraints are not assessed to be binding to the extent that they could significantly impede progress towards strengthened value chains; the sensitivity of the issue in which the significant political dimension makes it difficult to identify a constructive and effective role for development assistance; the issue is already being effectively addressed by the government (possibly with the support of donors). There are two specific constraints for which further explanation is provided:

Land. CAVAC does not propose at this stage to become directly involved in land issues which are being addressed by other programs (including the SAW and other major land titling programs). However, the situation with respect to illegal land grabbing within the irrigation schemes where CAVAC will be operating needs to be closely monitored through the feasibility assessments. If required, land titling arrangements similar to those proposed under the ADB/AFD Water Resources Management (Sector) Program should also be considered.

Capital. It can be argued that demand for capital is likely to remain suppressed until other, more critical VC constraints are addressed – particularly related to market access. When access to capital does become a constraint, the most effective interventions are likely to be in relation to improving the ability of financial institutions to mobilise additional savings and effectively run a broad-based rural credit operation. Other donors such as World Bank/ IFC are actively monitoring the sector and better positioned to provide support in this area if required. However, in recognition of the constraint, the Program will establish a small grants facility for agribusiness and play a facilitatory role between targeted agribusiness and lending institutions in order to ensure that viable agribusiness sub-programs supported by CAVAC become fully financed.

[20] See Appendix 7: Entrepreneurship in rice-based farming systems for further rationale of the agribusiness focus.

6. IMPLEMENTATION STRATEGY

6.1. Implementation Approach

This is a Program where it is desirable to build in flexibility to respond to greater understanding and changing circumstances. CAVAC therefore has an 'open architecture' design that is flexible enough to meet changing conditions and needs. While the expected higher level development outcomes are clearly stated the most effective means of achieving these outcomes will be developed through an iterative 'learning by doing' process. Furthermore, the most appropriate forms of support are also likely to change over time as target VCs become increasingly sophisticated, old constraints are addressed and new ones emerge. The increasing use of Government systems and delivery approach is also expected to influence the form of support to be provided. Regular review points will be important to reassess approaches and strategic choices.

This PDD does not include a detailed Implementation Plan. Detailed implementation planning will take place during an Inception Phase of about 6 months upon start of implementation. In addition, further details to be developed during the Inception Phase, include:

i. Finalising the membership, location and ToRs for key management bodies (NSC, NSC Executive Group, PCC) and structures (PMO, PCO);
ii. Development of terms of reference for MAFF and MOWRAM appointed CAVAC focal points;
iii. Development of the CAVAC Procedures Manual;
iv. Revision of budgets;
v. Development of the terms and conditions and detailed management and operational guidelines for the Agribusiness Innovation Fund;
vi. Assessment of the viability of in-kind/cash contributions required from Farmers and other beneficiaries;
vii. Further development of the extension services models;
viii. Development of the Policy Facility Guidelines;
ix. Gender, environmental management and anti-corruption strategies, action plans and sequencing;
x. Fiduciary risk assessment and a more specific risk management strategy;
xi. Development of sustainability strategy, including analysis of current and future incentives to implement and fund activities ("who does, who pays" now and at end of program);
xii. Revision of Monitoring and Evaluation Framework, including establishment of appropriate indicators and targets and specification of data collection instruments and responsibility for data collection, maximising opportunities to strengthen local M&E capacity. The establishment of targets will be done in coordination with the SMG and approved by the NSC.

To aid this process, working papers for each component prepared by the Design Team will be made available to the selected implementers.

6.2. Program Focus

CAVAC will apply program focus on the basis of the number and type of value chains to be targeted as well as the geographic location of CAVAC operations.[21] There are a number of provisos associated with the establishment of a program focus of this nature:

- as is built into the implementation approach there will be opportunities to consider expansion and disengagement on the basis of progress achieved over the Program duration;
- the focus is not meant to preclude the enabling/encouragement of adoption of practices beyond target value chains / provinces - in fact they are to be encouraged;
- value chains per definition do not stop at administrative boundaries (e.g. provincial borders). The primary value chain actors may be based outside particular provinces.

6.2.1. Targeted Value Chains

The Program will concentrate on the rice VC and the fruit & vegetable VC. The focus on the rice value chain has a strong rationale since rice remains the main crop in Cambodia; is important from a food-security perspective; and has substantial development/market opportunities. Yields of paddy - which accounted for 88% of the total area under crops harvested in 2004 - are the lowest in the region. 80% of smallholders are involved in rice production.

There are clear advantages in including other major crops and products with potential to be part of diversification strategies for the rice-based farming systems of Cambodia while retaining the central rice focus. It enables addressing on-farm development on a farming systems basis – and thereby enables consideration of both general and food security issues – as well as the comparative and competitive advantage of different crops/products from a risk and household economic/financial points of view.

There were a number of reasons for choosing the fruit & vegetables VC. These included: the relatively high income yields (compared to rice)[22]; the potential for strong growing practice in targeted provinces (see next section); the high potential demand given current import levels; the appropriateness as an additional crop for smallholders; and the high involvement of women in the F&V sector. It was also recognised that there are commonalities in constraints across the rice and F&V VCs thereby providing opportunities for Program knowledge and resources to be shared (which would not exist to the same degree compared to, for example, industrial crops, aquaculture and livestock).

[21] A common lesson from previous aid interventions is that a concentrated focus rather than activities dispersed over a wide range of activities is likely to lead to greater aid effectiveness.
[22] See Appendix 8: Value Chain stakeholder analysis regarding F&V margins compared to rice.

6.2.2. Targeted Provinces

The rice-based farming systems of Cambodia are found in the Tonle Sap Region, Plains Region, and parts of the Coastal Region. It was from these regions that the CAVAC targeted provinces were chosen. Four criteria were utilised for the selection:
i.) level of poverty and food security
ii.) synergy with other development programs
iii.) production potential
iv.) need to service a number of provinces with different rice-based farming system environments
On this basis three provinces were chosen: Kampong Thom in the Tonle Sap region, Takeo in the Plains region and Kampot found in the Coastal region.[23]

7. MANAGEMENT AND DELIVERY STRATEGY

7.1. Management and Delivery Approach

A Team Leader (TL) will lead and manage program implementation and will be provided with operational support by an Operational Contractor (OC). Both the TL and OC will be directly contracted to AusAID and managed under the oversight of a National Steering Committee. The overarching CAVAC management and delivery strategy is intended to ensure:

- strong coordination and integration across all four CAVAC components
- the promotion of ownership among the stakeholders leading to greater sustainability. In the case of the RGC their management role is expected to evolve over life of the program to support sustainability and reflect the commitment the Australian Government has made to the Paris Declaration on Aid Effectiveness.
- minimise management demands on the AusAID Post.

A Program Management Office (PMO) will be established in MAFF in Phnom Penh and Provincial Coordination Offices (PCO) will be established in each province. The parts of the PCOs related to agribusiness and the business enabling environment will be located outside of government offices to promote the degree of autonomy necessary for an effective relationship with the private sector. However, the parts of the PCOs that principally relate to MOWRAM (water management) and MAFF (research and extension) will be located wholly or partly within the respective provincial offices, if office space is available.[24] The choice of specific management arrangements for each component have been strongly influenced by the specific operating environments and in particular the different roles and associated capacity of stakeholder partners.

7.1.1. Agribusiness Development

Management of this component will be purposely arms-length from Government as CAVAC needs to be seen by stakeholders in the private sector as the "honest broker"

[23] See Appendix 9: Selection of province analysis; and Appendix 10: Provincial Diagnostic Work.
[24] Note there needs to be some flexibility on this issue to enable effectiveness.

neutral in the dialogue expected between Government and the private sector. Government will be expected to play an enabling rather than a management/delivery role under this component. Delivery of activities will be principally carried out by the OC, subcontracted commercial entities, or occur through the Agribusiness Innovation Fund.

7.1.2. Water Management and Irrigation

Management and delivery approach requires strong partnership with RGC to be successful since the Government has the principal mandate for delivering the bulk of activities set out under the component. The Provincial Department of Water Resources and Meteorology (PDWRAM) will be integral to implementation.

7.1.3. Research and Extension

The research-extension combination has a central role in generating and developing agricultural technology solutions. In order to strengthen the interaction and linkages they will be managed as a single entity. Given ACIAR's specialist experience and presence in Cambodia and the region it is proposed that ACIAR will be assigned responsibility for managing this component.[25] In so doing ACIAR will operate under the strategic oversight of the CAVAC TL.

Research. An existing research funding mechanism the Cambodia Agricultural Research Fund (CARF) will provide the institutional, management and procedural platform. Various organisations within the National Agricultural System (NARS) of Cambodia will be contracted to conduct research activities often in partnership with international R&D institutions. Other potential providers include entities from the private sector and NGOs.

Extension. CAVAC will look to utilise a variety of extension providers and will progressively seek to connect to extension services provided by the private sector and farmer organisations. However, this will not occur quickly as cost recovery from farmers and cost sharing with farmers is exception rather than the rule to date in Cambodia. The Program will therefore need to work in close partnership with the RGC in terms of the coordination and capacity building platform for extension as well as in extension delivery. In this regard the Provincial Department of Agriculture (PDA) will be a key counterpart. In a similar way to water management an incremental payment system for government officials will be utilised as required. The Program will look to minimise "program capture" of government officials which has the capacity to effectively starve extension priorities that lie outside aid interventions.

7.1.3. Business Enabling Environment

As much as is practical the Program will support and utilise existing BEE fora to deliver activities. To support the ongoing development of the SAW policy and implementation framework a policy support funding facility will be established under this component. Although the CAVAC OC will be responsible for managing the

[25] ACIAR has expressed strong interest in such an arrangement.

facility operationally the direction of the facility would be the responsibility of the AusAID Post.

7.2. Management and Delivery Alternatives considered and reasons for rejection

OC vs RGC management: Greater management responsibility to RGC (in line with Paris Declaration) would ensure greater RGC ownership and potential sustainability as well as reduce management and transaction costs. There would also be no need for parallel PMU/PCUs (as they could be embedded within RGC). The main reasons this model was not pursued were:
i.) quality of RGC systems (procurement, delivery, M&E, audit). In particular weak financial management systems meant that the fiduciary risks were assessed to be too high for AusAID.
ii.) CAVAC straddles a range of traditional sectoral fields and therefore it would not be possible to identify a single logical RGC counterpart.
iii.) the need to create a measure of distance from RGC with respect to the agribusiness component if the CAVAC was to perceived by the private sector as an "honest broker".
It is recognised however that there is potential to progressively shift some management ownership over the course of the program and this will be explored in particular with respect to the water management and extension components.

Integrated value chain vs Component approach: Each CAVAC component could be managed as largely autonomous "programs" under the broad oversight of a Program Manager. Key elements of this approach included the direct engagement by AusAID of the Program Manager and Component Managers (on individual lump sum contracts) and the use of "matching grants" and "credit revolving funds". Main reasons against this approach were the risk of weakening the systemic value chain approach and the interconnection between components as well as financial management feasibility.

8. PROGRAM DESCRIPTION

8.1. Program Goal and Objective

Goal: Reduced rural poverty in targeted provinces.

Target[26]: x% decrease in the proportion of population below the official poverty line in targeted provinces over five years

Objective: Accelerated growth in the value of agricultural production and smallholder income in the rice based farming systems of targeted provinces.

Targets: a.) x% increase in income of farmers associated with supported value chains over five years b.) x% increase in the value of agricultural production from rice-based farming systems in target provinces over five years

CAVAC's goal and objective mirror the goal and objective of the Australia - Cambodia Country Strategy 2008-2015 and the relevant RGC Development Outcome of the Strategy[27]. CAVAC's objective acknowledges that a key intervention that will reduce poverty and establish a sustainable base for development is to increase the value of agricultural production at the local level especially where this directly improves farmer's income. The economic incentives for farmers delivered through CAVAC, along with social and service delivery interventions supported by other interventions under the Country Strategy, will help to reduce poverty in Cambodia.

The objective identifies that the best way to achieve the CAVAC Goal is to focus assistance on the rice-based farming systems that underpin Cambodian agriculture. While a rice based farming system obviously has rice as the central commodity it also encompasses other products (primarily vegetables, fruits and livestock). Some of these other products could in fact be more economically important than rice in providing the primary income stream for poor families. Lifting productivity of rice and associated products will thus allow farmers to market surplus and generate income while securing their food security and resilience.

8.2. Duration and Phasing

The duration is five years. A second five-year phase may be considered with performance an important determining factor.

[26] See ANNEX 2: Targets set for CAVAC for explanation of how targets are derived. These targets will be reviewed during the Inception Period and over the life of the program by the Program Implementers in coordination with the Sector Monitoring Group. The established targets and any adjustments will be approved by the NSC.

[27] Country Strategy Goal "To assist Cambodia reduce poverty and achieve sustainable development".; RGC Development Outcome "Accelerated growth in the value of national agricultural production"; Country Strategy Objective 2010 "Increased agribusiness activities and outputs in selected provinces".

8.3. Value Chain Focus

CAVAC will focus on the rice VC and fruit & vegetable VC within rice based farming systems. Expansion to other VCs will be considered on the basis of results.

8.4. Geographic Focus

CAVAC will be implemented in three provinces – Kampong Thom, Kampot and Takeo.[28] Expansion to additional provinces will be considered on the basis of results.

8.5. Budget

Program cost is summarised in the following Table, by component. Cost is estimated at A$43.262 million over the 5-year implementation period.[29] The allocation between components is indicative, given that a programmatic approach is being proposed with specific activities being decided on an annual basis through the AWP process.[30]

Program Cost by Component (indicative)

	Total cost	**% of total**
	AU$ million	
C1: Agribusiness Development	4.846	11
C2: Water Management	9.366	22
C3: Research & Extension	5.227	12
C4: Business Enabling	3.637	8
Program Management	20.186	47
TOTAL	43.262	100

RGC will be making in-kind contribution to program implementation through the capacity and commitment of MAFF, MOWRAM, PDAs, PDWRAMs, and the various government-funded organisations such as CARDI that will be involved in R&D activities. In addition to this 'overhead' contribution, CAVAC will seek to leverage funding from RGC recurrent and development budgets for specific activities which align closely with RGC spending priorities, on a case-by-case basis. Industry will also be making significant investments in the development of supply chains for target products. Additional co-financing will be sought for specific activities from other donors where the opportunity arises.

[28] Note that value chains do not conform strictly to administrative boundaries. While production and production-support activities will be largely concentrated in the target provinces, some VC development activities may need to extend into other provinces.

[29] ACIAR has indicated that it is willing to contribute A$0.75 million (indicative) which will be used to part-finance the cost of 'Pool B' research activities under the research and extension component.

[30] Management costs include general program and component management.

8.6. Target beneficiaries

The primary target group – smallholder farmers engaged in market production – comprises around 180,000 of the total 230,000 households in the three target provinces, excluding urban and destitute households. On an indicative basis, around 60,000 households will benefit from agribusiness development activities; 45,000 of these households will benefit from improved water management activities; and 18,000 from participation in extension activities. A large proportion of these beneficiaries will be female farmers.

Three types of farmer can be identified in Cambodia:
(1) Farmers with only subsistence prospects, who might be better off targeting wage employment, rather than market-based farming.
(2) Farmers currently largely producing for household consumption, but whom with access to appropriate technology and knowledge on how to best access markets, could more consistently enter the markets.
(3) Farmers already engaged in market production and who are potentially able to be more profitable.

Each of these types of farmer would benefit from value chain improvements in rice-based farming system in different ways (see Appendix 5). All three types of farmer could be considered for targeting. Targeting only those who are already value chain actors would exclude over half of all farming families in the country, but including all three categories would require most resources to be expended on the highly vulnerable group. Many in this group do not have sufficient land resources to produce a marketable surplus and enter value chains. This includes the *land-less* rural population, which may amount to around 20% of rural population. , In many cases these farmers (or their children) are likely to leave the land in search of work in the cities within the next few years. Furthermore, the program could only partially address the total livelihoods situation of these households as they depend on farming for only a part of their income.

Consequently, it is proposed to focus on the self sufficient and surplus group, as potential and current value chain actors. This targeting strategy may allow CAVAC to directly or indirectly target over 80 percent of the rural population in the target provinces. Therefore the primary target group comprises smallholders engaged in rice-based farming systems, who have access to adequate land and other resources to meet their subsistence needs and produce a marketable surplus, or who have reasonable prospects of reaching this position over the medium term. This group will be largely self-selecting based on their own situation.

Traders and agribusiness operators, who provide the principal focus for developing the production and market linkages that will drive VC improvements, form an important secondary target group.

CAVAC acknowledges the important role of women in both the production and marketing process and in the business trading environment.

CAVAC will not seek to directly address the situation of the chronically poor, who are generally operating at subsistence or sub-subsistence levels. The most vulnerable

rural families will however benefit indirectly from CAVAC due to improved on-farm labour opportunities, increased employment in processing and marketing, and more favourable food prices in the areas, enterprises and markets targeted by CAVAC as the smallholder sector grows.

8.7. Program Components

There are four CAVAC components. It is proposed that increased productivity will be achieved through the four intermediate outcomes associated with the components. The common and unifying theme across all of the components are the targeted value chains.

8.7.1. Component 1: Agribusiness Development

Intermediate Outcome: Agribusiness contributes to the strengthening of selected value chains and equitably shares benefits.

Targets: a.) x% of potential agribusiness actively participate in CAVAC over five years b.) farmer returns increase by x% for selected commodities

Description: This component will focus on improving the operation of target VCs by improving agribusiness capacity and strengthening linkages between various VC participants. These value chains have been selected because of their income earning potential for the farmer. This will not only improve the competitiveness of these value chains but it will ensure that maximum returns and benefits are accrued at the farm level. Development activities supported will be progressively identified and implemented in partnership with agribusiness enterprises including larger established enterprises, traders and farmer organisations. Activities could potentially be focussed at any point of the VC where the value of returns are highest, from input supply to production, post-harvest handling, processing, distribution, and marketing.

1.1: Critical constraints to strategic value chains identified and developed for business action. Building on the preliminary analysis already conducted, the Program will support detailed VC analysis and agribusiness mapping to improve the broad understanding of target VCs and products, enterprises involved, constraints, opportunities and possible intervention points. The analyses will include a whole-of-VC approach which includes mapping the principal links of pre-production (input supply), production, post harvest and processing, storage and handling, and marketing with special focus on the description of the enterprises which maintain and service these functions. Initial studies will be completed over the first 6 months of the Program. Results will be presented to a broad range of potential VC participants through stakeholder workshops, and will be used to further inform the overall CAVAC strategy and proposed component activities[31].

The VC analyses will establish a foundation for more targeted market research and market development studies, conducted for or by individual business enterprises on an

[31] This information will also provide a valuable baseline for the Program's M&E activities.

on-going basis. These studies will be designed to provide information that can be used by agribusiness to identify market opportunities and plan new business activities, or improvements to existing activities. To the extent that commercial-in-confidence aspects of the studies are not compromised, results will be summarised and packaged for public distribution. Business will be canvassed on an on-going basis for ideas on possible opportunities for further research. Studies will be conducted by suitably qualified individuals contracted by the Program, with the direct involvement of concerned agribusiness enterprises.

1.2: Agribusiness partnerships supported to innovatively address constraints. Implementation of selected agribusiness programs will be supported by the Program, funded through an Agribusiness Innovation Fund (AIF). Enterprises will be invited to submit proposals for activities that are innovative, have demonstrated potential to add-value, develop or consolidate long-term partnerships with other VC participants, and improve financial returns for smallholders. The Program will also initiate proposals which will be publicly advertised to identify a suitable business partner. All proposals will be required to highlight proposed links with C2 and C3 activities. Applications will be screened and selected by the Program, with input from key private sector representatives (who do not have a declared interest in any of the applications) best placed to competently assess the commercial viability of the applications in the Cambodian context[32]. The maximum amount and duration of assistance for any one activity will be A$100,000 over 3 years. Applicants will be required to make a minimum matching contribution of 20%, in cash or kind, although higher levels of contribution will be encouraged and favourably considered. The AIF grant can be used to finance costs directly related to program start-up, including TA, studies, training activities, equipment, materials and initial operating costs. Specific terms and conditions and detailed management and operational guidelines will be prepared during inception.

1.3: Enhanced farmer services embedded within agribusiness practices. The Program will work with traders to develop increased capacity to provide farmers with technical skills and information through 'embedded' services. Indicative activities include:

- A rapid survey of traders in agricultural inputs across the 3 selected Provinces to map out what they are currently stocking, what they currently know about that stock, and what they would like to stock in the future.
- Identification of potential partners in the formal sector currently supplying agricultural inputs on a significant scale that may be interested in partnering with the Program to train traders.
- Training-of-traders in the knowledge and skills required to enable them to pass on information to their customers, and to research their customers' needs for additional inputs and information.
- Study visits for traders to other areas and enterprises.
- Research to determine the impacts of the course on farmers, leading to revision of the course and further expansion.

1.4: Improved availability and communication of market information between value chain stakeholders. The Program will work with traders to develop increased

[32] Consideration could be given to using panel members from the Cambodian ECF panel.

capacity to impart improved information on market requirements and market demand to farmers. Indicative activities include:

- Identification of key produce traders in the 3 selected Provinces, using CAMIP research and experience, surveys at markets etc.
- Workshops for traders, to identify possible formats for collaboration.
- Development and pilot testing of systems for improved distribution of market information to farmers (e.g. based on SMS technologies)
- Training-of-traders in how to conduct market research.
- Supporting traders to conduct, analyse and report market research.
- Supporting selected traders to participate in farmer extension activities and mass media activities, in particular to provide training content on demand-related aspects (produce quality and quantity, timing, storage etc.).
- Work with mass media to improve the agriculture-related content in their programming, including technical agricultural information; market price/ volume /trend information; climatic information; information on current BEE issues

1.5. Participatory planning and construction of key infrastructure to address value chain bottlenecks. Based on VC analysis, support will be considered for the construction or upgrading of a limited number of public marketplaces and wholesale hubs in target provinces. Support will include the preparation of feasibility studies, detailed technical designs, and a contribution to establishment costs. Investment should be in line with documented provincial priorities and in the context of a province-wide masterplan. It should also be carried out in collaboration with traders in order to optimise designs. Local government (provincial and/or district) will be required to make a financial contribution of not less than 25% of the total cost and be able to demonstrate sufficient financial capacity for ongoing O&M. Opportunities to establish Private Public Partnerships (PPPs) to help finance this infrastructure will also be actively pursued (see Component 4 discussion on PPPs)

8.7.2. Component 2: Water Management

Intermediate Outcome: Sustainable increase in the area and yield of irrigated crops.

Targets: a.) x% increase in the area under irrigation over five years b.) x% increase in the volume of irrigated crops produced over five years

Description: Improving the management of water on both irrigated and rain fed farms has the potential to significantly improve productivity. More effective partnership models of water management, the rehabilitation of key infrastructure, and transfer of management responsibilities to effective water user groups are central to the more efficient use of a key production resource. Provincial authorities have pre-identified 75 province-managed medium-scale irrigation schemes[33] for support under the

[33] Defined as schemes where the province is nominally responsible for the O&M of reservoirs, headworks and primary and secondary canals; with farmers being responsible for the O&M of tertiary canals.

Program, with a total command area of around 45,000 ha. Around two-thirds of these are understood to have adequate headworks and primary distribution networks in place (i.e. reliable supply) with functional FWUCs already established in some. Although these schemes already have reasonable operational capacity, in some cases additional small investment may be necessary to rehabilitate existing structures and/or to extend/improve distribution networks. The remaining one-third of schemes does not currently have reliable supply due to degraded and/or incomplete headworks and primary/secondary distribution networks. In most cases these schemes also do not have a functional FWUC due to the fact that supply is so unreliable that farmers are unwilling to participate in O&M activities and pay irrigation service charges.

Activities proposed under this component have been deliberately phased to ensure maximum emphasis is placed on developing improved O&M capacity by FWUC as a prerequisite to investment in rehabilitation works. This phasing is applicable to schemes where operational capacity is sufficient for the FWUC to be functional with O&M support to the most functional schemes first. For those schemes where headworks and primary distribution networks are in such condition that water supply is *not* reliable, support for FWUC will not proceed until such time as sufficient functionality is reached.

2.1: Improved capacity of MOWRAM and PDWRAM to participatively design, develop, operate and maintain irrigation schemes. Specialized training in design will be provided to selected MOWRAM and PDWRAM engineers at MOWRAM's Technical Service Centre (TSC) or some other local training institute, supplemented if necessary with training at regional institutes. Up to 10 provincial engineers will also be trained in construction supervision through the TSC or other training institutions. PDWRAM's FWUC specialists will be trained at TSC[34] covering aspects such as farmers' participation, O&M, water management, and basic irrigation planning. Following this training, each of the PDWRAM specialists will be assigned to assist up to five FWUC per year. These specialists will be responsible for training the FWUC executive and other key community members. The Program will also assist with the preparation of a revised O&M Manual to help PDWRAM and FWUC to support operations.

All schemes in target Provinces that involve dams will be subjected to periodic review of the structural integrity of the dam, to be carried out by MOWRAM engineers once they have received additional training in conducting such reviews. Guidelines for these inspections could be derived from manuals currently used by ADB or World Bank. CAVAC will support institutionalisation of this program within MOWRAM.

2.2: Improved capacity of FWUCs to efficiently and effectively operate and maintain their irrigation systems. Key FWUC members will receive training in organizational aspects, setting and collecting water charges, preparing and implementing an O&M plan, financial management, group dynamics, conflict resolution, etc. As appropriate, training activities will be supplemented by training programs to be managed by local training institutes or other providers. TSC also

[34] This center, which is being actively supported by JICA, is already running various training programs for these specialists.

operates pilot irrigation schemes in each province for demonstration purposes, which will be utilised as a training resource.

Where a FWUC is not already established, the PDWRAM FWUC specialists will assist with the establishment and registration process. They will be responsible for helping the FWUC prepare a rolling 2-year O&M plan mapping out measures for strengthening the operations of the FWUC, improving water management, increasing collection of water charges, and implementing urgent minor repairs of the system. This plan will also identify possible rehabilitation/ upgrading requirements. All O&M plans will incorporate agreed performance targets and will be submitted to the Program for approval.

Approved O&M plans will receive financial support from the Program of AUD 30 per hectare per year for two years, to be used for urgent repairs included in the plan and possibly also for some minor upgrading works. This budget will be deposited into the FWUC account, with repairs undertaken by contractors engaged following D&D procurement methods. Communities will be encouraged to use their own labour as much as possible. PDWRAM will provide technical and training support to the FWUCs for the implementation of the plan over the 2-year period[35]. Progress towards meeting agreed performance targets will be evaluated towards the end of each year by PDWRAM staff, and measures to further improve performance identified together with the FWUC.

In order to enhance the commitment of beneficiaries – thereby enhancing the likelihood that selected schemes will be sustainable over time – eligibility for O&M support after the second year will be performance-based. Performance will be assessed in terms of demonstrated improvements in scheme management, as well as production improvement. A set of key indicators common to all schemes will be established that are readily measurable. Schemes meeting or exceeding specified performance benchmarks by the end of the second year will be eligible for a third and then fourth year of funding, to be approved on an annual basis following performance assessment. This additional support will be conditional on preparation of an updated O&M plan, to be approved by the Program.

2.3: Selected systems rehabilitated and transferred to effective FWUCs.[36] The 75 provincial schemes will be ranked over their first three years of support taking into account the extent to which they have met performance targets set under the O&M plan together with economic growth potential (encompassing the investment required for full rehabilitation and potential returns, reflecting current production practices and scope for improvement). The top ranked 25-30 schemes will be eligible for full rehabilitation support[37]. This selection process is designed to further enhance competition between and within provinces, and to generate proclivity for improved performance on the part of the FWUCs and provincial authorities.

Aside from the support to be provided to the 75 provincial schemes described above, small-scale schemes that require supplementary investment in water management

[35] Production and marketing support from CAVAC agribusiness and R&E components will also be focused through the FWUCs.
[36] Rehabilitation might also include expansion.
[37] Three of these schemes are nearing detailed design as part of the Program's interim activities.

related activities will be eligible for funding up to a total of A$50,000 per scheme, to be approved by the Program on a case-by-case basis.

Feasibility studies will be prepared for the provincial schemes selected for rehabilitation, using a simplified irrigation systems agro-ecosystems analysis (ISAEA) process[38] that incorporates input from both MOWRAM (covering technical engineering aspects) as well as MAFF (covering production/agronomic aspects). Completed feasibility studies will be approved by the Program prior to proceeding to detailed design conducted by MOWRAM engineers under direct-hire arrangements[39]. Given the substantial and likely continued underfunding by government of its O&M responsibilities and the risk this poses for water users, the Program will adopt design standards for all major structures that aim to maintain full operational capacity for at least 10 years even if O&M by government is substandard. In addition, when planning the rehabilitation of schemes, an inventory of all major structures will be undertaken and those with an expected life of less than 10 years will be fully upgraded.

If during implementation the available capacity in MOWRAM and PDWRAM proves inadequate to undertake the design of about eight relatively uncomplicated system rehabilitations per year, private local (and possibly regional) consulting firms will be engaged to assist[40]. Development of designs will be closely supervised by Program staff.

Construction contracts will be awarded to local contactors under local bidding rules following the National Competitive Bidding Documents for the Procurement of Works[41]. Technical evaluation of bids will be carried out by an *ad hoc* group comprising an engineer from CAVAC, PDWRAM and MOWRAM. The Program will be responsible for final approval of bids. Supervision of contractors, approval of bills of quantities and authorization of payments will rest with Program staff working jointly with PDWRAM-appointed engineers. Beneficiaries will be required to contribute at least 10% towards the cost of rehabilitation, either in cash or in kind.

Whenever feasible, responsibility for the O&M of the entire rehabilitated system (and possibly ownership) will be transferred to the FWUC. Except for the larger systems (1,000 hectares and above), a shift in the responsibility to the farmers for the entire O&M of a system is a distinct possibility. While this may initially involve some limited financial support (MOWRAM's policy is to provide such support on a declining scale for about five years), in the long term it could prove the most viable solution to the O&M issue. The Program will work closely with the Ministry to bring about this transfer of responsibility.

[38] A participatory planning tool for the interdisciplinary analysis of proposed irrigation developments, designed to ensure that engineering, agricultural, social and environmental considerations are optimised for the benefit of farmers.

[39] This approach has already been successfully tested with the three schemes prepared for rehabilitation as part of the interim activities.

[40] Although a number of local firms are active in the irrigation sector they lack permanent engineering staff and typically act as a 'body shop' hiring MOWRAM engineers to do the work. It will thus be advantageous to hire the necessary talent directly from the ministry rather than going through a consulting firm.

[41] CAVAC will experiment with the use of these documents for the interim activities and if necessary review steps to simplify them in consultation with RGC and other donors.

2.4: Improved models of water management adopted in rainfed areas. A large number of farms in Cambodia rely exclusively on rainfall for rice cultivation. Research activities in other countries in the region have come up with a variety of techniques to improve water management in rainfed areas without the introduction of full irrigation. The Program will support a series of pilot programs to further assess and demonstrate approaches to improved water management in rainfed areas, to be jointly planned and managed by the PDWRAMs, PDAs and possibly CARDI. The Tonle Sap recession system offers particular opportunities for developing improved models of water management in rainfed areas[42].

2.5: Increase use of hydrological data in the planning and management of irrigation systems. Absence of reliable hydrological and water quality data is a major constraint on planning and managing the utilisation of water resources within a river basin context. In order to facilitate the proposed introduction of a river basin approach to water resource management across Cambodia[43], the Program will support the collection, management and evaluation by MOWRAM of hydrological data in target provinces. The design of all irrigation schemes rehabilitated under the Program will also adopt key elements of a river basin approach. Explicit account will be taken during the design process of other water users in the same river basin, either upstream or downstream, including an analysis of likely impact on other users.

8.7.3. Component 3: Research and Extension

Intermediate Outcome: Farmer and service provider capacity increased and key value chain constraints alleviated.

Targets: a.) x% of 'Pool A' funding targets specific VC constraints b.) research and/or extension programs in place that support x% of VCs identified and their associated constraints

Description: More effective and needs focused research and extension is essential to overcome problems that arise and ensure that farmers have the best available information on which to base their management and cropping decisions. This intermediate outcome will specifically contribute to both productivity and competitiveness through innovative and participatory multi-partner integrated approaches. The research and extension activities described below will be implemented in a coordinated and integrated manner that facilitates a two-way exchange of knowledge between farmers, extensionists, agribusiness and researchers. This transfer is designed to achieve a sharper focus on real, highest priority problems by researchers, coupled with effective communication of R&D outcomes to intended end-users. This implies the need for a particularly strong operational linkage between this component, and CAVAC agribusiness and water management components.

3.1: Priority research and extension activities address constraints in selected value chains. *Research activities* will be implemented under one of two

[42] Note that ACIAR already has some work in progress in this area.
[43] As signaled in the SAW.

arrangements. 'Pool A' activities will generally involve smaller-scale programs (A$10-50,000 total budget), competitively selected through annual funding rounds following established Cambodia Agricultural Research Fund (CARF) procedures. These procedures, covering the preparation, technical review and approval of applications, implementation management, reporting and monitoring, will be modified to meet CAVAC needs. Research proposals will be identified by proposing organisations, and assessed by the CARF selection panel which comprises a majority of Cambodian representatives[44]. The majority of 'Pool A' funding will target and benefit CAVAC targeted VCs in the three provinces. The range of activities funded will potentially involve a wide range of research providers, including government, NGOs and industry organisations.. Funded activities are expected to be strongly market-oriented; and to be designed to produce results that are ready for adoption. Activities will typically be implemented over a 1-3 year period.

Activities funded under 'Pool B' will generally involve larger, more complex research programs designed to address wider ranging issues than those funded under 'Pool A' and areas in which international collaboration will benefit the Cambodian partners. Funded activities will also typically be longer-term in nature (2-5 years); and more expensive (A$50-200,000 *per year*). These activities will generally be identified and commissioned by the Program, following priorities already established in the Cambodia Agricultural Research Master Plan as well as other priorities identified by CAVAC / ACIAR and other Cambodian stakeholders[45]. Given the relatively long gestation period of most research activities (3 years or more), it will be important to anticipate research needs associated with VCs that might come under the Program at a later date (e.g. other crops, livestock and possibly aquaculture) and to initiate these activities as early as possible. Detailed research proposals will be developed by the Program in conjunction with stakeholders (public and private sector) involved in the extension, irrigation and agribusiness components. Selection of program concepts will be undertaken by the CARF selection panel, augmented by additional members from extension agencies, AusAID, ACIAR and the Program. Detailed implementation procedures will be finalised during inception, but are likely to closely follow established ACIAR design and review procedures which are intended to promote collaboration between national R&D agencies and international R&D partners such as IRRI and Australian agencies. All Pool B full program designs will be internationally reviewed as part of the design process. ACIAR will contribute cofinancing for 'Pool B' programs, with a particular focus on facilitating international collaboration.

Approximately half the available research funding will be utilised for 'Pool A' programs; and half for 'Pool B'. All activities, across both Pools, are designed not only to produce research results that address key constraints associated with target VCs; but also to build local research capacity.

The extension program will be working to improve the capacity of farmers to engage in and benefit from improvements in the target value chains. This may be as part of a team of RD&E specialists assisting them to extend research outcomes or as part of needs focused stand-alone extension programs. FFSs will initially be the main

[44] Consideration should be given to ensuring that the CARF selection panel includes representatives from CARDI, extensionists, agribusiness and farmer organisations.

[45] A range of possible 'Pool B' programs have already been identified through a multi-stakeholder 2-day workshop held in Phnom Penh in early 2008.

extension method supported by the Program, supplemented with field days and field demonstrations to aid lateral spread to other farmers. After the first year, this may be extended to other extension methods (particularly those that involve farmer-to-farmer training). Farmer Field Schools (FFSs) will be offered to all FWUCs operating under the CAVAC water management component. For irrigation scheme rehabilitation activities, active participation in FFSs will in fact be a precondition to investment by the Program in rehabilitation activities. FFSs will also be offered to those farmer groups working with CAVAC supported agribusiness, but who are located outside of the CAVAC water management irrigation areas. Organisation of FFSs in all cases will emphasise working with an established and functional farmer organisation such as a FWUC, and/or production/ marketing group.

Prior to the organisation of extension activities in any village, a meeting will be held with potential beneficiaries to canvas ideas on areas where support is required, covering both extension support needs, as well as needs relating to strengthening the links between farmers and private sector actors in the VC. Women's and men's priorities will be separately assessed and taken into account in the subsequent design of activities. Representatives from the Provincial Department of Agriculture (PDA) and the private sector (rice millers, input suppliers, produce traders, etc) will be invited to attend these preliminary meetings. Specific topics addressed by the FFSs will be decided through this process, but will be related to the initial target VCs (rice, fruit and vegetables) and more specifically with improving productivity, value-added, and market linkages. The number, size, frequency and timing of FFS will also be determined by the groups in consultation with the facilitators. Each FFS would typically meet for half a day every 1-2 weeks over an entire production cycle.

The objective with all FFSs will be to progressively transfer funding and management responsibilities to the farmer organisations concerned. This should be facilitated by the fact that all extension activities will have a clear focus on improving farmer incomes and therefore their capacity to contribute to the cost of these services. For each group, the Program will fully fund FFSs (and associated extension activities) during the first year, reducing (through provision of cash or in-kind resources such as labour and inputs) to 50-75% funding in the second year, subject to satisfactory prior performance. The group will be expected to be financially self-supporting (perhaps with assistance provided under the Commune Investment Plan) by the fourth year.

Informed by the ongoing research and extension activities the Program will support the development and production of farmer extension materials that support extension activities under the Program. Extension materials to be developed may include:

- FFS curricula. In some cases this may simply involve adjusting curricula that are already available from other programs; in other cases new curricula will need to be developed.
- TIPs and other technical information resources – covering new enterprises and production systems being targeted by the Program.
- Posters, leaflets and other printed material, mass media material (e.g. radio. TV, magazine spots, videos, and articles).

3.2: Enhanced capacity of formal and informal extension providers to transfer improved technologies and information to farmers. CAVAC will support a comprehensive training program to develop a cadre of professional extension workers

and farmer assistants capable of implementing a wide-ranging FFS-based extension program. This training will take place at two levels. Foundation training for professional extension workers will be conducted through a semi-permanent training venue to be established in each province, staffed by two master trainers selected from DAE/ PDAs. Trainees will be drawn from government, NGO and other private sector extension providers where these exist. The training curricula will cover participatory extension methodologies and skills, as well as more technical aspects of crop, livestock, soil and water management. Course duration is expected to be around 16 weeks, with 25 trainees per course and two courses per province per year. All professional extension workers who wish to become involved in CAVAC's extension program will be required to complete this foundation training, which will be structured to incorporate a strong practical 'learning by doing' element. Refresher training courses will be conducted as required.

Farmer trainers (or village extension workers) will be trained to assist the professional extension workers organise and run FFSs at village-level. Approximately six farmer trainers will be trained for every professional extension worker trained, selected from the villages in which they will operate. Female as well as male farmer trainers will be selected. Training will be provided by an additional two master trainers, who will work together with the trained professional extension workers to provide on-the-job training in association with implementation of initial FFSs in each area. The master trainers will also provide follow-up supervision and support to the professional extension workers and farmer trainers as they proceed to organise and implement FFSs in their area.

3.3: Partnership program linking researchers, extensionists, farmers and agribusiness developed and implemented. The Program will support a range of activities designed to increase interaction and information exchange between researchers, extensionists, farmers and agribusiness so that research activities are of increased and more immediate relevance to real needs, and adoption is facilitated by having end-users directly involved during the research process. Examples of such activities include:

- Direct involvement of extensionists, agribusiness and farmers in the identification of research priorities and development of research program proposals.
- Adoption of Action Research approaches, involving collaboration between researchers and other VC participants in execution of research activities. For example, use of participatory trials in farmers' fields is generally practised as an indispensable part of most modern research-extension systems, but has fallen into general disuse in Cambodia.
- Use of field days and field demonstrations to keep stakeholders informed on the progress of various research activities.
- Participation of stakeholders in piloting promising research results (preliminary 'roll-out') to test the appropriateness of emerging recommendations.
- Development of TIPs and related extension materials for distribution to public and private sector extension providers.
- Participation in the development of curricula for FFSs implemented under the extension subcomponent.
- Conduct of training-of-trainer activities for key extension staff.
- Preparation of articles for communication via mass media (radio, TV, magazines).
- Preparation of articles for publication in the Cambodian Journal of Agriculture.

Another partnering initiative of relevance is the Farmer Marketing School (FMS) concept being proposed as an interim activity under the Program.[46] The concept involves using extensionists and traders as trainers for each other, as well as for farmers, in order to improve the orientation of extensionists to market realties, and traders to the realties of working with farmers. It is anticipated that FMSs could become an important vehicle for fostering market-orientation of extensionists and farmers alike. The Program will support the further development and subsequent scale-up of the FMS concept if it proves successful. Activities that are likely to grow out of the FMS concept include:
(i) collaboration between extensionists, agribusiness and farmers in action research programs e.g. cooperation in the trial production and marketing of a new fruit or vegetable variety; and
(ii) direct involvement of extensionists in facilitating the agribusiness/ farmer interface associated with implementation of new business proposals, including coordination of suppliers and field production activities.

The Program will support follow-on activities of this nature, to be assessed on a case-by-case basis. Where an activity develops beyond action research into a commercial venture, the Program will actively promote the establishment of a fee-for-service relationship between agribusiness and extension co-operators. It is likely that some of the FMSs, and FFSs, will evolve into more permanent farmer groups or organisations with market linkage functions.

3.4: Operational capacity of CARDI sustained through the provision of budgetary support. The Program will provide budgetary support to CARDI of up to A$ 100,000 per annum through to 2012 to sustain its core research capacity in rice-based farming systems[47]. This support will be used to supplement recurrent operating costs which have risen dramatically, in particular due to the increased cost of energy and fuel. In the interim, the Program will also:
(i) support CARDI to undertake an audit of its research and administration functions identifying options for further cost savings and income generation;
(ii) develop an operational revenue and expenditure plan; and
(iii) assist RGC to develop a plan to sustain research capacity in rice-based farming systems as part of the SAW.

8.7.4. Component 4: Business Enabling Environment

Intermediate Outcome: Improved business enabling environment facilitates the development of selected value chains.

Targets:
a.) x% increase in the number of agribusiness units operating in target provinces
b.) x% increase in agribusiness investment in target value chains over five years

[46] This is in association with the Cambodia-Canada Agricultural Market Information Program (CAMIP).
[47] This consists of capacity in the breeding of higher-yielding, higher-quality rice varieties that are targeted to Cambodian production systems and the agronomic and pest and disease management skills and facilities necessary to support variety development.

Description: The business enabling environment must be conducive to increase investment and participation by all private sector partners. The confidence and investment of the private sector (including farmers, agribusiness, financial institutions etc.) will be key to ensuring the competitiveness and sustainability of rice based farming systems into the future.

4.1: Improved research and understanding of the enabling environment surrounding key value chains. The Program will support strategic research, studies and trials designed to inform the development of policies and programs that have direct relevance to the development of target VCs (to be also informed by the analysis of Component 1). The type of studies that might be funded is open-ended and potentially quite broad. Examples include: regulatory impact assessments; evaluation of alternative regulatory mechanisms; competitive/ comparative advantage studies; market development studies; market access studies; industry development strategies; in-depth analysis of specific issues/ constraints identified through PPD mechanisms or by industry representative bodies; development of industry funding arrangements for research; development of improved development/ operational guidelines for irrigation schemes; etc. Studies can be identified by government, the private sector or the Program. They will be implemented under management of the Program using TA, but with active involvement of local officials and where relevant industry partners. Considerable emphasis will be placed on effective communication of results with concerned stakeholders.

The Program will aim to strengthen the capacity of government officials to develop and implement good policy through a range of training activities targeting areas such as application of alternative policy instruments, policy evaluation tools (e.g. regulatory impact assessment), M&E, and industry liaison. Various training methods will be used, including in-country training courses; regional study tours to observe approaches to industry development and regulation in other countries within the region; and 'learning by doing' by ensuring that officials are fully engaged in all policy-related studies funded under the Program.

The Program will support a range of information dissemination activities designed to improve the understanding by various stakeholders (including national and provincial officials, agribusiness and producers) of relevant policies, laws, and regulations affecting the development of target VCs. Developing an improved understanding of relevant policies will be an integral part of the PPD process described below. Supplementing this, the Program will support mass information campaigns including the preparation of information booklets/leaflets, and the use of the mass media to disseminate key messages. Specific topics where an information campaign is required will be identified through dialogue with industry and government. Information campaigns will also be conducted in parallel with the development of any new policies.

4.2: Increased opportunity for public private dialogue around key enabling environment issues. The Program will provide support aimed at deepening and extending PPD at provincial and national levels, providing a forum for critical BEE issues to be identified and agreed. It will support further development of PPD through activities such as training (concept of PPD, how it is applied in other countries,

facilitation skills); co-sponsorship of PPD meetings and workshops (in collaboration with related work being carried out by the MoC/ UNDP); provision of external convenors for initial meetings; strengthening agribusiness and MSME representation in PPD forums; establishing a better link between the provincial-level PPD and the national-level G-PSF; improved communication of issues identified through the G-PSF to the donor community and related donor-funded BEE initiatives; and extension of the PBES to target provinces. Providing a mechanism where issues identified through PPD can be further researched, and improving the understanding by stakeholders of relevant policies (refer above), are also expected to play a major role in strengthening PPD. Outcomes from improved PPD processes are likely to be valuable in identifying other activities that could be supported under this Component.

4.3: Strengthened industry representative organisations. The Program will work with key VC participants to form and strengthen the capacity of industry representative organisations. Support provided could include facilitation of initial pre-formation consultations; assistance with development of operational charters; training of key office bearers including exposure visits to other associations; provision of secretariat support services; and operational support for working groups established to address particular priority needs. Where appropriate this work will involve the local Chambers of Commerce.

4.4: Increased use of Public Private Partnership investment model (for the construction and/or management of value chain infrastructure). Recognising the need for alternative investment models for financing the design, implementation and management of high priority market-facilitating infrastructure programs, the Program will promote the role of PPPs to both government and relevant private sector players. The intent is to encourage joint public/private sector engagement in the design, implementation and management of infrastructure investment initiatives such as marketplaces, wholesale hubs, river ports, drying and storage facilities, packing facilities, communication facilities etc.

The Program will support dialogue and studies to scope a public/ private investment framework for selected infrastructure[48]; followed by detailed feasibility studies identifying possible design options and financing arrangements for programs where a PPP is considered desirable. The Program will actively promote the findings of these studies to potential investment partners (government and private sector).

Policy Support Funding Facility. To support the ongoing development of the SAW policy and implementation framework, a policy support funding facility will be established under CAVAC. As such, the Policy Facility will have broader goals and geographical coverage than CAVAC, but will be expected to focus on issues which have particular relevance to CAVAC. Although CAVAC will be responsible for managing the facility operationally, the strategic direction of the Facility would be the responsibility of the AusAID Post. Most of the operational management work would involve contracting consultants and providing/reconciling grants according to TOR developed by the Post, which would oversee performance aspects. The broad guidelines for the Policy Facility should be consistent with SAW priorities. CAVAC

[48] Infrastructure needs are identified under the CAVAC agribusiness component (1.5).

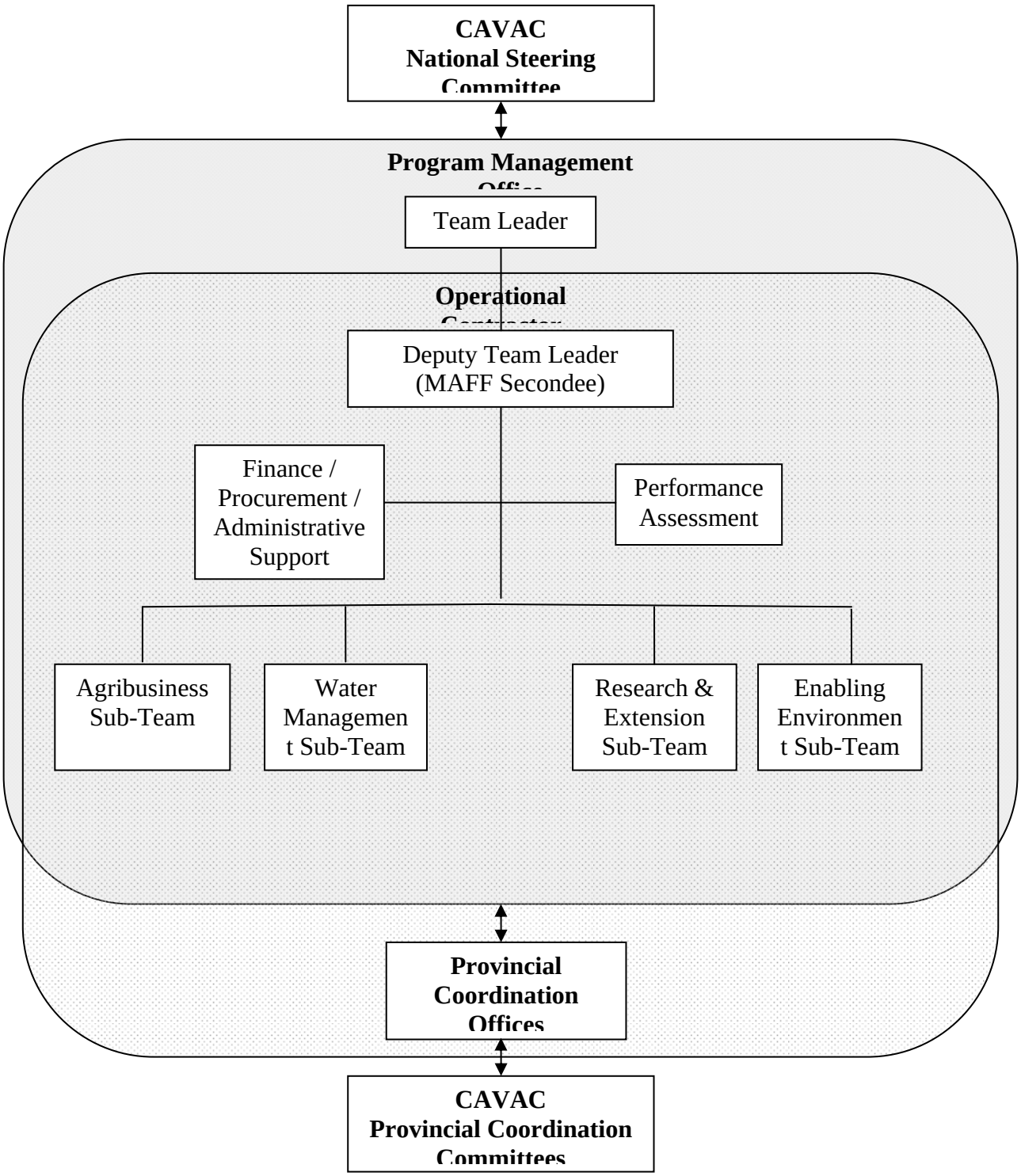
will develop brief guidelines for the policy facility, which will be approved by the National Steering Committee. These should require agreement from both RGC and AusAID that the work to be done by the facility be a key policy priority under the SAW, and that there be a capacity development aspect to it.

9. COORDINATION AND MANAGEMENT ARRANGEMENTS

9.1. Organisational structure

The CAVAC organisational structure is summarised in the following diagram (see Figure 2).

Figure 2: CAVAC Organisational Structure



9.2. Coordination Arrangements

National Steering Committee (NSC). High-level coordination, oversight and guidance for CAVAC will be the responsibility of the CAVAC National Steering Committee. Key additional functions include:

- periodic review of the structure, function and performance of the Program;
- ensuring that CAVAC remains aligned with key RGC policy frameworks including SAW;
- mobilisation and coordination of resources provided by RGC;
- identification of opportunities to improve integration with RGC systems (where appropriate) as these systems evolve;
- review and endorsement of Progress Reports, Annual Work Plans (AWPs), Budgets and Program Targets; and
- facilitating and deciding on actions to be taken in response to reviews of the Program, including the MTR.

The NSC will be co-chaired by MAFF and MOWRAM and meet at least twice yearly, more often if required. Membership will be limited and include RGC representatives drawn from MAFF, MOWRAM, the provincial governments of CAVAC's operational areas (initially, Kampong Thom, Kampot, Takeo) and AusAID. ACIAR will participate as an observer to the NSC. Other representatives from RGC, the private sector and other stakeholders may also be invited to attend meetings.[49] An NSC Executive Group consisting of the two Co-Chairs and AusAID may meet more frequently as required to make timely decisions in relation to coordination, oversight and guidance for CAVAC between NSC meetings. The Team Leader and Deputy Team Leader will attend and arrange secretariat support for the NSC and its Executive Group.

Draft Terms of Reference for the NSC are outlined in Annex 6. Final detailed TOR for the NSC and its Executive Group (clearly defining which functions require full NSC participation and which functions can be performed by the NSC Executive Group) will be drafted during the Inception Phase and approved by the NSC members.

Provincial Coordinating Committee (PCC). The TL, in consultation with RGC, will establish Provincial Coordinating Committees for each target province. The PCCs will be responsible for mobilising provincial resources in support of the Program and for ensuring adequate coordination between the Program and other government and donor-funded programs. Arrangements may differ between provinces and existing provincial committee structures will be used where feasible. PCC membership and detailed TORs for each operational province will be determined during the Inception Phase. Draft TORs are outlined in Annex 6.

[49] Other potential RGC representatives include the Ministry of Commerce, Supreme National Economic Council and Ministry of Women's Affairs. Other potential private sector representatives include the G-PSF, ACLEDA Bank and the Rice Millers Federation. In addition, the NSC may invite representatives from other External Development Partners and/or their implementation agencies for the purpose of facilitating cooperation and integration. AusAID is, for example, currently a member of the Steering Committee of the EC-funded Agro-Industry Program under Ministry of Industries.

9.3. Program Management[50]

Management of the Program will be contracted to a Team Leader (TL) directly engaged by AusAID, assisted by a Deputy Team Leader (DTL) appointed by RGC in partnership with AusAID[51]. An Operational Contractor (OC) will provide operational support to the TL, including engagement of the remaining CAVAC staff, financial management, procurement, sub-contractor arrangements and all other relevant administrative and operational matters.

The TL will in particular be responsible for:

- Management of the overall Program.
- Establishing effective working relationships between implementing partners, RGC institutions at all levels, private sector organisations, relevant ongoing partner programs, the OC, ACIAR and AusAID.
- Overseeing the preparation of consolidated Annual Work Plans, Budgets and Progress Reports.
- Overseeing implementation of the M&E Framework for the overall Program.
- Ensuring that appropriate QA measures and risk management measures (including for managing fiduciary risk) are implemented.
- Ensuring activities address gender, environmental management and corruption issues appropriately.
- Ensuring that NSC Co-Chairs, AusAID and other partners are kept well-informed of progress and critical emerging issues.
- Provision of secretariat services for the National Steering Committee (NSC) and its Executive Group.
- Advising on the overall strategic direction of the Program including the need for design adjustments.
- Ensuring activities are appropriately coordinated/linked with relevant national and donor activities, with particular emphasis on the emerging SAW framework.
- Actively promoting the transfer of best practices and lessons learned, with particular emphasis on the emerging SAW framework.

More detailed draft terms of reference for the TL and DTL are outlined in Annex 6.

The OC will in particular be responsible for the provision of operational support services under the direction of the TL, including:

- The operational implementation of activities, including engagement of remaining CAVAC staff, procurement of goods and services and sub-contractor payments.
- Preparing consolidated AWPs, Budgets and Progress Reports.

[50] See also Appendix 12: Lower Performance Indicators (Management) for further details (indicative).
[51] It is expected that the Deputy Team Leader will be seconded to the Program from MAFF. They will be engaged by the OC through a performance based contract that will provide remuneration consistent with the principles and rates of the Merit Based Performance Incentive Scheme. The performance of the Deputy Team Leader will be managed by the Team Leader in coordination with the MAFF co-chair of the NSC.

- Financial management.
- Implementing the M&E Framework for the overall Program.
- Implementing appropriate QA and risk management measures (including for managing fiduciary risk).
- Addressing gender, environmental management and corruption issues appropriately.
- Informing the TL, DTL, Team Members and Implementing Partners of progress and critical emerging issues.

More detailed draft terms of reference for the OC are outlined in the Scope of Services.

Two management exceptions to the above responsibilities exist:

- The CAVAC Research and Extension component will be delegated to ACIAR under a ROU to be Schedule to be established between AusAID and ACIAR.

- The Policy Support Facility (under the Business Enabling Environment component) will be managed operationally by the CAVAC OC, but the strategic direction of the Facility and performance oversight will be the responsibility of the AusAID Post. Most of the operational management work will involve contracting consultants and providing/reconciling grants (according to a TOR developed by the AusAID Post). The TL and DTL will develop brief guidelines for the policy facility during Inception Phase, which will be approved by AusAID and RGC. These guidelines should be consistent with SAW priorities and include a capacity building aspect.

The contract established by AusAID with the TL and the OC, and the ROU established with ACIAR, will specify arrangements designed to ensure effective communication and coordination between the TL, OC and ACIAR. Specifically, these arrangements will clearly delineate roles and reporting arrangements and will include the need for consolidated planning, reporting and M&E. These will be based upon the Responsibility Matrix outlined in Annex 7. A Charter Agreement will be established between the Team Leader and the Operational Contractor to establish how these roles and responsibilities will be managed and provide a mechanism for conflict resolution.

MAFF and MOWRAM will appoint officers from relevant central line departments and provincial departments to act as focal points for interaction with CAVAC. Terms of reference for these focal points will be developed during the Inception Phase. In addition, CAVAC will increasingly support SAW implementation and integrate its activities into the SAW framework. This may include support to build the management capacity of MAFF and MOWRAM to implement the SAW and its programs through the enabling environment component and its policy support facility.

The OC will establish and maintain a Program Management Office (PMO) located within MAFF in Phnom Penh. Provincial Coordination Offices (PCOs) will be established in each province. The parts of the PCOs relating to agribusiness and the business enabling environment will be located outside RGC offices. The parts of the PCOs that principally relate to MOWRAM (water management and irrigation) and MAFF (research and extension) will be located wholly or partly within the respective

provincial offices, if office space is available[52]. The location of the PCOs will be assessed and determined during the Inception Period. ACIAR program appointees will be located within and be an integral part of the PMO and PCOs with clear specification of communication and coordination responsibilities and protocols. ACIAR program appointees will have use of office facilities (including computers), mobile phones and vehicles procured by the OC for CAVAC.

9.4. Resourcing Arrangements

Indicative core resourcing of the PMO and PCOs is summarised in the following table[53]. It is suggested that for each CAVAC component a sub-team is established headed by a manager (international) and specialist (national)[54] responsible for managing the CAVAC components. The exception to this is the business enabling environment component whose management will be the responsibility of TL in coordination with the DTL, with support from the other Component Managers.

Indicative Human Resourcing

	International	**National**
National-level		
Team Leader	1	-
Deputy Team Leader (MAFF Secondment) [55]	-	1
Agribusiness Development Manager	1	-
Agribusiness Development Specialist (rice)	-	1
Agribusiness Development Specialist (fruit/vegetables)	-	1
Irrigation / Water Management Manager	1	-
Irrigation / Water Management Specialist	-	2
Extension and Research Manager (ACIAR)	1	-
Extension and Research Development Specialist (ACIAR)	-	1
Enabling Environment Specialist	-	1
M&E Manager	1	-
M&E Specialist	-	1
Procurement Manager	1	-
Procurement Officer	-	1
General Operations Manager	1	-
Finance Officer	-	1
Administrative Assistants	-	2
Provincial-level (for each province)		
Provincial Team Leader	-	1
Agribusiness Coordinator	-	1

[52] An alternative location may be the Provincial Governor's Office.

[53] Additional positions particularly at the national level are anticipated e.g. FFS Master Trainers. Bidders will be encouraged to propose their own resourcing schedules reflecting their assessment of what is required, together with the balance of skills and experience available within the proposed Team. Note that the designation of international and national positions is also only indicative.

[54] Where appropriate and if relevant expertise exists, these specialist (national) positions may be seconded from RGC under performance based contracts consistent with the principles and rates specified under the Merit Based Performance Incentive and Priority Mission Group schemes.

[55] The selection process and the assignment of this position shall be agreed by AusAID and MAFF.

	International	National
Irrigation / Water Management Coordinator	-	1
Research and Extension Coordinator (ACIAR-contracted)	-	1
Administrative Assistants	-	2

Short-term international and national TA are expected to be required in areas such as:

- value chain assessment
- market research
- design and implementation of extension
- mass media activities
- gender and development
- monitoring and evaluation

These requirements will be considered and approved as part of the normal AWP process.

9.5. Implementing Partners (IPs)

Implementing partners include government agencies and employees, industry representative organisations, NGOs and the private sector[56] who have been subcontracted by the OC. IPs exist at both the national and provincial level. IPs will be contracted to deliver identified CAVAC activities and services as managed by the OC. Various types of contracting arrangements will be utilised including direct hire. For major IPs a coordination/liaison officer will be identified who will act as the key contact point with the Program.

Working with Government: Low staff motivation arising from low public sector salaries is the most fundamental human resource constraint within government. Salaries are insufficient to motivate staff to show up for work or, if they do to perform as they should. Low salaries result in perverse incentives through dual practice. A comprehensive, systemic overhaul is necessary to address these issues. Three complementary administrative reform schemes are currently being considered for wider application in Cambodia: the Merit Based Performance Incentive (MBPI), Priority Mission Group (PMG) and Special Operating Agency (SOA) schemes (see Appendix 11 for more details on these schemes).

Based on the experience of AusAID and that of other donors, it is recognised that without some form of salary supplement it is extremely difficult to obtain meaningful input from counterpart civil servants.[57] The Program will monitor the situation regarding progress in human resource reform within Cambodia, specifically within

[56] 'Private Sector' refers to commercial enterprises, while 'NGOs' refers to not-for profit organisations working to deliver community development objectives, often with good capacity in community facilitation . In situations where the government lacks people or expertise, it is inappropriate for government to implement certain activities or the private sector or NGOs have a comparative advantage, the private sector and/or NGOs may be sub-contracted to undertake CAVAC activities. These sub-contracting arrangements will be subjected to competitive and transparent bidding processes as relevant, and their performance will be reported in progress reports to the NSC.

[57] For example, according to provincial authorities, well-functioning FWUCs require at least weekly visits from PDWRAM specialists and although each province employs a number of such specialists, due to budget constraints they rarely leave their offices.

MAFF and MOWRAM at national and provincial levels. It will support effective implementation of the relevant administrative reform schemes (MBPI, PMG and SOA) (see box above). CAVAC will ensure that payments to civil servants are consistent with the principles and agreed rates of these schemes. The Program will contract out identified activities to provincial and central government departments, employing a performance based contract that will provide payment based on a clearly defined delivery of time-bound outputs. Failure to deliver the agreed output will justify not renewing the contract for subsequent assignments.

9.6. Planning and Review Arrangements

Annual Workplans (AWPs) are to be the key planning and budgeting mechanisms for CAVAC. AWPs will identify major priority areas to be addressed by the Program over the coming year together with budget requirements, implementation responsibilities, and component linkages. The AWPs will be regarded as an enabling framework designed to guide implementation, rather than a constraining blueprint. The first AWP will be submitted together with the Inception Report within 6 months of mobilisation. Subsequent AWPs should be submitted by the end of October each year, covering the following January-December Cambodian FY.

Six-Monthly Progress Meetings and Reports. Six-monthly planning and review meetings will be held attended by the major IPs and other relevant stakeholders, drawn from both national and provincial levels. The meetings will coincide with the preparation of the AWP. The six-monthly report will be submitted covering the period January-June and July-December, within one month of the end of each period. They will be concise and have as their key focus the Program Logframe (see ANNEX 3) and the current AWP. They will:

(i) briefly describe the progress and quality of activities currently being implemented;
(ii) identify any risks, issues, problems and delays encountered in implementing the current AWP
(iii) contain an analysis of activities in terms of their contribution to key outcome indicators with an assessment of associated impacts;
(iv) outline options and recommend specific remedial strategies including recommendations for improving future design and implementation of the Program.
(v) update the Program staffing situation; and
(vi) include an updated list of Program procurement, training and reports.
Major successes should be highlighted in a form that can be easily incorporated into public relations materials.

Program Completion Report. An initial draft of this report should be submitted within three months of the scheduled close of the Program. It will detail progress achieved against the goal, objectives, and outcomes of the Program as anticipated at design. The Completion Report will be informed by the six-monthly progress reports.

Other Planning and Review Processes

Internal Meetings. i.) Regular quarterly internal planning and review meetings involving Program staff from all components and levels; ii.) Routine monthly staff meetings to formally review progress over the past month and planned activities for the following month.

Monthly Exception Reports will be submitted at the end of each calendar month. These will be brief (maximum 2-3 page) reports highlighting any significant issues that have arisen over the month, and how these issues are being addressed.

Miscellaneous Technical Reports. For every research activity and AIF activity approved, a brief Activity Design Document will be prepared and held on file. For every activity completed, a brief Activity Completion Report will also be prepared and held on file summarising results achieved.

9.7. Financial Management and Procurement

The OC, under the guidance of the TL, will establish comprehensive management systems including guidelines and procedures that meet GoA and RGC requirements for: procurement; financial management and accounting; management of partnership activities; performance monitoring and evaluation; and personnel and physical assets management. These guidelines and procedures will apply for all of CAVAC's components and will be detailed in the CAVAC Procedures Manual, which will be developed during the Inception Period. Procurement of goods and services will be undertaken by the OC (and ACIAR) following standard Australian Commonwealth procurement guidelines.[58] The final procurement arrangements for the program will be defined by AusAID following completion of an assessment of partner procurement capability and capacity and associated procurement risk. Financial management will follow the usual procedures adopted for AusAID-funded activities. Financial audits will be undertaken on an annual basis. ACIAR already has a financial management system in place for CARF, which will be reviewed to ensure it is consistent with CAVAC requirements.

Six-Monthly Financial Reports will be submitted by the end of July (covering Jan-June expenditures) and January (covering July-December). These reports will summarise cash expenditure against budget for the year-to-date, and from startup-to-date; together with identification and analysis of any major budget issues. OC- and ACIAR-managed expenditures must be recorded and reported in an identical format.

9.8. Reporting arrangements

The TL will contractually report to the delegated A-Based Officer at AusAID's Post in Phnom Penh and operationally report to the NSC. The Component Managers will be contracted by the OC (except for the Research and Extension Component Manager who will be contracted to ACIAR Canberra and provided with supervisory support

[58] Possible exceptions to this include procurement undertaken by individual agribusiness enterprises under the Agribusiness Innovation Fund (AIF) and by FWUCs in receipt of financial support for O&M activities from the Program. A procurement assessment will inform specific risk management strategies in these cases.

from a designated member of the ACIAR Executive in Canberra). Each of the Component Managers will operationally report directly to the TL to facilitate program integration.

Reports to AusAID will be produced using formats and including detail as directed by AusAID Phnom Penh. Reports to AusAID and NSC will be consolidated whole-of-program reports. ACIAR will provide appropriate input to the OC who is responsible for consolidation. The TL will finalise the report with support from the OC and ACIAR as required.

9.9. Performance Assessment

9.9.1. Monitoring and Evaluation Framework

Efficient and effective M&E will be central to program success. Consequently not only must the M&E arrangements for CAVAC be flexible, but they must also be mainstreamed within the CAVAC implementation and management procedures. In addition the CAVAC M&E Framework needs to be updated on an annual basis to reflect operational challenges and realities of the Program. The pre-implementation M&E Framework:

- provides the broad logic of the program, targets and indicators (see ANNEX 1: Performance Framework; ANNEX 2: CAVAC Final Targets; ANNEX 3: CAVAC Logframe). In line with the flexible and demand-driven nature of some program elements the logframe has been specified down to the outcome/output level only.[59]
- summarises the annual targets, data collection instruments, and roles & responsibilities (see ANNEX 4: CAVAC Monitoring Framework). Most of the performance information will be derived from data that should already be available to the Program and/or IPs, but in a few cases some additional survey work may be required which could probably be carried out directly by PMO/PCO and/or IP staff.
- identifies key risks confronting the Program (see ANNEX 5: Risk Management).

During the inception phase this pre-implementation framework will be used by the Program Implementers (TL, OC and ACIAR) as the foundation for discussion with stakeholders, including performance indicators and targets finalisation, data validation and the clarification of tools, database and storage requirements, and roles and responsibilities for on-going M&E within the Program. The identification of sex-disaggregated data will be a minimum standard for the M&E Framework. At the end of the Inception Phase, the Team Leader will present the finished M&E Framework as part of the Inception Report.

The main mechanism for reporting achievements against specified outcomes and outputs will be the six-monthly progress reports. Activities designed to achieve these outcomes and outputs will be identified as a routine part of the AWP process. Corresponding activity progress indicators will be incorporated into the AWPs and reported against in the 6-monthly Progress Reports. To ensure sufficient flexibility is

[59] See also Appendix 12: Lower Performance Indicators (indicative).

maintained the AWP will also provide a opportunity to review the MEF. Ongoing assessment of alignment and integration with the SAW and associated M&E processes will occur. Over time, Program M&E at the goal, objective and intermediate objectives levels should become fully integrated with the SAW. At the same time, CAVAC will look to identify opportunities to help to shape the SAW M&E system.

Management Performance: The extent to which the program is effectively and efficiently managed meeting stakeholder needs determines management performance.[60] Overall management performance includes: effective and efficient operation of management systems; physical and financial performance against agreed AWPs; compliance with required procedures; staff competency and performance; linkage with RGC and other donor programs; and identification of lessons learned as a basis for progressive learning. This will be assessed on an on-going basis and reported in the 6-monthly progress reports. The TL will be responsible for assessing management performance. The Post, supported by the Sector Monitoring Group (SMG), will play an important external role in this area.[61]

9.9.2. Impact assessment

To enable accurate impact assessments a baseline (gender disaggregated) will be established at the beginning of the Program (or as additional VCs are brought into the Program), with a follow-up assessment at Program completion. The means of making these assessments will vary from component to component, but in most cases will involve existing RGC statistical data, supplemented with the use of simplified surveys, case studies or tracking panel techniques. These assessments will be conducted mainly through subcontract arrangements, under the supervision of the PMO and MAFF with full involvement of relevant IAs. Opportunities to establish baselines in areas in which CAVAC is not providing assistance in order to compare changes and assess more accurately the level of attribution to CAVAC interventions will also be pursued.

9.9.3. Resourcing M&E

CAVAC will require a full time national M&E Specialist as well as a part-time International M&E Specialist. The International M&E Specialist will be required to finalise the M&E Framework during the inception phase of CAVAC in a participatory manner. Additionally, he or she will train both the OC team and the staff of Implementing Partners (IPs) in the use of the framework and the tools identified. In addition, it is anticipated that the International M&E Specialist will carry out six-monthly follow-up visits to:

1. Undertake annual Quality Assurance Audits in concert with the TL and partners.
2. Assist the OC team with whatever data analysis and reporting are necessary for the preparation of the Annual Work Plan and Six-Monthly Progress

[60] The CAVAC Intermediate Outcome for Program Management is "To effectively and efficiently manage meeting stakeholder needs". See Appendix 12: Lower Performance Indicators (Management) for more details

[61] The OC may also wish to consider the use of external specialists to develop a series of case studies documenting lessons and innovations.

Reports. Hence it is suggested that one of the visits occur in October to align with Annual Planning and Reporting requirements.

The National M&E Specialist will be responsible for supervising the execution of key M&E activities; for undertaking ongoing QA checks; and for assisting the team to collate data for reporting purposes.

Quality Assurance Audit tasks.

- Assess compliance with the expectations and business processes outlined in the M&E Framework i.e. confirm that staff and partners are collecting, storing, using and reporting on CAVAC performance in line with the M&E Framework;
- Assess the quality of the data collected, the analysis undertaken and the reports produced, in order to ensure that quality, consistency and accuracy are maintained;
- Interview staff and partners to assess the continuing efficacy and effectiveness of the processes outlined in the M&E Framework;
- Identify opportunities, complexity, or redundancy in the M&E Framework and adjust the processes accordingly;
- Update the M&E Framework as needed;
- Undertake ongoing training to ensure all staff are competent in their M&E roles.

9.9.4. Independent Review and Evaluation

AusAID will conduct an independent Mid Term Review (MTR) at the start of the third year of implementation. This review will focus on management performance, progress-to-date against annual targets, alignment with RGC policies and programs, harmonisation with other donor-funded activities, and the need for design modifications (including expansion to additional VCs and/or provinces). The MTR will form the basis for a recommendation on whether to proceed with the fourth and fifth years of CAVAC's implementation. An Independent Completion Report (ICR) will be prepared at the end of the fourth year of implementation which will include an overall assessment of results achieved and will make a recommendation about whether to extend for a further 5 years.

AusAID will establish a Sector Monitoring Group (SMG) to provide independent, expert performance monitoring and strategic advice on CAVAC and AusAID's broader support to agriculture and rural development in Cambodia. The SMG will report to AusAID and the NSC. It is anticipated that the SMG will comprise several suitably qualified individuals who will visit the Program collectively or individually 1-2 times per year. TORs for the SMG will be developed by AusAID Post.

The SMG will periodically review the extent to which Australia's agriculture and rural development programs are supporting the implementation of the SAW and recommend opportunities to improve integration with RGC policies and programs. The SMG will also provide strategic recommendations on appropriate replication or scale-up opportunities. Additional roles will include: monitoring the implementation of CAVAC's sustainability, gender, environmental management and anti-corruption strategies; establishing and adjusting targets in coordination with the Program Implementers; and reviewing and updating the risk matrix.

10. RISK AND RISK MANAGEMENT

The risk analysis identifies key risks, assessed level of risk, and proposed risk management measures. The analysis shows that the majority of risks can be effectively mitigated through both general and specific measures (see ANNEX 5 for details). In general terms, routine reviewing and updating of identified risks by Program Management will be used as a key management tool to recommend adjustments in Program design. The inherent flexibility in the implementation approach that allows CAVAC to adjust to suit changing circumstances and lessons learned will also complement and support this approach. In more specific terms, the key risks and mitigation strategies can be broken down into two categories:

1.) Development and intervention risks refer to the major uncertainties that could reduce the intended impact of the program and can be broken down against each component:

- Agribusiness: Agribusiness sector not sufficiently motivated to form long-term relationships with equitable sharing of benefits as a basis for VC development. Mitigation measures include clear negotiation and agreement of obligation of all parties from the outset; the self-selecting nature of involvement; and exposure to successful examples elsewhere.
- Water Management: This component is assessed to be of highest risk within CAVAC due the weak institutional environment which has resulted in a failure to maintain irrigation schemes leading to poor and unreliable irrigation service. To mitigate the risk the program will work only on schemes which are functional and have strong market linkages combined with strong FWUC commitment supported by performance based incentives.
- Research and Extension: Under-funded research institutions are not able to effectively partner with extension services to identify real needs and adapt and apply results. Meanwhile government extension services are insufficiently resourced. Mitigation measures include the formal involvement of farmers/agribusiness in identifying priority research needs and the specification of the extension activities in major research contracts as well as the promotion of sources of extension provision outside of government.
- Enabling Environment: Government unwilling to act on outcome of PPD to address key BEE issues; or on recommendations arising from policy studies and trials designed to underpin development of target VCs. This is compounded by 'subjective' interpretation and enforcement of policy and regulations leading to corrupt and anti-competitive market behaviour. Mitigation measures include a cautious approach to change which ensures that there are some early and identifiable "wins" for government and the private sector.

2.) Management Risks affect the ability to manage the program efficiently - to deliver the outputs on time and on budget. The key risk is the failure to achieve sufficient buy-in from local government. This will be mitigated through the maximum orientation of activities to the provincial and sub-provincial level and the full involvement of local government in the planning, implementing and monitoring of activities.

11. FEASIBILITY

11.1. Management Feasibility

Although the Program is considered relatively complex in terms of its institutional design, it is considered manageable within the resources budgeted. Strategic Management will be contracted to a TL, with Operational Management contracted to a competitively selected OC (ACIAR which already has an established track record in the implementation of this kind of activity will be responsible for the management of the research and extension component). Lines of communication and coordination mechanisms will be tightly specified, particularly between the TL, the OC, ACIAR and AusAID. The design provides for the establishment of a well-resourced program management structure at both national and provincial levels, with provision for external monitoring through a SMG. The technical and management skills likely to be required for implementation are available both locally and internationally.

11.2. Technical Feasibility

There are four major technical challenges that lie at the heart of the CAVAC design:

1.) feasibility of developing more sophisticated VCs in a country that still faces major infrastructural, financial and human resource constraints. Good examples already exist of private investment supporting the development of more sophisticated VCs in Cambodia. The Program is designed to seek out and facilitate the expansion of these models where they exist.

2.) identifying and supporting agribusiness who have willingness to work cooperatively with farmers has been demonstrated as a feasible approach both internationally and in Cambodia. For example, the USAID funded Micro Small and Medium Enterprise (MSME) program has reach about 1500 'leading firms' (mainly in pig production) by following an approach similar to the one proposed for CAVAC.

3.) designing and managing irrigation schemes in a sustainable manner. Effective water management requires good technical design and sound community management skills. To address this issue the Program deliberately focuses on upgrading (and supplementing through the use of external contractors if necessary) the technical design skills of MOWRAM and PDWRAM staff, and the O&M skills of FWUCs, as a precursor to any investment in physical infrastructure. There are sufficient examples of good design and scheme management to believe that this approach is realistic.

4.) developing research and extension capacity that is capable of delivering improved technologies to farmers. This is addressed by taking a multi-channel approach to research and extension delivery, with major emphasis placed on developing an enhanced role for the private sector in this area. These approaches are common in developed countries and there are also good examples of their successful development in developing countries.

11.3. Economic and Financial Feasibility

The *economic* feasibility of CAVAC will be principally determined by the extent to which there are VC development opportunities that result in increased total economic value with equitable capture of this by various VC participants, particularly smallholders. CAVAC is focussed on VCs where the opportunities are perceived to be greatest. CAVAC has also identified a set of interventions which will enable value chains to progress towards their full economic potential. This includes through reform of the BEE and reducing the time and cost of doing business.

Due to the demand-led nature of the Program, it is not possible to conduct an *ex-ante* economic analysis. However, the criteria used in selecting target VCs and provinces have included the current size of the existing production base and number of farmers involved, coupled with the potential for productivity gains, value addition, and market growth.

USAID funded Micro Small and Medium Enterprise (MSME) program has reached about 1500 'leading firms' (mainly in pig production). These 'leading firms' (often small farm operations) have been reached at a program cost of around USD 5 Million over 3 years - or around USD 3,300 per 'business or farm' unit (including TA company overheads). Furthermore, the success in pig production has to some extent been aided by a short-term 'quick-win' ban on pig imports from Vietnam. This is a high cost if interpreted as business development costs *per farm unit*. This is a cost level that CAVAC is expected to improve on by focusing more on wholesale and systemic solutions (by applying partnership principles which are fundamental to the CAVAC value chain strategy - including 'piggy-backing' on and synergy with other ongoing or completed program interventions). If CAVAC reaches over 100,000 farming households as targeted this would occur at a cost of under USD 500 per farm (of average 1 ha) which is a much more acceptable cost-efficiency rate.

Measures are in place to also ensure the *financial* feasibility of specific elements of the Program including

- Specific business activities supported by the Program will be carefully screened in terms of their financial viability.
- Cost recovery to sustain the O&M of irrigation schemes is another important consideration. This is addressed by ensuring that the O&M capacity of FWUCs is strengthened, combined with linking target irrigation schemes with the Program's productivity and VC enhancement activities so that irrigators have increased financial capacity to pay for O&M costs.
- The financial capacity of government to support public sector research and extension services is highly uncertain. The Program addresses this by emphasising alternative (non-government) delivery channels where the possibility exists.

Agribusiness Innovation Fund. The proposed screening and assessment criteria that will be applied to individual agribusiness development activities supported under the Program will incorporate a number of elements designed to ensure that efforts are focussed where the financial and economic impact is likely to be greatest, including:
(i) potential regional economic impact;
(ii) potential catalytic effect of the TA provided;

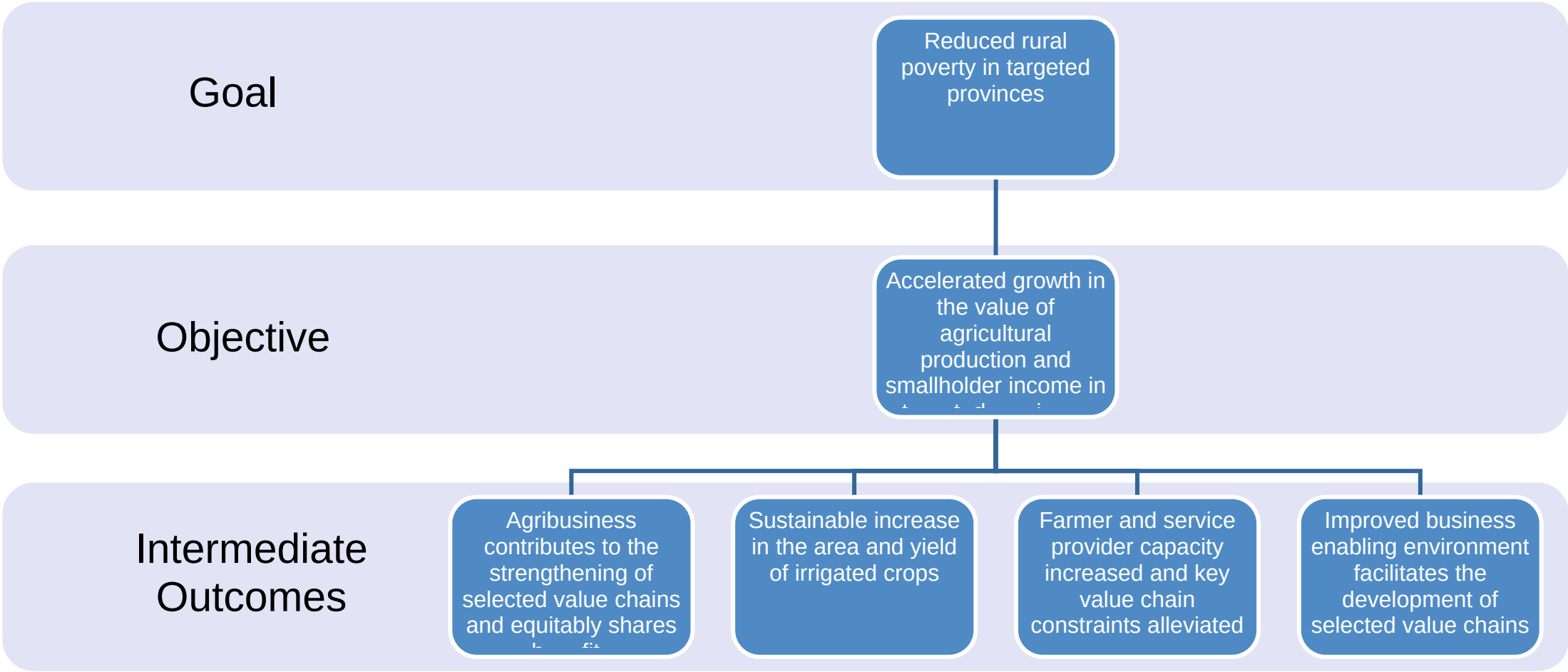
(iii) timing and visibility of impact (it is desirable to have some short-term payoffs as well as longer term benefits);
(iv) the level of commitment of downstream partners (processors, exporters etc) potential to strengthen supply chain linkages; and
(v) the requirement for additionality – the activity must deliver something which would not have otherwise happened.
Economic impact will also ultimately depend on the replication by industry of successful demonstrations and pilot programs on a wider scale. Although this can never be guaranteed, it will be important to consider the scalability of proposed interventions in deciding the allocation of Program resources.

11.4. Institutional and governance feasibility.

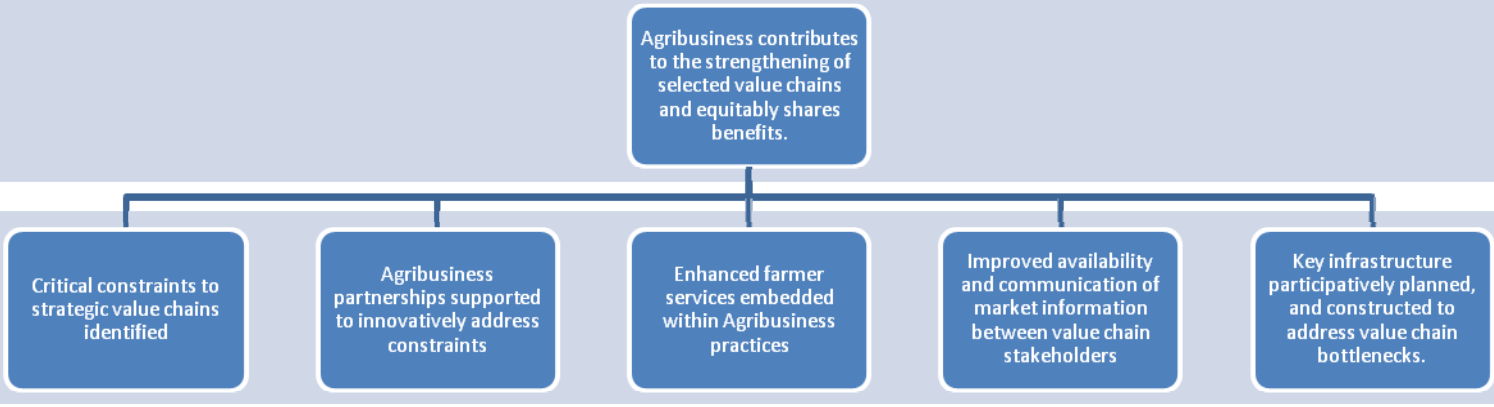
The program has wide acceptance within MAFF and MOWRAM and is fully consistent with the objectives of the SAW framework. There is a broad consensus on the need for a VC approach focusing on agribusiness development. Institutional roles and responsibilities are clearly defined in the design, with little opportunity for duplication or confusion. Although capacity within key implementing agencies is uneven there is considered to be sufficient baseline capacity. Improving this capacity will also be an important objective of the Program. Sustainability of public sector research and extension providers is a particular concern. This is addressed by aligning closely with the SAW which is intended to directly address these important problems; providing medium-term 'core funding' for some activities; encouraging a diversification of budget sources; and working with private as well as public sector providers.

In terms of governance arrangements, the Program will establish a national steering committee that will bring together public and private sector interests. This forum would have high-level functions and will be required to meet twice each year. Accommodating public and private sector interests within these committees is essential but is likely to present a challenge. A pre-requisite for Program support will be that Implementing Partners (IPs) explicitly agree to conduct their activities in a transparent and accountable fashion. The TL, OC and ACIAR will be responsible for monitoring and reporting on any instances of corruption.

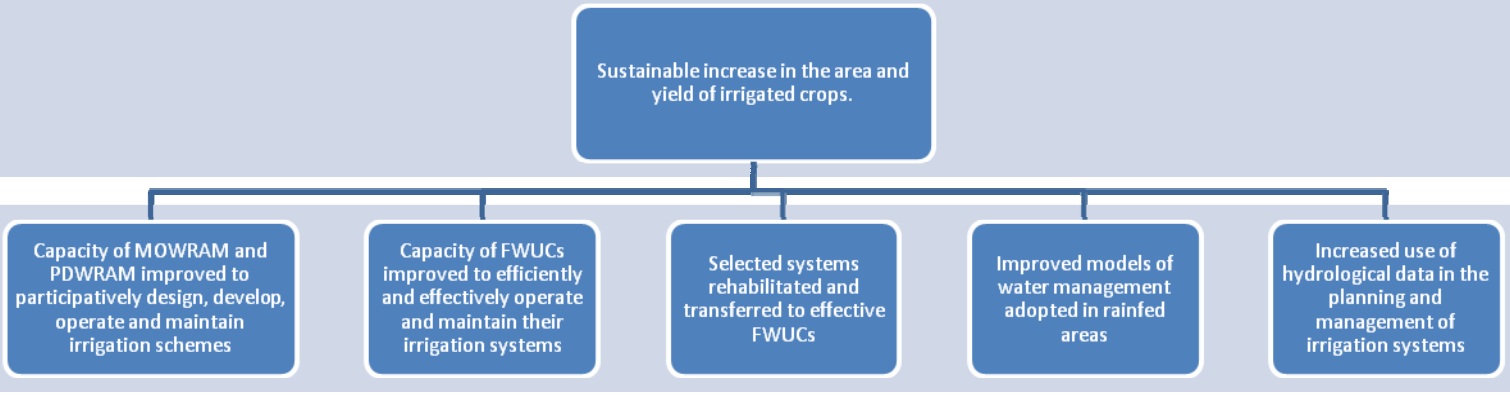
ANNEX 1: CAVAC Performance Framework



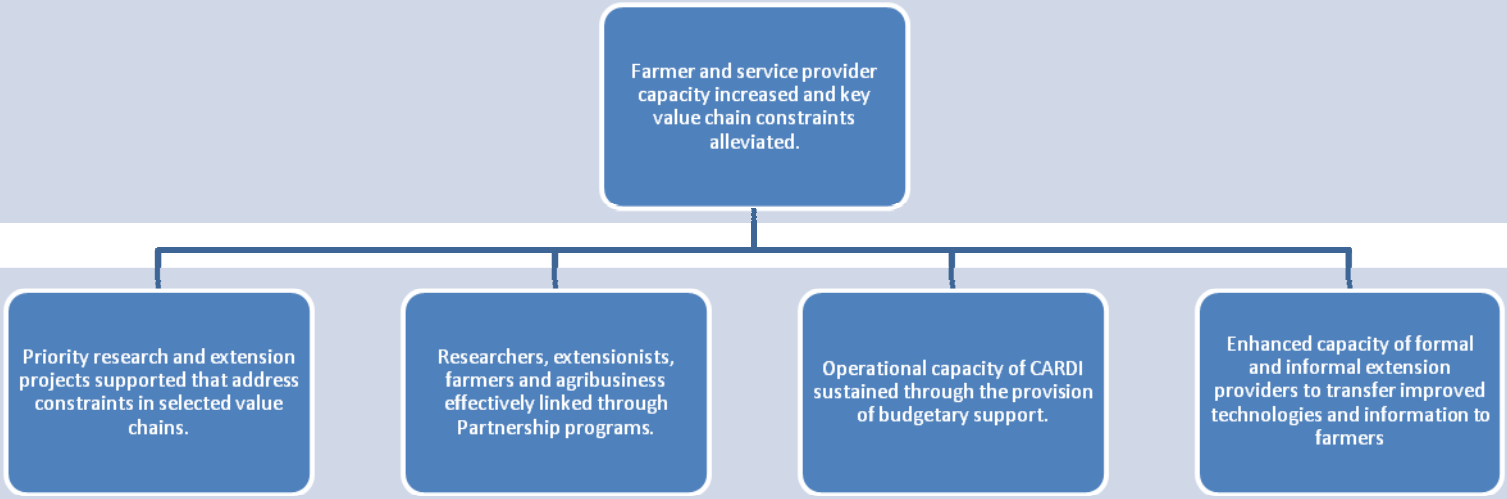
1. Agribusiness Development Outcome



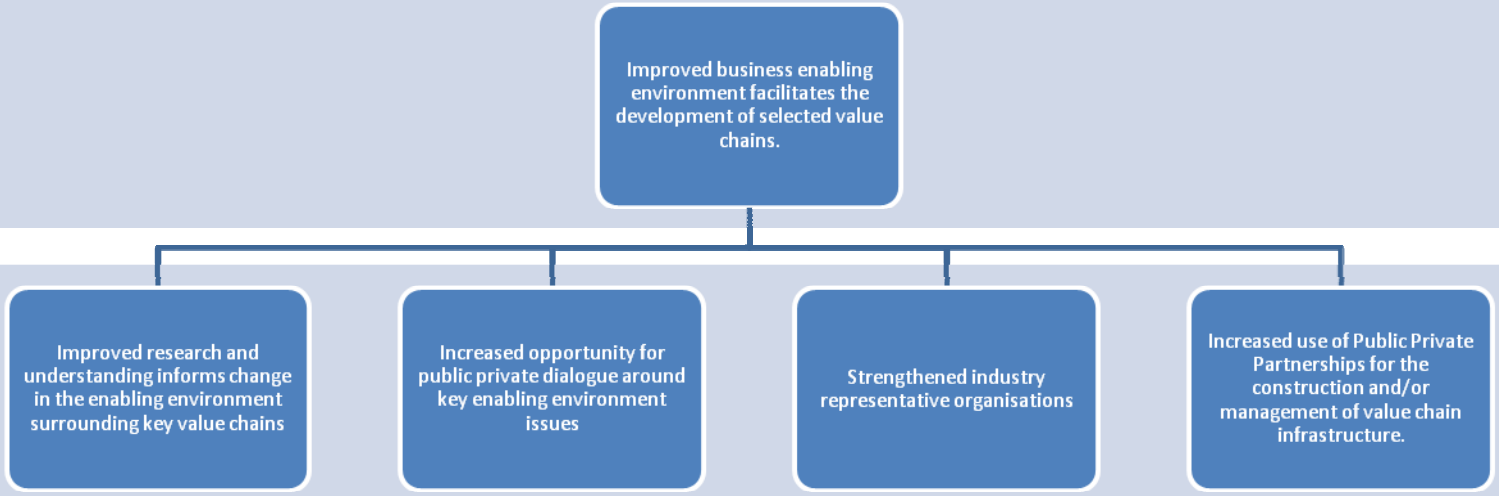
2. Water Management Outcome



3. Research and Extension Outcome



4. Business Enabling Environment Outcome



ANNEX 2: Targets Set for CAVAC

A number of key performance indicators have been proposed against which targets are to be established. Setting targets emphasises that CAVAC is expected to have a significant but achievable impact. The identification of key performance indicators will form the basis for:

1. Discussions during the program inception phase when CAVAC's Implementers will finalise the Logframe and M&E Framework, including performance indicators and targets to reflect CAVAC's operational realities. This will be done in coordination with the Sector Monitoring Group and will be approved by the NSC; and

2. Ongoing dialogue between the TL, SMG, NSC, and other program stakeholders on an annual basis (at least) to assess progress against the development targets.

If during any of these stages it is apparent that a target needs to be refined or replaced then this should happen through consensus between the Program Implementers and SMG and approval by the NSC.

The number of key performance indicators proposed at this stage has been limited and only reflect a small proportion of the total number of indicators identified in the M&E Framework. The key performance indicators have been selected because they are considered more "central" to the respective performance criteria, relatively easily to collect and ones where the potential for attribution can be managed.

The justifications presented for each target are preliminary and based on expert opinion, and will need to be investigated during the inception phase, as part of the analytical work undertaken under the direction of the TL and in coordination with the SMG, to provide a basis for developing and agreeing on targets and target values with stakeholders.

Identification of other performance indicator targets should also occur where appropriate but these should be revised and set during implementation and incorporated into the annual planning process.

Target	Justification
Goal: Reduced rural poverty in targeted provinces	
• **X% decrease in the proportion of population below the official poverty line in targeted provinces over five years.**	Reduction of rural poverty at the national level has been modest, averaging about 1% per annum over the past xx years. This target assumes that the significant five year investment by CAVAC in each target province will accelerate the current rate of reducing rural poverty.
•	
Objective: Accerelated growth in the value of agricultural production and smallholder income in the rice based farming systems of targeted provinces.	
• **A x% increase in the value of provincial agricultural production over five years**	Estimates show that the current growth rate for agriculture nationally is a disappointing 3%. This target assumes that the significant five year investment by CAVAC in each target province will increasingly improve this growth rate over time.
• **A x% increase in average income of farmers in target provinces over five years.**	Farmer incomes should increase by x% (y% higher than the logical share attributable to the increase in the value of agricultural production). This is because CAVAC interventions will be structured to deliver a higher proportion of benefits to the farmer than to other segments of the value chain. In addition, many farmers do not produce much market surplus at present thus small increases in surpluses will significantly increase incomes. The target also requires that over five years that CAVAC will have assisted value chains of sufficient significance to influence the incomes of the majority of farmers in a province.
• **A x% increase in the productivity of rice-based farming systems in selected provinces over five years.**	Increased productivity is the key element to ensure that farmers produce significant surpluses to engage with the market economy. This target assumes a conglomerate increase in productivity for the overall farming system.
• **x new product value chains incorporated into rice based farming systems in each province to improve diversity.**	CAVAC will work with a minimum of x value chains in each province each year. The VCs will change over time as interventions are completed and new VC interventions are initiated. A "new" VC can include the significant escalation of current but fledgling products. Selection of VC interventions must ensure that the intervention proposed will contribute to the x% overall production increase expected of rice based farming systems.
Component Outcome: Agribusiness Development	
• **x% of potential agribusiness participate in CAVAC over five years**	Over the five years of CAVAC it is expected that the program interventions will either directly work with or significantly influence (e.g. through training) x% of agribusinesses associated with target value chains. While CAVAC may well focus AIF assistance on selected innovative agribusiness entities, the program must ensure that this assistance is not at the detriment of other agribusinesses (the "displacement" effect). Thus training programs based on the outcome of AIF experience should be made available widely to non-AIF agribusiness.

Target	Justification
• **Farmer returns increase x% for selected commodities.**	CAVAC interventions in selected VCs are expected to deliver preferential benefits to the farmers. A x% increase in economic returns (profitability) is a significant increase in returns to farmers. This increased share (along with increased production) will significantly contribute to the proposed 50% increase in farmer incomes overall.
Component Outcome: Water Management	
• **A x% increase in the area under irrigation over five years.**	Concentrated rehabilitation and improved management of irrigation systems should deliver an increase in the total service area of current schemes of x%. This is achieved by ensuring all the potential service area is adequately supplied by rehabilitating canals and reducing water wastage in upstream service areas.
• **A x% increase in the volume of irrigated crops produced over 5 years**	The total productivity from current rice areas should increase by at least x%. This includes production from the increased service area plus the potential for increased double or even triple cropping in current service areas.
Component Outcome: Research and Extension	
• **x% of Pool A funding targets VC constraints**	This component aims to integrate with and support the initiatives identified in the rest of the program. As such the majority of Pool A funding should target and benefit strategic VCs originating in the three provinces. It is appreciated that benefits and some trial/demonstration sites may well extend beyond these provinces, however the focus should be on the target VCs. Even though Pool A will focus on the VC there is no restraint on Pool B funding.
• **Research and/or extension programs in place that support 100% of VCs identified and their associated constraints**	It is expected that every target value chain will receive additional support through some form of targeted research or extension input.
Component Outcome: Business Enabling Environment	
• **x% increase in new agribusiness units operating in key VC in target provinces**	• An effective enabling environment should induce new agribusiness to establish businesses in target provinces. This target does not mean that "more" is better. In fact it is entirely feasible that the overall number of established agribusinesses may contract under the program as innovation and quality bring some level of amalgamation. However it is targeted that x% new businesses (based on baseline levels) should be attracted/established in each province.
• **x% increase in agribusiness investment in target value chains over five years**	• Similarly an effective business enabling environment should result in greater investment by agribusiness associated with key value chains.

ANNEX 3: CAVAC Logframe

	Performance Logic	Performance Indicators	Means of Verification	Assumptions
	Goal: Reduced rural poverty in targeted provinces. **Targets attributable to CAVAC:** • X% decrease in the proportion of population below the official poverty line in targeted provinces over five years.	• Trend analysis of the poverty rates (head-count) in rural areas of Kampong Thom, Kampot, and Takeo (disaggregated by sex of household head). • Trend analysis of key household well-being indicators (e.g. housing characteristics, assets, income and consumption).	• Baseline, mid-term and end-line surveys for a sample of beneficiary[62] and non-beneficiary households • Annual national statistics, disaggregated to provincial level. • Annual provincial statistics. • Supplemented by info from VC studies	• Current political stability is maintained in target provinces. • Macro-economic stability is maintained at national level. • RGC remains committed to promoting a vibrant and competitive private sector and improving the macroeconomic environment. • National, provincial, and district authorities fully support the Program.
	Objective: Accelerated growth in the value of agricultural production and smallholder incomes in selected provinces **Targets attributable to CAVAC:** • A x% increase in the value of provincial agricultural production over five years • A x% increase in average income of farmers in target provinces over five years. • A x% increase in the productivity of rice-based farming systems in selected provinces over five years. • x new product value chains incorporated into rice based farming systems in each province to improve diversity.	• Trend analysis of the annual growth rate of provincial agricultural value for Kampong Thom, Kampot and Takeo. • Trend analysis of the annual growth rate of average farmer incomes in Kampong Thom, Kampot and Takeo (gender disaggregated). • Trend analysis of the following household indicators (disaggregated by sex of household head) for rice-based farming systems benefiting from CAVAC supported innovations and those not benefiting. Data includes: ▪ total production (total volume per commodity per annum) ▪ average yield (production per hectare per commodity) ▪ total sold (volume sold per commodity Vs household consumption) ▪ average price (return per volume) ▪ total income (annual household income) ▪ assessment of benefit from VC partnerships and linkages • Trend analysis of the overall productivity of rice based farming systems in Kampong Thom, Kampot and Takeo. Components of productivity include production, diversity of products produced, predictability/consistency of supply, quality, and efficiency. Other data to be collected will include: ▪ number of target value chains identified per province ▪ total sales revenue ▪ new investments generated ▪ assessment of VC linkages ▪ assessment of value-added components.	• Baseline, mid-term and end-line comparative studies (using provincial/ district statistical data as far as possible). • Supplemented by info from VC studies.	• That agricultural production is limited primarily by factors influenced by CAVAC interventions and that land tenure, credit access and other factors are not primary constraints. • CAVAC interventions will be significant and sufficiently impacting to influence provincial agricultural production. • Primary target groups (agribusiness, industry organizations, producer organizations and producers) are willing to become involved.

[62] A beneficiary household is one that produces one of more of the selected value chain commodities.

COMPONENT 1: AGRIBUSINESS DEVELOPMENT				
	Performance Logic	Performance Indicators	Means of Verification	Assumptions
	Intermediate Outcome: Agribusiness contributes to the strengthening of selected value chains and equitably shares benefits. **Targets attributable to CAVAC:** • x% of potential agribusiness participate in CAVAC over five years • Farmer returns increase x% for selected commodities.	• Participation rate of service suppliers and marketers in business linkages with farmers. Data includes: ▪ Percentage of total agribusiness stakeholders in each VC participating in CAVAC assistance (by number, volume, and value) ▪ Percentage of firms that have formal supply agreements with producers (by number, volume, and value). ▪ Percentage of purchases under supply agreements Vs total purchases (by number, volume, and value). • Trend analysis of participating agribusiness firms including increases in the volume and value of overall business transactions along selected VC. Data must be attributable to CAVAC innovations and includes: ▪ Sales revenue ▪ Production volumes for firms ▪ Employee numbers (gender disaggregated) ▪ Number/value of new investment. • Changes in farmer benefits derived from business linkages including (i) higher yield, increased supply, improved quality and better farmgate prices; or (ii) better access, quality, and cost-benefits of essential inputs. Data includes: ▪ Household income derived from target commodity. ▪ Average price household receives for target commodity. ▪ % farmer price of FOB export price ▪ Marketed production of target commodity Vs HH consumption (% and volume) ▪ Productivity of target commodity ▪ Availability of inputs ▪ Appropriateness of inputs ▪ Input costs • Changes in gender equity ▪ women's and men's workloads ▪ relative contribution to household income ▪ diversification in women's sources of income	• Baseline VC analysis. • Annual follow-up analyses or as defined by individual AIF activities. • Supplemented with focussed case studies of selected firms/suppliers.	• Subsectors with clear comparative advantage that are suitable for smallholder participation can be identified. • Agribusiness is interested in forming long-term partnerships/ relationships with farmers on a basis that sees equitable sharing of benefits. • Market access constraints can be successfully resolved, with farmers obtaining an equitable share of the benefits.

COMPONENT 2: WATER MANAGEMENT				
	Performance Logic	Performance Indicators	Means of Verification	Assumptions
	Intermediate Outcome: Sustainable increase in the area and yield of irrigated crops. **Targets attributable to CAVAC:** • A x% increase in the area under irrigation over five years. • A x% increase in the volume of irrigated crops produced over 5 years.	• Trend analysis of irrigation system efficiency and effectiveness for Kampong Thom, Kampot and Takeo. Data includes: ▪ Annual area serviced with adequate irrigation (Ha irrigated per province per year) ▪ Increased cropping efficiency (single Vs double cropping) ▪ production volume and production value of irrigated crops (per province per year) • Changes in the area and number of irrigation systems under participatory management agreements in Kampong Thom, Kampot and Takeo. • Changes in cost sharing arrangements between PDWRAM and FWUC for O&M.	• MOWRAM and PDWRAM scheme operating records. • FWUC meeting minutes • FWUC performance assessments.	• Communities and government agencies are sufficiently capable and resourced to establish and sustain the management of improved systems.

COMPONENT 3: RESEARCH AND EXTENSION				
	Performance Logic	Performance Indicators	Means of Verification	Assumptions
	Intermediate Outcome: Farmer and service provider capacity increased and key value chain constraints alleviated. **Targets attributable to CAVAC:** • x% of Pool A funding targets VC constraints • Research and/or extension programs in place that support x% of VCs identified and their associated constraints	• Assess impact of research and extension programs on identified VC constraints. Data includes: ▪ % of Pool A programs addressing key VC concerns ▪ % of Pool B programs addressing key VC concerns ▪ Number of VC constraints addressed ▪ % of VC with targeted research and/or extension support ▪ Personnel (number, time allocation, and qualifications) of research and extension personnel appointed to teams (gender disaggregated) ▪ Time and money resources allocated ▪ % of Pool A and Pool B receiving Satisfactory or above Quality Assessment during implementation and at completion (program specific) • Farmers trained and applying improved knowledge and skills resulting in improved productivity, market-linkages and incomes (gender disaggregated) • Demonstrated adoption of CAVAC-sponsored research outcomes by farmers (gender disaggregated)	• Research Activity Design Documents & Research Completion Reports. • Adoption surveys conducted for a sample of R&D activities that have been completed with results disseminated to extensionists and other end-users. • Adoption surveys conducted for a sample of FFSs and other extension activities supported.	• Significant opportunities exist for new production activities to be developed, and/or the productivity and profitability of existing activities to be improved. • National research institutions have the capacity and resources to perform high quality market-relevant research. • International R&D expertise can be mobilised where required. • Sufficient time is available for identified research activities to be effectively implemented. • Research efforts are effectively coordinated across various R&D organisations. • Appropriate financially viable technologies are ready for dissemination. • Farmers are willing to take the risk of adopting new technologies. • Government is willing to allow a multi-provider delivery approach involving NGO and PS providers. • Sufficient extension capacity can be mobilised, including govt and alternative providers.

COMPONENT 4: BUSINESS ENABLING ENVIRONMENT				
	Performance Logic	Performance Indicators	Means of Verification	Assumptions
	Intermediate Outcome: Improved business enabling environment facilitates the development of selected value chains **Targets attributable to CAVAC:** • x% increase in new agribusiness units operating in key VC in target provinces; • x% increase in agribusiness investment in target value chains over five years	• Trend analysis of the business enabling environment. Data includes: ▪ Cost of doing business in target VCs (registration/ licensing/ regulatory compliance costs etc). ▪ Number of new businesses involved in key value chains (include no. of employees - gender disaggregated). ▪ Amount of new investment in key value chains ▪ Number of agribusiness firms participating in policy advocacy meetings and public-private dialogues.	• Provincial Scorecards. • Minutes of PDD fora. • Case studies of selected firms.	• Government fully supports regulatory reforms aimed at facilitating development of target VCs. • Governmental roles and responsibilities in relation to business development are clearly defined and accepted. • Regulatory constraints can be successfully resolved resulting in increased commercial activity with farmers obtaining an equitable share of benefits. • Sufficient capacity exists within BDSPs to support development of agribusiness firms in target subsectors.

ANNEX 4: CAVAC Monitoring and Evaluation Framework

Program Development Objective	Baseline	Target Values					Data Collection and Reporting		
	2009	YR1	YR2	YR3	YR4	YR5	Collection and Reporting	Data Collection Instruments	Responsibility for Data Collection
GOAL: Reduced rural poverty in targeted provinces									
Trend analysis of the poverty rates (head-count) in rural areas of Kampong Thom, Kampot, and Takeo (disaggregated by sex of household head).							2009 and 2014	National CSES data disaggregated by province	
Trend analysis of key household well-being indicators (e.g. housing characteristics, assets, income and consumption).							Inception, Mid-term, Conclusion Annually	CAVAC Household Survey (quantitative) CAVAC Community Well-being Mapping (qualitative)	
OBJECTIVE: Accelerated growth in the value of agricultural production and smallholder incomes in selected provinces									
Trend analysis of the annual growth rate of provincial agricultural value for Kampong Thom, Kampot and Takeo. (Growth rate = %/annum)							Annually	National and Provincial Government Statistics	
Trend analysis of the annual growth rate of average farmer incomes in Kampong Thom, Kampot and Takeo. (gender disaggregated)							Annually	National and Provincial Government Statistics	

Program Development Objective	Baseline	Target Values					Data Collection and Reporting		
	2009	YR1	YR2	YR3	YR4	YR5	Collection and Reporting	Data Collection Instruments	Responsibility for Data Collection
Trend analysis of the following household indicators for rice-based farming systems benefiting from CAVAC supported innovations and those not benefiting. Data includes:									
• total production (total volume per commodity per annum)							Biannual		
• average yield (production per hectare per commodity							Biannual		
• total sold (volume sold per commodity versus household consumption)							Biannual		
• average price (return per volume)							Biannual		
• total income (annual household income, disaggregate by women-headed)							Biannual		
• assessment of benefit from VC partnerships and linkages Trend analysis of the overall productivity of rice based farming systems in Kampong Thom, Kampot and Takeo. Components of productivity include throughput, diversity of products produced, predictability/consistency of supply, quality, employment. Productivity of each target value chain will be assessed as well as the productivity of the overall rice-based farming system. Data includes:							Biannual Biannual	CAVAC baseline survey and VC baseline surveys.	
• number of target value chains identified per province (in which support is being provided through Component 1)							Annually		
• total production/throughput of rice based farming systems in target provinces (aggregate of all value chains)							Annually		
• total sales revenue							Biannual		
• total income							Biannual		
• new employment generated							Biannual		

Program Development Objective	Baseline	Target Values					Data Collection and Reporting		
	2009	YR1	YR2	YR3	YR4	YR5	Collection and Reporting	Data Collection Instruments	Responsibility for Data Collection
• new investments generated							Biannual		
• assessment of VC linkages (Number of formal partnership or supply agreements)							Biannual		
• assessment of value-added components.							Biannual		
INTERMEDIATE OUTCOME 1: Agribusiness contributes to the strengthening of selected value chains and equitably shares benefits									
Participation rate of service suppliers and marketers in business linkages with farmers. Data includes:									
• Percentage of total agribusiness stakeholders in each VC participating in CAVAC assistance (by number, volume, and value)							Annually		
• Percentage of firms that have formal supply agreements with producers (by number, volume, and value).							Biannual		
• Percentage of purchases under supply agreements Vs total purchases (by number, volume, and value).							Biannual		
Trend analysis of participating agribusiness firms including increases in the volume and value of overall business transactions along selected VC. Data must be attributable to CAVAC innovations and includes:									
• Sales revenue							Biannual		
• Production volumes for firms									
• Employee numbers.									
• Number/value of new investment.									
Changes in farmer benefits derived from business linkages including (i) higher yield, increased supply, improved quality and better farmgate prices; or (ii) better access, quality, and cost-benefits of essential inputs. Includes:									
• Household income derived from target commodity.									
• Average price household receives for target commodity.									
• % farmer price of FOB export price									
• Marketed production of target commodity Vs HH consumption (% and volume)									
• Productivity of target commodity									
• Availability of inputs									
• Appropriateness of inputs									
• Input costs									

Program Development Objective	Baseline	Target Values					Data Collection and Reporting		
	2009	YR1	YR2	YR3	YR4	YR5	Collection and Reporting	Data Collection Instruments	Responsibility for Data Collection
Changes in gender equity									
• women's and men's workloads; relative contribution to household income; diversification of women's sources of income									
INTERMEDIATE OUTCOME 2: Sustainable increase in the area and yield of irrigated crops.									
Trend analysis of irrigation system efficiency and effectiveness for Kampong Thom, Kampot and Takeo. Data includes:							Annually		
• Annual area serviced with adequate irrigation (Ha irrigated per province per year)							Annually		
• Increased cropping efficiency (single Vs double cropping)							Annually		
• production volume of irrigated crops (per province per year)							Annually		
• production value of irrigated crops (per province per year)									
Changes in the area and number of irrigation systems under participatory management agreements in Kampong Thom, Kampot and Takeo.							Annually		
Changes in cost sharing arrangements between PDWRAM and FWUC for O&M.							Annually		
INTERMEDIATE OUTCOME 3: Farmer and service provider capacity increased and key value chain constraints alleviated									
Assess impact of research and extension programs on identified VC constraints. Data includes:									
▪ % of Pool A programs addressing key VC concerns							Annually		
▪ % of Pool B programs addressing key VC concerns							Annually		
▪ Number of VC constraints addressed							Annually		
▪ % of VC with targeted research and/or extension support		100%	100%	100%	100%	100%			
▪ Personnel (number, time allocation, qualifications, and gender) of research and extension personnel appointed to teams									
▪ Time and money resources allocated									
Farmers trained and applying improved knowledge and skills resulting in improved productivity, market-linkages and incomes (by gender)									
Demonstrated adoption of CAVAC-sponsored research outcomes by farmers (by gender)									
INTERMEDIATE OUTOME 4: Improved business enabling environment facilitates the development of selected value chains									
Trend analysis of the business enabling environment. Data includes:									

Program Development Objective	Baseline	Target Values					Data Collection and Reporting		
	2009	YR1	YR2	YR3	YR4	YR5	Collection and Reporting	Data Collection Instruments	Responsibility for Data Collection
▪ Cost of doing business in target VCs (registration/ licensing/ regulatory compliance costs etc).									
▪ Percentage of new businesses (over baseline) involved in key value chains							Annually		
▪ Percentage increase in value of investment in key value chains							Annually		
Number of agribusiness firms participating in policy advocacy meetings and public-private dialogues.									

ANNEX 5: Risk Matrix

Agribusiness Development					
Risk Event	Potential adverse impact	Likelihood	Consequence	Overall Risk	Containment measures (risk treatment)
Suspicion, poor collaboration, and limited information limits CAVAC's capacity to analyse the VC to develop interventions.	Technically and financially feasible program opportunities cannot be identified.	3	3	2	Intensive program to manage expectations and ensure stakeholders understand that the Program is a TA facility, not an investment fund.
Failure to fully engage with the agribusiness sector and attract competent private sector partners for development initiatives.	Improved linkages between farmers and agribusiness not established; Limited improvement in value-added activity; Benefits limited to farm-level productivity enhancement benefits.	3	5	3	Active promotion of the Program and potential role and contribution of the AIF, including 'winning over' representative groups and organisations; Use of initial VC analyses to ID agribusinesses ('lead firms') that have a genuine interest in participating; Ensure initial activities and agribusinesses are sufficiently well-resourced to successfully apply the new technologies and approaches being promoted; Explain issues and negotiate carefully with partners; Execute agreements only when agreed outcomes are clearly understood; Provide regular information to build trust and confidence; Actively involve agribusiness in identifying priority market research activities; Actively involve agribusiness in extension and R&D activities; Actively involve agribusiness in PPD; Ensure that several major R&D activities directly address key industry issues and involve end-users from identification of the issue through to implementation of the solution.
Agribusiness not sufficiently motivated to form long-term relationships with farmers as a basis for VC development that sees equitable sharing of benefits.	Limited development of long-term partnerships as a basis for VC development and value-added activity.	4	4	4	Careful selection of proposals and understanding of needs; Clear negotiation and agreement of obligations of all parties from the outset; Facilitate partnerships between VC actors; providing incentives in the form of TA and additional training support where required; Exposure to successful examples elsewhere; Adopt a flexible approach so that activities can be progressively refined.
Insufficient financial incentives for stakeholders to embed technical or information services for farmers.	Potential to develop traders as an alternative approach for transferring information on improved technologies to farmers not realised.	2	3	2	Focus on traders in major inputs and outputs (eg fertiliser) where extension 'messages' are clear and there is sufficient total value involved to carry the activity; Adequate training of trainers to help develop their awareness of potential benefits and technical knowledge required; Support traders with technical materials.

Water management					
Risk Event	Potential adverse impact	Likelihood	Consequence	Overall Risk	Containment measures (risk treatment)
Communities and government agencies are insufficiently resourced to establish and sustain the management of improved systems.	Reduced crop yields and farmer incomes; Low service charge recoveries; Ineffective FWUCs.	3	4	4	The Program will only work on schemes where there is strong commitment to forming a functional FWUC; Work intensively with the FWUC to build O&M capacity; Use of performance-based incentives; No rehabilitation without functional FWUC already in place. Strong market linkages established.
Poor capacity and overly ambitious rehabilitation targets result in poor quality designs by MOWRAM and PDWRAM	Unable to complete feasibility and designs to desired standard; Schemes unable to be operate at full capacity or in a reliable and sustainable manner.	4	4	4	Work intensively with the MOWRAM engineers to build design capacity; Engage local/ regional consultants to assist with designs if required; Ensure MAFF is involved at feasibility study stage so that social/ production/ agronomic aspects of design are taken into account.
Inadequate RGC budget allocated for O&M, leading to poorly maintained irrigation schemes.	Schemes unable to be operated at full capacity or in a reliable and sustainable manner.	3	4	4	Adoption of high design and construction standards for all rehabilitation works; Investigate contribution towards cost of O&M from the CIP; Transfer of O&M responsibilities (and perhaps ownership) to the FWUCs. Ongoing policy engagement with RGC on issue.
O&M budgets misappropriated by FWUCs.	Loss of faith; Budget unavailable to support O&M.	3	3	3	Advance training and capacity-building for FWUC executive; Adoption of commune D&D financial management and oversight processes; External monitoring by the Program; Availability of future funding dependant on prior performance; Willingness to withdraw support if misappropriation occurs.

Research and Extension					
Risk Event	Potential adverse impact	Likelihood	Consequence	Overall Risk	Containment measures (risk treatment)
Research not sufficiently market-driven and focussed on the requirements of the end-user.	Failure to generate farmer and market-relevant results; Limited or no potential for productivity gains.	3	4	3	Increased and formal involvement of farmers, extensionists and agribusiness in identifying priority research needs; Adoption of a formal and thorough review process prior to approval; Utilisation of Action Research approaches such as participatory trials wherever possible; Utilisation of field days and demo's while research is in progress; Conduct of preliminary 'roll-out' activities to pilot-test promising technologies; Use of performance-based incentive systems.
Research organisations not effectively partnering with extension to identify real needs and adapt and apply results.	Research and extension services remain compartmentalised; Research results not effectively disseminated to end-users in a usable form.	3	5	3	Specify the nature and timing of dissemination activities in the research contract; Use of performance-based incentive systems; Support development of improved mechanisms for linking research and extension providers; Support development of improved dissemination materials.
Key research organisations such as CARDI insufficiently resourced to sustain rice-based farming systems research.	Failure to retain research staff and loss of long term research capacity.	4	5	4	Regular dialogue with RGC and other funding agencies re: funding policy; Input into SAW policy development activities on long-term mechanisms for funding research.
Poor cooperation between Cambodian research organisations.	Duplication of effort and inefficient use of limited research resources.	4	2	3	Promote collaborative arrangements for R&D activities with appropriate management arrangements specified.
Farmers unwilling to adopt new technologies/ approaches due to perceived risk.	Low adoption; Limited impact on farmers incomes.	3	5	3	Full involvement of farmers (and extensionists) in prioritising research needs and in the conduct of research activities; Careful demonstration of improved practices through FFSs and FMSs; Consider subsidies (preliminary 'roll-out' pilots) where technology requires additional field-testing/ proving; Development of more reliable irrigation capacity; Development of improved market linkages;
Flood or drought during program implementation	Efforts to establishment new value chains and improve productivity are hindered	3	3	3	Ensure that selected value chains and technologies to improve productivity are resilient to flood and drought and/or mitigate their impact in areas assessed to be vulnerable to these hazards.

Research and Extension					
Risk Event	Potential adverse impact	Likelihood	Consequence	Overall Risk	Containment measures (risk treatment)
Government extension services insufficiently resourced to operate effectively.	Outreach to farmers severely constrained, affecting adoption.	4	3	3	Build capacity of MAFF and other extension providers to compete in the market; Direct contracting of multiple extension providers (govt as well as NGOs, private sector) on a fee-for-service basis; Build capacity of Commune Councils and farmer organisations to source and fund extension providers; Develop an enhanced role for traders and mass media in providing farmers with information; Provide support for development of improved extension materials.
Agribusiness and NGO groups have limited interest or capacity in participating directly in extension activities.	Opportunity to get a grass-roots market-orientation into extension activities is lost.	2	3	2	Structure the involvement around the Farmer Marketing Schools; Establish the FMSs around clear commercial activities where the trader/ agribusiness has a vested interest in establishing an improved relationship with suppliers; Ensure that commercial activity flows from this exposure as rapidly as possible; Be prepared to subsidise initial contacts if necessary.
Activities are skewed to male needs and preferences.	Limited relevance to and adoption by women as a key target group.	4	4	3	Selection of a balance of male and female extension workers (covering both professional and village extension workers); Separate assessment of men's and women's training needs; Preferential selection of women participants for extension/ training activities; Inclusion of women in all key management and decision-making structures;

Business Enabling Environment					
Risk Event	Potential adverse impact	Likelihood	Consequence	Overall Risk	Containment measures (risk treatment)
'Subjective' interpretation and enforcement of policy and regulations leading to corrupt and anti-competitive market behaviour.	Confidence of the private sector to invest in VC improvements severely undermined.	4	4	4	Active dissemination of information on policies, laws and regulations; Establishment of PPD mechanisms; Align with major govt policy initiatives (e.g. SAW) to the maximum extent possible; Contribute to the reform process through the proposed AusAID-funded Agriculture & Water Policy Facility; On-going monitoring and reporting by the PMO.
Government unwilling to act on outcome of PPD to address key BEE issues; or on recommendations arising from policy studies and trials designed to underpin development of target VCs.	Chance for reform is lost; Growth potential of target subsectors constrained.	3	4	3	Exposure of govt officials to the role (and results) of PPD in other countries to reduce the 'threat factor'; Policy analysis to indicate 'what-if' scenarios to govt relating to nuisance taxes, export levies etc; Involve key govt decision-makers in all policy studies and trials; Cautious approach to change, working with reform-minded individuals; Narrow the agenda to ensure that some early 'wins' are gained – for govt as well as the private sector. Use of mass media to actively publicise the process; Align with major govt policy initiatives (e.g. SAW) to the maximum extent possible; Monitoring of progress of policy recommendations through government.
Insufficient interest from industry in developing or supporting business associations/ advocacy agents.	Poor communication from industry to government on their needs; Limited industry capacity for self-organisation and self-development.	3	2	3	Focus on the most progressive and non-political examples, and get them up and going as demonstrations of the potential role of industry associations; Develop a real advocacy role (eg through PPD), and therefore vested interest in supporting. Expose key decision-makers to the role of industry organisations in other countries.
Implementation of CAVAC becomes disconnected from ongoing evolution of the SAW	Disconnect occurs between govt policy and CAVAC, and opportunities to influence the SAW framework and scale-up and sustain the benefits of CAVAC are lost.	2	4	3	Ongoing engagement with MAFF and MOWRAM to monitor development of and alignment with the SAW; Adoption of a flexible programmatic approach; Use of the Policy Support Facility to support further development of the SAW.

Management Risks					
Risk Event	Potential adverse impact	Likelihood	Consequence	Overall Risk	Containment measures (risk treatment)
Effective working relationship not established between the OC and ACIAR.	Disconnect between C3 and the rest of the program, leading to suboptimal implementation results.	2	5	3	Co-location of OC and ACIAR personnel in the same offices; Clearly specified communication and coordination protocols; Appropriate oversight from the Post, ACIAR and the TL; Appropriate delegation of authority from the TL and ACIAR to the snr OC and ACIAR personnel on-site; External scrutiny by the SMG.
Suboptimal coordination achieved across Program components.	Reduced synergies and impact.	2	5	3	Expected component linkages clearly defined; Clearly specified communication and coordination protocols; External scrutiny by the SMG.
Temptation to attempt too much and spread resources too thinly.	Thinly spread resources will lead to loss of visibility and interest of Program activities.	2	5	4	Focus on core VCs and provinces; Tight selection of criteria for activities funded under the AIF; Tight linkage of component activities.
Failure to achieve sufficient buy-in from local government (Province, district and commune).	Government support not available for farmer extension and irrigation development activities; and limited opportunity to develop PPD and address BEE issues.	1	5	3	Establishment of Provincial Coordination Offices and Provincial Coordinating Committees in all target provinces; Maximum orientation of activities to provincial and sub-provincial levels; Full involvement of local government in planning, implementing and monitoring activities.

ANNEX 6: Outline Terms of Reference for Key Management Structures/Positions

CAVAC National Steering Committee (NSC)

The NSC is the overall management body for CAVAC which will provide high-level oversight, coordination and guidance. The role of the NSC is to ensure that the program as a whole is in conformity with RGC policies, and that inputs, outputs and outcomes of the program are coordinated and complementary.

The functions of the NSC include, but are not necessarily limited to:

1. Review of the structure, function and performance of the Program.
2. Review of the consolidated progress reports prepared by the TL, which will be outcome-oriented and highlight any significant issues impacting the Program.
3. Review and endorsement of annual work plans and budgets prepared by the TL.
4. Review and endorsement of Program Targets established by the Program Implementers in cooperation with the SMG.
5. Ensuring balance and linkages between components and with other programs.
6. Mobilisation and coordination of resources provided by RGC.
7. Ensuring that CAVAC remains aligned with key RGC policy frameworks including SAW.
8. Provision of advice on policy issues encountered during implementation.
9. Provision of advice on support to be provided through the policy facility.
10. Identification of opportunities to improve integration with RGC systems (where appropriate) as these systems evolve.
11. Facilitating and deciding on actions to be taken in response to reviews of the Program, including the MTR.
12. Provision of advice on the addition of new value chains and provinces to the program.
13. Co-option of members, invitation of observers and formation of sub-committees as appropriate.

The NSC will be co-chaired by MAFF and MOWRAM and meet at least twice yearly, more often if required. The Co-Chair from MOWRAM will primarily be responsible for matters related to water management and irrigation; while the Co-Chair from MAFF will primarily be responsible for all other agricultural matters. The TL and DTL will attend and arrange secretariat support for the NSC and its Executive Group.

Membership of the NSC will be limited and include RGC representatives drawn from MAFF, MOWRAM, the provincial governments of CAVAC's operational areas (initially, Kampong Thom, Kampot, Takeo) and AusAID. ACIAR will participate as an observer to the NSC. Other representatives from RGC (including the Ministry of Commerce, Supreme National Economic Council, Ministry of Women's Affairs) and from the private sector (including the G-PSF, ACLEDA Bank and the Rice Millers Federation) may be invited to attend meetings. In addition, the NSC may invite representatives from other External Development Partners and/or their

implementation agencies for the purpose of facilitating cooperation and integration. The final nomination of other representatives will be determined after the NSC has been established and AusAID, MAFF and MOWRAM have adequate time to consider the issues. On matters associated with annual planning and budget approval AusAID together with MAFF and MOWRAM will have ultimate executive authority.

An NSC Executive Group consisting of the two Co-Chairs and AusAID may meet more frequently as required.

Provincial Coordinating Committees

Provincial Coordinating Committees will provide substantive coordination of activities among components and with other programs. This will assist in aligning the Program with the RGC's decentralization policy.

At the provincial level, each Governor will be invited to designate an existing committee to coordinate the Program's activities and provide advice on implementation issues. Coordination arrangements at the provincial level may, however, vary between the provinces. The TL will conduct further dialogue with the provincial governors before finalizing these arrangements during the Inception Phase.

One option is to use the Provincial Development Committee (PDC), which is chaired by the Governor. Under this option, CAVAC issues would be added as a regular item on the PDC's agenda. It is proposed to invite an appropriate member of the CAVAC team as well as other key representatives from the provincial government and private sector to participate in the parts of the meetings that discuss CAVAC issues. Alternatively, a sub-committee may be used, which could also include representatives of other relevant programs operating in the province. Flexibility will be maintained in deciding how often to convene such meetings, though they are unlikely to be required more than four times per year. Items to be addressed by the PCCs will include:

1. General implementation issues with a focus on program outcomes
2. Annual work program
3. Inputs from provincial government departments
4. Selection of schemes under Component 2 for rehabilitation and continued O&M support
5. Balance, linkages and integration between components
6. Compatibility with provincial development plans
7. Linkages with the private sector
8. Linkage to other relevant programs operating in the province

The CAVAC Provincial TL will act as Secretariat for the PCC, while senior members of the CAVAC national management team will usually participate in the meetings.

CAVAC Team Leader

Title: Team Leader (international) – full-time

Term: 5 years

Location: Based in Phnom Penh, but requiring travel within Cambodia as required by the Program.

Purpose: The Team Leader (TL) will provide CAVAC with strategic oversight, integrative leadership and efficient management to ensure that CAVAC's component activities achieve the Program objective and goal. In addition, the TL will have a particular focus on managing the central Agribusiness Component in tandem with the Component Manager/Specialist and the Business Enabling Environment Component in coordination with the Deputy Team Leader.

Reporting: The TL reports contractually to the delegated A-Based Officer at AusAID's Post in Phnom Penh and operationally to the NSC.

Responsibilities:

In relation to strategic oversight, the TL will bring to bear knowledge, expertise, understanding and experience of value chain, agribusiness and rural development to the CAVAC program; including in relation to:

- appropriate problem analysis and suggestions of interventions with clients and service providers;
- oversight of the dynamics of field activities;
- feedback on the development process and suggestions for improvements;
- insightful reporting and communication of CAVAC's achievements; and
- official relations with AusAID and the RGC.

In relation to integrative leadership, the TL will:

- lead discussion during CAVAC management team meetings and represent CAVAC in other meetings and workshops;
- maintain consensus within the multi-disciplinary team on the tasks and promote understanding of the circumstances of key actors in the target value chains; and
- intervene in areas of ambiguity in order to move the team's efforts constructively towards achievement of the objective and goal.

In relation to efficient management, the TL will ensure that:

- deadlines are set and met;
- team members and support staff focus on outcomes;
- day-to-day work and field trips are undertaken in a cost-effective manner, making the best use of program resources; and
- CAVAC activities are properly documented and reported to interested parties.

Competencies and Experience:

- strong experience in policy formulation, program management, leadership / people management;
- excellent skills in effective communication and coordination, presentation, facilitation, public relations and negotiations;
- experience at sector policy level as well as at individual business enterprise levels; and
- strong track record in value chain development and related issues.

CAVAC Deputy Team Leader

Title: Deputy Team Leader (national) – full-time

Term: 5 years

Location: Based in Phnom Penh, but requiring travel within Cambodia as required by the Program.

Purpose: The DTL will be responsible for assisting the TL in strategic management of the program, integration of components through the intermediation of provincial offices and oversight of program staff (long-term and short-term) to ensure that the outputs and outcomes of the Program's components are achieved.

Reporting: The Deputy Team Leader reports to the TL.

Responsibilities:

- Work closely and under the direction of the TL to ensure the effective implementation of Program activities in the target provinces and in particular to provide technical inputs to Components 1 (Agribusiness) and 4 (Business Enabling Environment);
- Assist in initial reviews of proposals to make sure that they comply with CAVAC guidelines and are technically and financially sound and feasible;
- Oversee and mentor provincial team leaders in CAVAC target provinces and provide them with strategic direction, managerial and technical inputs;
- Monitor the implementation of component activities in CAVAC target provinces;
- Review monthly summary reports, progress reports and annual work plans from provincial officers before submitting to the TL;
- Evaluate the performance of provincial coordinators and other provincial staff;
- Facilitate CAVAC coordination of the four components and with other programs;
- Assist in overseeing program planning and reporting, finance and physical asset management, human resource management; and
- Maintain a strong relationship with partners and stakeholders.

Competencies and Experience:

- extensive experience in managing, planning and implementing programs and programs for international donors, governmental and private organisations and NGOs;
- a formal qualification in management or related field with extensive experience in agricultural policy and agribusiness development;
- significant experience in managing and leading multi-disciplinary teams and the capacity to mentor staff;
- relevant knowledge of RGC development strategies and policies on agriculture, water, environment, gender and HIV/AIDS;
- excellent communication skills (written and oral) in English and Khmer; and
- significant experience in human resource development and monitoring and evaluation.

Operational Contractor General Manager

Title: Operational Contractor General Manager (GM) (international) – full-time

Term: 5 years

Location: Based in Phnom Penh, but requiring travel within Cambodia as required by the Program.

Purpose: The GM, under the direction of the Team Leader (TL), will provide CAVAC with overall coordination of the administrative, logistical, financial management, procurement and human resource management functions necessary for the implementation of the program. The GM will ensure coherent coordination of all OC operational support activities with the TL. In addition, s/he will represent the OC on contractual matters.

Reporting: The GM reports contractually through the OC Head Office to the delegated A-Based Officer at AusAID's Post in Phnom Penh. On day to day Program matters, the GM reports to the TL and operates under the TL's direction.

Responsibilities:
The GM will be responsible for providing effective and efficient operational support to CAVAC in terms of administration/logistics, financial management, procurement and human resource management. The GM will:

Representation
- Represent the OC in contractual meetings with AusAID;

Administration/Logistics
- Establish and support program offices and manage administrative/logistical support team.
- Ensure provision of high quality administrative support and secretariat services to NSC meetings, Executive Group meetings, CAVAC team and management meetings and other program related meetings;
- Ensure that the provision of all transport, accommodation, security, and logistical support to Program personnel is in accordance with the Management Procedures Manual;
- Finalise all OC reporting to the Team Leader on administration/logistics, financial management, procurement and human resource management, ensuring that draft reports are in accordance with professional standards and other requirements prescribed in the Management Procedures Manual;

Financial Management
- Manage Finance Officer;
- Ensure that CAVAC's operational activities are undertaken in a cost-effective manner, making best use of program resources;
- Develop, manage and monitor budgets;

- Manage the day to day financial process for program activities and operations, applying consistency in accounting policy and procedures in accordance with international accounting standards;
- Monitor the accuracy and use of activity and financial management systems within the program and follow up any discrepancies;
- Manage the program imprest account payments and acquittals;
- Prepare invoices;
- Maintain accurate financial records;
- Prepare financial reports, including variance reports, for the Team Leader;
- Provide advice to the Team Leader on financial management issues and provide other financial management support functions as required;
- Ensure that activity financial management, including budget management, estimates of expenditure, acquittal and invoicing processes are timely, accurate and of high standard;

Procurement

- Work with the Procurement Manager to ensure the OC procurement system is clear, comprehensive and consistent with Commonwealth Procurement Guidelines;
- Oversee the procurement of goods, services and works;

Human Resource Management

- Facilitate the engagement of CAVAC Component Managers and Specialists and short-term Program personnel;
- Under the direction of the Team Leader, supervise the OC team, ensure that all Program personnel are supported in accordance with their Contracts and enforce accountability and code of ethics;
- Ensure all personnel are conversant with the updated Security Plan; and
- Deploy and manage sub-contractors as directed by Team Leader.

Competencies and Experience:

Essential

- Strong qualifications and experience in administrative, logistical, financial management, procurement, human resource management and program management functions, preferably in a developing country context;
- Excellent skills in effective leadership, communication and coordination, including in cross-cultural environments;
- Excellent organisation, planning and decision making skills;
- Experience in coordinating the development of official procedures and reports, using a consultative and analytical approach;
- A high degree of personal initiative, and ability to work under pressure to meet deadlines;
- High level of knowledge of Microsoft Office, in particular spreadsheet applications.

Desirable

- Program management experience in Cambodia or the Mekong region.
- Experience working in counterpart government led aid modalities.

Procurement Manager

Title: Procurement Manager (international) – full-time

Term: 5 years

Location: Based in Phnom Penh, but requiring travel within Cambodia as required by the Program.

Purpose: The Procurement Manager will ensure sound financial and project management processes are implemented and high quality administrative and logistical support is provided.

Reporting: The Procurement Manager reports to the CAVAC Team Leader through the Operational Contractor General Manager.

Background to Procurement within CAVAC:
With two possible minor areas of exception all procurement under the Program will be undertaken by the Operational Contractor (OC), and will be managed and led by the Procurement Manager.

The precise scope and extent of the procurement to be undertaken within the Program is yet to be defined. This definition, together with a related Procurement Plan, will be undertaken during the early stages of program implementation and will require the close involvement of the Procurement Manager.

In the meantime, it is envisaged that the total procurement spend will be in the region of AUD 10.5 million over the duration of the Program.

A very approximate breakdown of this anticipated procurement spend is as follows:

Object of Procurement	Type of Procurement Envisaged	Expected Value of Procurement (AUD)
Rehabilitation of irrigation schemes, including preparation of feasibility studies, detailed designs, construction works and related supervision.	Works and services	7,000,000
Operation and maintenance of irrigation schemes, including repairs and minor upgrading works.	Works and Services	2,500,000
Improved market-related infrastructure, including preparation of feasibility studies and detailed technical designs, and construction or upgrading of a limited number of public marketplaces and wholesale hubs in target provinces.	Works and Services	1,000,000

The two possible categories of exceptions to the responsibility of the OC for carrying out all CAVAC procurement are:

Category 1: Procurement directly associated with the research and extension undertaken under Component 3, which will be carried out by the Australian Centre for International Agricultural Research (ACIAR).

Category 2: Small scale direct procurement which might be carried out by Program stakeholders. This could, for example, involve the provision of cash grant funding to water user groups to carry out maintenance activities.

In Category 1, only procurement directly related to the research and extension undertaken under Component 3 will be handled by the ACIAR. Any other procurement that is not directly related to these activities will be the responsibility of the OC, and thus the Procurement Manager.

The Procurement Manager also will be responsible for ensuring that all procurement carried out in Category 2 is fully compliant with the principles of the Australian Commonwealth Procurement Guidelines (CPGs). S/he is further responsible for devising the optimum methods of achieving this. It could involve, for example, the OC procuring maintenance materials and handing these over to the water user groups and/or supervising the procurement processes utilised by such groups, as well as conducting post-procurement audit reviews. Other options may also be possible.

The systems, procedures and practices followed in executing all procurement work that is the responsibility of the OC also must be fully compliant with the principles of the CPGs.

Exceptions to the CPGs compliance requirements above are:

Sections 4.1, 4.3 and 4.4 of the CPGs cover the need for procurement, and especially bid evaluation, to be undertaken on a whole-of-life costing basis. Under the CAVAC Program this requirement need only be complied with in the case of very high value procurements, particularly where these are of a complex nature. It is not applicable for other procurement that does not fall into the very high value/complex category. If the Procurement Manager is in any doubt whether any specific procurement falls into the very high value/complex category s/he should seek clarification from AusAID.

Section 5.6 of the CPGs states a commitment to source at least 10 per cent of purchases by value from SMEs. This is not applicable to procurement under the CAVAC Program.

There is a potential serious conflict of interest risk of contracts being awarded to companies that either have been established by or have other links with PDOWRAM, MOWRAM, MoI and/or D&D agencies and/or employees. The Procurement Manager is required to ensure that no such instances take place.

Responsibilities:
Essential:

- Prepare a comprehensive Procurement Manual detailing the systems, methods, procedures and practices to be followed in executing all CAVAC procurement. The manual will include standard templates for:
  - Prequalification and tender advertisement notices

  - Shortlisting reports
  - Bidding invitation documents for goods, works and services
  - Bid evaluation reports
  - Contracts for goods, works and services, including Conditions of Contract and all appropriate annexes
  - Certificates of provisional and final acceptance
- Support the Team Leader and other CAVAC personnel and counterparts in defining as early as possible in the Program the specific procurements to be undertaken, including the methods of procurement to be used and the timetable to be followed.
- Derived from the foregoing, prepare as early as possible in the Program a detailed Procurement Plan. Update this not less than every 6 months.
- Carry out all Program procurement for which the OC is responsible, fully in accordance with the Procurement Manual and the principles of the CPGs. This responsibility includes ensuring that any procurement undertaken by stakeholders (eg farmer water user groups) also is CPGs compliant.
- Ensure, as an essential element of implementing CPGs-compliant procurement, that conflict of interest situations (such as contracts being awarded to companies that either have been established by or have other links with PDOWRAM, MOWRAM, MoI and/or D&D agencies and/or employees) are avoided.

Capacity Building
Although, with the exception of the elements mentioned above, all Program procurement is the responsibility of the Operational Contractor, the Procurement Manager should be aware of AusAID's interest in assisting the Royal Government of Cambodia in building the procurement capacity of its public sector institutions. In his/her interaction with counterpart agencies and staff, therefore, the Procurement Manager will seek every opportunity to assist in this process. Areas of possible involvement in this regard could include, but are not necessarily limited to:

- Advising AusAID on existing capability and capacity within the various agencies, at both institutional and staff level.
- Further advising AusAID on possible new, additional initiatives that could strengthen and develop the capacity of such agencies and staff.
- Mentoring individual Cambodian agency staff in the procurement area, with a view to expanding their experience, knowledge and understanding of the subject.
- Subject to the prior approval of AusAID (especially of the relevant costs involved) devising and conducting formal training courses for counterpart staff.

It is not expected that such mentoring and training will focus on procurement in relation to the requirements of the CPGs. Instead, it should concentrate on general procurement principles, with an emphasis on international best practice.

Reports:
The Procurement Manager will provide written reports to the Team Leader as follows:

Monthly Reports to include, but not necessarily be limited to:

- Details of all procurement activities undertaken during the month.

- Progress against the Procurement Plan, including the status of all specific procurements. This will include details of the values of these procurements, broken down into goods, works and services categories, and the methods of procurement being used.
- Details of where any variations to the Procurement Plan have occurred. In any such cases justifications for these will be provided and/or proposals for rectifying them to place the Procurement Plan back into schedule.
- Details of all procurements not undertaken via fully open and competitive tender processes, together with justifications for the alternative methods employed.
- Details of any difficulties or impediments to effective procurement implementation experienced during with month, as well as of the actions taken to surmount these. In the event of there being any unresolved difficulties or impediments, the report will include recommendations for resolving these without further delay.

Six-monthly Reports
In addition to providing a 6-monthly summary of the information provided through the reporting period's monthly reports these will include, but not necessarily be limited to:
- An updated Procurement Plan.
- Any new procurement issues that require to be brought to the attention of AusAID.

Final Report
The Final Report shall be prepared one month prior to the completion of the CAVAC Program and submitted to AusAID, via the Team Leader. This will include, inter alia:
- Full details of all the procurements undertaken, broken down into broken down into goods, works and services categories and the methods of procurement used.
- Details of areas where the Program's procurement outcomes may not have been achieved fully and/or successfully, together with the reasons for this.
- Factors contributing to, and detracting from, the achievement of the Program's procurement objectives.
- Any outstanding areas that may require further work or assistance.
- Lessons learned that should be applied in future programs.

Competencies and Experience:
Essential
- Not less than 10 years international experience at senior level in implementing complex, high value programs of procurement of goods, works and services in developing countries.
- Procurement as his/her sole (or if not sole, overwhelmingly major) area of skills and expertise. It is not acceptable for the Procurement Manager to have an alternative discipline (eg Financial Management, Accounts, Budgeting, etc) as his/her principal area of specialisation, with Procurement comprising a secondary skill.
- A demonstrable ability to absorb a comprehensive understanding of the requirements of conducting procurement in accordance with the CPGs within two weeks of taking up position, and of being able to implement fully these requirements throughout the Program.
- Demonstrable experience of developing procurement policy and procedural guidelines, as well as of training, capacity building and mentoring of others.

- Good working knowledge of word processing, spread sheets and presentation software (eg MS Word, Excel, PowerPoint or similar).
- Excellent oral, written and interpersonal communication skills, including the ability to work successfully in cross-cultural teams and environments.

Desirable

- An academic or professional qualification in procurement.
- Previous work experience in Cambodia or the Mekong Region.

ANNEX 7: CAVAC Responsibility Matrix

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
Contract Management	The TL will advise AusAID regarding contract management issues related to the delivery of goods and services through the Operating Contractor SoS and the ACIAR RoU Schedule.	The OC will manage contracts with entities sub-contracted by the OC to supply goods and services related to the OC's Scope of Services. The OC will nominate a General Manager to coordinate OC activities and represent the OC on contractual matters.	ACIAR will manage contracts with entities sub-contracted by ACIAR to supply services related to the ACIAR MoU Schedule.	As required, the RGC will advise AusAID on contract management issues through the National Steering Committee, which be co-chaired by MAFF and MOWRAM and will meet at least six monthly.	AusAID will delegate an A-based officer to oversee all aspects of CAVAC contract management, including contracts with the TL and OC and the RoU Schedule with ACIAR. This officer will also manage contracts with individuals on the SMG and the ARD Advisor. The delegated A-based officer at Post will ensure that the TL, OC and ACIAR deliver their Scope of Services and Schedule to an acceptable quality, considering advice from the TL, the AusAID ARD Advisor and the SMG.

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
Performance Management	The TL will assess the management performance of the OC and ACIAR and report on this in the six-monthly progress reports or monthly exception reports if required. The TL will manage the performance of OC and ACIAR program staff on a day-to-day basis and advise the OC, ACIAR and AusAID of any major performance management issues. In cases of dispute, the TL (reporting to the NSC) will have authority in relation to the selection and performance management of all project personnel, whether they are engaged by the OC or ACIAR or seconded from the RGC.	The OC will support and manage the performance of its program personnel, responding to advice from the TL.	ACIAR will support and manage the performance of its program personnel, responding to advice from the TL.	RGC will manage the performance of its personnel seconded to the program, responding to advice from the TL.	AusAID will manage the performance of the TL, considering advice from the AusAID ARD Advisor and the SMG. AusAID will conduct an annual performance assessment of both the TL and OC. AusAID will manage the performance of the AusAID ARD Advisor and the SMG.

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
Reporting	The TL will report operationally to the National Steering Committee.	The OC and its personnel will report operationally to the TL.	ACIAR and its personnel will report operationally to the TL.		
	The TL is responsible for finalising the inception report, annual workplans, six-monthly progress and financial reports, monthly exception reports, technical reports and the program completion report, with support from the OC and ACIAR as required.	The OC will provide the TL with inputs to the inception report, annual workplans, six- monthly progress and financial reports, monthly exception reports, technical reports and a program completion report.	ACIAR will provide the TL with inputs related to the Research and Extension Component for the inception report, annual workplans, six monthly progress and financial reports, monthly exception reports, technical reports and a program completion report.	The RGC representatives on the National Steering Committee will consider reporting provided by the TL and provide guidance/approval as necessary.	The AusAID representative on the National Steering Committee will consider reporting provided by the TL and provide guidance/approval as necessary.
	The TL will coordinate regular internal planning and review meetings involving Program staff from all components and levels.	All OC program staff will participate in regular internal planning and review meetings and provide secretariat support to these meetings, including the production of minutes.	All ACIAR program staff will participate in regular internal planning and review meetings.		

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
Procurement	The TL will approve detailed specifications regarding required goods and services provided by the OC and ACIAR through the annual planning process. The TL will verify that all procurement is conducted in accordance with Australian Commonwealth Procurement Guidelines, Cambodian Law and the recommendations made by the Procurement Assessment.	The OC will provide detailed specifications regarding required goods and services to the TL for approval through the annual planning process. The OC will manage the procurement of goods and services in accordance with Australian Commonwealth Procurement Guidelines, Cambodian Law and the recommendations made by the Procurement Assessment.	ACIAR will provide detailed specifications regarding required goods and services for the management of the Research and Extension Component (e.g. office facilities, computers, mobile phones, vehicles) to the TL for approval through the annual planning process. ACIAR will manage the procurement of goods and services related to the implementation of Research and Extension Component in accordance with Australian Commonwealth Procurement Guidelines and Cambodian Law.	The RGC representatives on the National Steering Committee and the CAVAC focal points will provide advice on procurement processes, particularly where RGC systems are utilised. They will collaborate with the personnel conducting the Procurement Assessment, briefing them and providing them with additional information as required.	In cases where the use of RGC procurement systems is being considered, AusAID will commission a detailed assessment of Partner Procurement Capability and Capacity and Associated Procurement Risk (Procurement Assessment) prior to final agreement on the use of these systems. If the Procurement Assessment determines that the use of RGC procurement systems is feasible, then final approval to utilise these systems will be sought from Minister Counsellor, Mekong Program and ADG, Operations Policy and Support Branch.

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
Logistical Support	The TL will approve requests for logistical support through the annual planning process and verify the adequacy of the logistical support provided by the OC.	The OC will provide logistical support to the entire Program, including the Research and Extension Component managed by ACIAR, in accordance with the requirements specified in the approved annual work plan.	ACIAR will consult with the OC on its logistical support requirements related to the management of the Research and Extension Component.	RGC will consult with the OC on logistical support requirements for the PMO and PCC and NSC.	AusAID will consult with the OC on logistical support requirements for the SMG.
		The OC will procure and maintain adequate office facilities, computers, mobile phones and vehicles for the use of all Program personnel (including those working on the Research and Extension Component).			
		The OC will provide general administrative support (e.g. assistance with travel arrangements) to all Program personnel, including those working on the Research and Extension Component.			

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
		The OC will recruit, contract and pay all International and National personnel working on the Agribusiness Development, Water Management and Business Enabling Environment Components and provide finance, procurement, administrative support to the Program. They will collaborate with ACIAR to ensure that all national staff working on the Program are contracted under similar terms and conditions.	ACIAR will recruit, contract and pay all International and National personnel working on the Research and Extension Component. They will collaborate with the OC to ensure that all national staff working on the Program are contracted under similar terms and conditions.		

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
		The OC will manage the administrative and financial arrangements (including disbursements) for the smaller, non-program defined research programs (pool A).	ACIAR will manage administrative and financial arrangements (including disbursements) for the larger, program defined research programs (pool B) from ACIAR Head Office in Canberra. The administrative costs of this will be borne by ACIAR as part of its contribution to CAVAC.		
		The OC will ensure that the PMO and PCC offices have adequate logistical support capacity.			
		The OC will provide logistical support to the National Steering Committee and the Sector Monitoring Group as required and specified in the annual work plan.			
		As directed by AusAID, the OC will manage the Policy Support Facility.			

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
Policy Advice	The TL will provide regular advice to AusAID and the RGC regarding relevant policy issues that impact CAVAC's implementation and progress. The TL will report to the National Steering Committee regarding these policy issues through the six monthly progress report.	The OC will provide ongoing advice to the TL regarding relevant policy matters that impact CAVAC's implementation and progress.	ACIAR will provide ongoing advice to the TL regarding relevant policy matters that impact on the Research and Extension Component's implementation and progress.	The RGC representatives on the National Steering Committee will consider relevant policy issues impacting on CAVAC's implementation and progress in a collaborative manner. Urgent policy issues impacting on CAVAC's implementation and progress will be considered collaboratively by the RGC representatives in the NSC Executive Group. Broader policy issues impacting government and development partner progress in the agriculture and water sector will be addressed through the Technical Working Group for Agriculture and Water. It is expected that the Co-Chairs of the National Steering Committee will also be the Co-	The AusAID ARD Advisor and SMG will provide ongoing advice to AusAID and the RGC regarding relevant policy issues that impact CAVAC's implementation and progress in a collaborative manner. The AusAID representative on the National Steering Committee will consider relevant policy issues impacting on CAVAC's implementation and progress. Urgent policy issues impacting on CAVAC's implementation and progress will be considered collaboratively by the AusAID representative in the NSC Executive Group. Broader policy issues impacting government and development partner progress in the

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
				Chairs of the Technical Working Group for Agriculture and Water.	agriculture and water sector will be addressed through the Technical Working Group for Agriculture and Water. It is expected that the AusAID representative on the National Steering Committee will also be the AusAID representative in the Technical Working Group for Agriculture and Water.
Policy Representation	As delegated by AusAID, the Team Leader will have the authority to represent AusAID and its contractors in policy matters.				Unless delegated to the TL, AusAID will represent itself in policy matters.
Monitoring and Evaluation	The TL, with the assistance of the Monitoring and Evaluation Manager and Specialist, will oversee and coordinate the development and implementation of a CAVAC M&E Framework (to be	The OC will ensure that high quality input is provided to the TL by the Monitoring and Evaluation Manager and Specialist and the Agribusiness Development and Water Management Component Managers for the development	ACIAR will ensure that high quality input is provided by the Research and Extension Component Manager to the Monitoring and Evaluation Manager and Specialist and the TL for the development and implementation of	The RGC representatives on the National Steering Committee will review and approve the CAVAC M&E Framework (to be included in the Inception Report), Annual Quality Assurance Audit,	The AusAID representative on the National Steering Committee will review and approve the CAVAC M&E Framework (to be included in the Inception Report), Annual Quality Assurance Audit,

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
	included in the Inception Report), Annual Quality Assurance Audit, Annual Workplans, Six-Monthly Progress Reports.	and implementation of the CAVAC M&E Framework (to be included in the Inception Report), Annual Quality Assurance Audit, Annual Workplans and Six-Monthly Progress Reports.	the CAVAC M&E Framework (to be included in the Inception Report), Annual Quality Assurance Audit, Annual Workplans and Six-Monthly Progress Reports.	Annual Workplans and Six-Monthly Progress Reports.	Annual Workplans and Six-Monthly Progress Reports.
	The TL will be responsible for ensuring that the CAVAC M&E Framework is aligned and integrated with the M&E processes developed for the SAW.	The Monitoring and Evaluation Manager and Specialist will assist the TL in ensuring that the CAVAC M&E Framework is aligned and integrated with the M&E processes developed for the SAW.		The RGC focal points for CAVAC will support the Program Implementers in ongoing assessment of the alignment and integration of CAVAC's M&E framework with the M&E processes developed for the SAW.	
	The TL will collaborate with the Sector Monitoring Group, briefing them and providing them with additional information as required.	The OC will collaborate with the Sector Monitoring Group, briefing them and providing them with additional information as required.	ACIAR will collaborate with the Sector Monitoring Group, briefing them and providing them with additional information as required.	The RGC representatives on the National Steering Committee and the RGC focal points for CAVAC will collaborate with the Sector Monitoring Group, briefing them and providing them with additional information as required.	AusAID will establish the Sector Monitoring Group to provide independent performance monitoring and strategic advice to AusAID on CAVAC and AusAID's broader support to agriculture and rural development in Cambodia. AusAID

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
					will mobilise the SMG on a periodic basis (approximately six monthly) each year. AusAID will collaborate with the Sector Monitoring Group, briefing them and providing them with additional information as required. The SMG will report to AusAID and the NSC who will consider the SMG's recommendations and direct the TL accordingly.
	The TL will collaborate with the Independent Review Team for the Mid-Term Review and Independent Completion Report, briefing them and providing them with additional information as required.	The OC will collaborate with the Independent Review Team for the Mid-Term Review and Independent Completion Report, briefing them and providing them with additional information as required.	ACIAR will collaborate with the Independent Review Team for the Mid-Term Review and Independent Completion Report, briefing them and providing them with additional information as required.	The RGC representatives on the National Steering Committee and the RGC focal points for CAVAC will collaborate with the Independent Review Team for the Mid-Term Review and Independent Completion Report, briefing them and providing them with additional information	AusAID will commission an independent Mid-Term Review to assess management performance, progress-to-date against agreed annual targets, alignment with RGC policies and programs, harmonisation with other donor-funded activities, and the need for design

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
				as required. The RGC representatives on the NSC will consider the Mid Term Review and Independent Completion Report recommendations and take action accordingly.	modifications. The MTR will form the basis for a recommendation on whether to proceed with the fourth and fifth years of CAVAC's implementation. AusAID will commission an Independent Completion Report during the final year of implementation which will include an overall assessment of results achieved and will make a recommendation about whether to extend for a further 5 years. AusAID will collaborate with the Independent Review Team for the Mid-Term Review and Independent Completion Report, briefing them and providing them with additional information as required. AusAID and the NSC will consider the Mid

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
					Term Review and Independent Completion Report recommendations and take action accordingly.
Risk and Fiduciary Management	The TL will ensure the development and implementation of risk and fiduciary management by the Program and advise AusAID on this through the Inception Report, Annual Plan and Six-Monthly Progress Reports. The TL will ensure compliance with approved procedures in all components and areas of the Program. The TL will monitor and report any instances of corruption to AusAID and the NSC.	The OC, under the guidance of the TL, will prepare a preliminary fiduciary risk assessment and detailed risk management strategy as part of the Inception Report. The OC will report and update risk management information through the Annual Plan and Six-Monthly Progress Reports. The OC, under the guidance of the TL, will establish guidelines and procedures that meet GoA and RGC requirements for: procurement; financial management and accounting; management of partnership activities;	ACIAR will contribute to the fiduciary risk assessment and detailed risk management strategy as part of the Inception Report. ACIAR will report and update risk management information related to the Research and Extension Component through the Annual Plan and Six-Monthly Progress Reports. ACIAR will assure financial management systems and processes for funds managed under CAVAC's Research and Extension Component (Component 3). This will include program funds spent through any subcontracted	RGC will monitor and respond to risk management and fiduciary issues raised in the six-monthly progress reports through discussions at the National Steering Committee.	AusAID is responsible for ensuring that risk management and fiduciary issues raised in the six-monthly progress reports, through discussions at the National Steering Committee and more regular discussions with the Program Implementers and RGC are acted upon. AusAID will provide advice to the TL and OC on risk management requirements and appropriate assessment instruments.

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
		performance monitoring and evaluation; and personnel and physical assets management. These guidelines and procedures will apply for all of CAVAC's components and will be detailed in the CAVAC Procedures Manual, which will be developed during the Inception Period. The OC will assure financial management systems and processes for funds managed under CAVAC, apart from the Research and Extension Component (Component 3). This will include program funds spent through any subcontracted Commissioned Organisations or Contractors, and through the Partner Government. The OC, under the guidance of the TL, will prepare consolidated	Commissioned Organisations or Contractors, and through the Partner Government. ACIAR will receive 6-monthly tranche payments and will acquit them in accordance with the procedures outlined in the AusAID-ACIAR umbrella Record of Understanding. ACIAR will provide financial reporting in the required format to the OC for input into the consolidated Six-Monthly Financial Reports. ACIAR will review the financial management system in place for CARF, to ensure it is consistent with CAVAC requirements outlined in the Procedures Manual.		

	Team Leader (TL)	Operational Contractor (OC)	ACIAR	RGC	AusAID
		Six-Monthly Financial Reports. The OC will ensure that financial audits are undertaken on at least an annual basis.			

CAMBODIA AGRICULTURAL VALUE CHAIN PROGRAM

(CAVAC)

APPENDICES

APRIL 2009

APPENDICES

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Appendix 1

Other Donor Programs

Current agricultural sector projects that are most relevant either due to their focus on working with agribusiness as a conduit to improving farmer incomes, or their involvement in addressing wider BEE issues, include the following:

The European Commission (EC) is funding a project managed by the Mekong Private Sector Development Facility (MPDF) that aims to develop SMEs in the agro-industry sector (especially in processing) and support SME policy development (MIME, €11.3m: 2007-2012). The project takes a VC approach to analyse constraints and develop appropriate interventions. It focuses on specific crops as well as business competitiveness and institutional strengthening, and provides training to banks designed to improve links with agribusiness and identify new investors.

USAID is funding the Micro, Small and Medium Enterprises (MSME) Project in Kratie, Kampong Cham, Svay Rieng and Prey Veng provinces (USD5.2m: 2005-2008). The project takes a VC approach with a primary focus on fisheries, pig raising and machinery and tile manufacturing enterprises. The MSME Project is addressing problems of limited business skills, weak links to markets, difficulties in accessing capital, and regulatory constraints to business. MSME has had some notable wins in relation to issues affecting operation of the pig production VC.

The Canadian International Development Agency (CIDA) is funding the Cambodian Agricultural Market Information Project (CAMIP) (USD 4.2mL 2006-10). This project is designed to integrate market information into agricultural extension services. CAMIP is initially located in Kampot, Takeo, Kampong Cham, Kandal, Prey Veng, Battambang, Bantey Meanchey, and Siem Reap provinces but will eventually expand to cover 11 provinces.

The Asia Foundation has established forums for Public Private Dialogue (PPD) in Kampot, Kampong Cham and Kampong Chang provinces. These are, however, at an early stage of development, due partly to the short-term nature of the funding provided. Asia Foundation is also collaborating with AusAID and MPDF to research and publish the Provincial Business Environment Scorecard (PBES) in Cambodia, which involves ranking provinces according to their business environment. This initiative has attracted considerable media attention.

ADB/AFD are co-funding the 3,000 ha Stung Chinit Irrigation and Rehabilitation Project in Kampong Thom province. Construction work was completed in April 2008. AFD-funded components (establishment of FWUCs, land titling and agricultural extension) will continue until August 2008.

ADB is funding the Tonle Sap Lowland Stabilization Project, which covers part of Kampong Thom province. The infrastructure component includes improvement of agricultural water management, infrastructure and other components. Consultants were appointed in October 2007. It is also funding the PPTA for the Water Resources Management (Sector) Project, a 6-year program supporting small- and medium-scale irrigation systems covering a total area of about 20,000 ha in Kampong Thom province. ADB has programmed a loan of $20 million for approval in 2008. AFD is considering co-financing of €8 million to cover software elements.

Appendix 2

Lessons Learnt: The Katalyst approach to Market Development in Bangladesh

Katalyst does not provide direct support to a limited number of SEs and farmers, but works indirectly, as a facilitator, to develop market systems through which services and essential inputs can reach a potentially much larger number of SEs and farmers. Aside from the scale/efficiency argument, there are three other arguments in favour of the market development approach:

1. *Market development is a systemic approach*. Rather than addressing symptoms and filling the gaps in the system itself through direct support, it seeks to analyse why the gaps are there and works on solutions that enable local market players to fill them. Instead of providing training to farmers, Katalyst works with large seed and input companies to train up their retailer network so that retailers can advise farmers on the choice of seeds and the use of pesticides. Each company has a network of hundreds of retailers. Each retailer has hundreds of clients.

2. *Market development is a sustainable approach*. Market development builds on private sector incentives. The solution is found within the system and Katalyst works with those providers who have the strongest incentive to continue to offer the solution after Katalyst has ended its support. When Katalyst retreats, retailers continue to be part of the local farming community and continue to offer advice to farmers because it helps them to develop a client base and sell more.

3. *Market development builds on local capacities*. Instead of producing 'white elephants,' market development is about identifying feasible, efficient 'next steps' for private business to expand their business. Retailers were not aware of the fact that being pro-active towards farmers in terms of offering advice and visiting their fields would improve their reputation. Also they lack agricultural knowledge. A basic training was sufficient to address both these issues. Seed and inputs companies were not aware that investing in training up their retailers would yield so much net benefits through higher sales.

In order to identify the most critical gaps within market systems and the most feasible next steps for providers with the right incentives, Katalyst goes through a number of steps:

1. *Constraint analysis and opportunity identification*. With the help of a variety of tools such as sub-sector analysis, cluster analysis and enabling environment studies Katalyst develops a 'feel' for a certain sector by asking the following questions: What are the issues in the sector that block further growth? Why do they exist? Where lay the opportunities to address the situation? Based on the answers Katalyst develops a clear vision of how a sector should develop, a short list of key constraints on which Katalyst can work to achieve this vision, and a first idea of potential solutions and providers to collaborate with. The better the analysis, the more Katalyst is able to address those issues which really hinder growth and development and the more it is able to trigger the entrepreneurial energy of the private sector to get them solved.

2. *Identification of entry point*. Based on initial ideas about potential solutions Katalyst engages in talks with companies that might be interested to collaborate with Katalyst on implementing a solution. Katalyst seeks the entry point with maximum leverage to address the constraints it works on. In order to solve problems like the farmers' lack of knowledge on the application of pesticides, it is more efficient to train retailers than farmers directly. But it is even more efficient to motivate input companies to train their own retailers.

3. *Deal making with the private sector*. A collaboration with the private sector is always based on both technical assistance from Katalyst's side and cost sharing from the side of the private sector. It is also about innovation: a new business model, application of new technology, developing forward or backward linkages, tapping into new markets. The collaboration is sealed with a deal which specifies clear responsibilities, steps and a time line. All Katalyst interventions are time bound to avoid creating 'donor dependencies'.

Appendix 3

Scope and status of CAVAC interim activities

The main CAVAC interim activities in Kampong Thom, Takeo and Kampot provinces have occurred in five areas:

- *Dry season rice demonstration*: the results from the dry season demos showed an increase of yield by 27.6 and 78.4% for broadcasting and transplanting techniques making the profit of 4,056,667 and 2,683,667 riel per ha for transplanting and broadcasting techniques

- *Replication of Champei aromatic rice*: Champei aromatic rice is now replicated with a total of 139 families with 62.28 ha in Takeo and 64 families with 22 ha in Kampong Thom. Five farmers' production groups were established in Chambak and Peaream, Takeo and Kor Koh, Kampong Thom. To build up resources of these production groups, CAVAC provided 2,730 kg and 1,040 kg of Phka Rumdoul seed bought from AQIP seed for Takeo and Kampong Thom respectively. All participating farmers have to put their own resources for fertilizer according to rate recommended by CARDI.

- *F&V demonstrations*: Cherry tomato, chilli and Chinese kale were the most profitable vegetables introduced during the demos. Green house was built for demonstration purpose however; adoption would very much depend on incentive that farmers could get over the price of the regular vegetables. Farmer made the profit of 2,051,700 riel or US$500.4 from Cheery tomato and sweet chilli per 300m2 per crop cycle and this would make the net profit of US$413.7 by extracting the depreciation cost of the green house.

- *Development of the model of irrigation feasibility*: The guidelines for the feasibility study were developed and O Svay irrigation scheme in Kampong Thom was selection in consultation with PDOWRAM in Kampong Thom to test the model. So far it is waiting for the approval of AusAID to carry out the task. However at the mean time baselines data are being collected from O Svay in collaboration with PDOWRAM Kampong Thom. {Three medium scale irrigation schemes are nearing detailed design by MOWRAM engineers under direct-hire arrangements??}

- *TOT training for commune extension workers*: the training was organized in Takeo with the participation of 25 potential farmers from Bati district. Sixteen among 25 participants were good and nice of them were medium. Three among 25 farmers trained in Takeo were already selected to be assistants for the FFS of the wet season 2008 aromatic rice in Chambak and Peaream.

Appendix 4

Strategic Approaches for addressing constraints

Strategic approaches have been identified for each VC constraint that sets out the strategic focus, issues and intervention choices that have been made by the Program while recognising the different roles of the public and private sectors and other partners.

1.) Agribusiness in the Value Chain

Strategic Focus

The importance of private sector actors in securing a sustainable impact on value chains and thereby on farmers incomes is recognised. The focus on agribusiness is due to the assessment that within rice-based farming systems in Cambodia they are under represented within the value chain. Although agribusiness do have a presence through the provision of some inputs and access to markets for smallholders they tend to be small-scale, poorly organised, and poorly skilled. While the interests of agribusiness clearly do not overlap entirely with those of small-scale farmers, they do depend on farmers for their supply and livelihoods, in a generally under-supplied market. Furthermore, given value chain development is generally market-pull rather than producer-push [need to explain better....] it can be expected that farmers/smallholders will respond positively to the "market pull" of agribusiness. CAVAC agribusiness activities that involve working with individual traders and agribusinesses will have a wider focus that water management (see next section), but will as a first priority work to ensure that the water management schemes supported develop appropriate market linkages within selected value chains.

Key Strategic Challenges for Intervention

- agribusiness commitment to value chain interventions (and thereby working in mutually beneficial partnerships with farmers) with whilst ensuring support does not distort market and provide unfair commercial advantage;
- the existence of complex local governance issues. In general traders prefer to remain ‘below the radar’ of the authorities to avoid the predatory attentions that a higher profile often attracts. Local licensing arrangements may be associated with rent seeking behaviour from local officials;
- ensuring that gender issues are effectively factored into approach considering that the majority of small traders are women.

Strategic approach and areas of support

The underlying approach is the establishment of mutually beneficial partnerships to strengthen production and market linkages along the VC. The program will act as an "honest broker" and follow a facilitatory enabling approach. In so doing the Program will focus on two areas of support:

i.) Acquiring skills and information**.** CAVAC will focus on improving the business prospects of agribusiness/traders and in particular their ability to engage with farmers/producers. There is an important opportunity to enhance the role of traders to impart improved skills and information to farmer clients. Traders are, however, limited in how much they can afford to invest in business development – for example

in researching and developing new markets – and require external support to develop this enhanced role. In order to increase outreach, particular emphasis will be placed on developing an enhanced role for traders in providing farmers with improved information through 'embedded' services. For example, some traders in fertiliser and other agricultural inputs are already investing significant time and effort in educating farmers, their customers, on appropriate use. The Program will support them to do this more effectively, and on a larger scale.

ii.) Start-up support for agribusiness opportunities**.** Agribusiness lack the knowledge and capital to identify new business opportunities. The Program will assist agribusiness to identify and develop VC investment opportunities through the establishment of a fund to provide start-up support for the development of innovative business projects that would otherwise not be developed because of lack of capital and the level of risk aversion. A key element of the strategy will be to gain an appropriate level of commitment from participating agribusinesses in the form of at least a matching contribution (financial or in-kind) supplementing the assistance provided by the Program. The program will play an important brokerage role

Partnership Approach

The Program will work directly with agribusiness and in so doing the Program will have a particular focus on improving partnerships between agribusiness and farmers. Note that some activities will involve working with individual traders and agribusinesses in particular locations; others, such as improved use of mass media, will be more pervasive in nature. The Program will work with national and provincial government to improve the business enabling environment.[1] [role of NGOs?] There will be opportunities work in partnership with other donors. Other projects that are agribusiness-oriented, such as USAID's MSME Project and CIDA's CAMIP, are likely to offer a range of emerging agribusiness and VC development models that can be scaled-up under CAVAC.[2] The EC is keen that CAVAC utilises the development and training tools developed by MPDF for SME capacity-building.

Aid effectiveness and sustainability

The basis for sustainability is designed to be commercial (rather than institutional) and will occur through:

- strengthening partnerships between farmers and agribusiness;
- enhancing the role of traders/ agribusiness to impart improved skills and information to farmers as 'embedded' services;
- improving the awareness among mass media of farmers as an important and growing market segment, and improving their ability to provide this market with relevant content.

1.2 Irrigation and Water Management

Strategic Choice

The current weakness in small and medium scale irrigation schemes is a binding constraint to productivity improvements of rice-based farming systems. CAVAC will

[1] This will occur principally through the business enabling environment component of CAVAC.

[2] For example, the possibility of adding Kampong Thom (a CAVAC targeted province) to the range of CAMIP provinces has been received favourably by CIDA.

focus on the management and rehabilitation of selected medium-scale irrigation schemes (largely below 2000ha). Particular attention will be given to issues associated with O&M. Suboptimal O&M has historically been a major reason why many irrigation schemes have failed or are operating below design expectations. For this reason CAVAC focuses on improving the operation of existing irrigation schemes rather than building new capacity. This approach leverages off previous capital investments, providing the opportunity to capture a reasonably large benefit for a reasonably small incremental cost. As a guiding principle, irrigation and water management activities will be expected to align with the nature and location of agribusiness support activities to the maximum extent possible.

Key Strategic Challenges for Intervention

- to address weak governance arrangements for water management (particularly O&M) in a manner which promotes the mandated ownership and responsibilities of key stakeholders;
- ongoing failure of national and provincial authorities to adequately fund the O&M of the headworks and main distribution systems which feed the targeted small and medium-scale irrigation systems.

Strategic approach and areas for support

A phased approach will be undertaken with O&M system issues to be addressed to a sufficient level before proceeding to the rehabilitation of selected schemes. There will two broad areas of support.

i.) Strengthening O&M. Focus on developing the O&M capacity of FWUCs. This is on the premise that the basic functionality of the irrigation scheme is already in place (i.e. effectiveness of headworks/main distribution system). Use of financial incentives in the form of incremental and increased support to FWUCs to enhance O&M performance will be explored.

ii.) Infrastructure rehabilitation. Performance-based selection of a limited number of schemes for full rehabilitation. The design of rehabilitation works will take specific account of agronomic and social as well as engineering factor. Support will involve increasing the technical design and development capacity of MOWRAM and PDWRAM.

Partnerships Approach

Significant role for RGC (MOWRAM, PDWRAM) under this component and the community (particularly the crucial role of the farmer water user groups (FWUCs) to improve water management. Critical to generate commitment from local authorities and the community. The PDWRAMs will play a major role in developing the O&M capacity of the FWUCs. They will also assist with designing and supervising the rehabilitation of selected irrigation schemes with MOWRAM responsible for leading the technical design. In terms of the involvement of local communities it will be necessary to establish participatory planning and development approaches[3] in order to improve beneficiary 'ownership' such as giving FWUCs responsibility and authority for the O&M of their irrigation systems and working closely with communities during the O&M upgrading phase to identify system rehabilitation needs. Competitive

[3] Following the Participatory Irrigation Management and Development (PIMD) approach that has been in use in Cambodia for some time. MOWRAM has developed an extensive and impressive set of manuals to train officials and farmers in the use of this approach.

bidding of infrastructure contracts (and possibly in design) will provide an opportunity for the private sector to be engaged under the component.

In terms of other development partners there is also a necessity to cooperate closely with the ongoing ADB/AFD irrigation water management project. It is expected that most of the capacity building for MOWRAM and PDWRAM will take place outside of CAVAC under ADB/AFD programs. CAVAC should contribute, where feasible, but is not generally resourced to lead such capacity building. There have also been initial discussions about possible cooperation in providing continued extension support for farmer groups established under the ADB/AFD project as well as collaboration on the developing an irrigation scheme inventory that ensures a co-ordinated approach between the two programs.

Aid effectiveness and sustainability

Some of the measures to ensure that the support to strengthen the capacity of FWUCs to operate their irrigation schemes and MOWRAM/PDWRAM to develop irrigation scheme designs occurs in a way which is sustainable include:

- adoption of design standards for all irrigation scheme rehabilitation work that aims to maintain full operational capacity for at least 10 years even if O&M by government is substandard.
- ongoing monitoring of the development of the SAW Programs 1 and 4 to ensure alignment and greater integration through design responsiveness.

3. Research

Strategic Focus

Research activities will be selected on the basis of their relevance to addressing high priority issues affecting the development of rice based farming systems e.g. post-harvest, processing and marketing issues as well as production issues. All research activities must by definition have a extension component (see next section). As a guiding principle, support components will be expected to align with the nature and location of agribusiness activities to the maximum extent possible. It is anticipated that most field research activities will be established in agribusiness and water management fields and relevant CAVAC stakeholders should be involved in setting priorities. There will be limited continued support for CARDI given the importance of this institution in undertaking a substantial part of the anticipated research program for the development of improved rice-based farming systems in Cambodia.[4]

Key Strategic Challenges for Intervention

- ensure research becomes more market-driven and relevant to the real needs of agribusiness and smallholders;
- current level of RGC funding for CARDI does not ensure viability and sustainability of the institution.

Strategic Approach and Areas for Support

[4] Support for CARDI will be limited to $100,000 per year which is assessed to be sufficient to ensure continued operation. Previous levels of support from Australia was significantly higher - in the order of $5 million over 5 years (65% of which was consultancy and contractor fees).

Support for research will occur in a coordinated and integrated way that facilitates two-way exchange of knowledge between researchers and extensionists, agribusiness and farmers. Three focus areas of support:
i.) Support for research funding facility: Focus on high priority research. Particular attention given to ensuring that research results are effectively packaged and disseminated to intended end-users.
ii.) Partnership building: Developing partnerships between agricultural researchers, extensionists, agribusiness and farmers.
iii.) Institutional Capacity Building: Providing institutional support of a more general nature to CARDI, Cambodia's premier agricultural research institution, so as to maintain core institutional capacity to undertake research associated with rice based farming systems.

Partnership Approach
Partnership with a broad range of stakeholders will be promoted i.e. research and extension providers, agribusiness, and farmers, in order to improve technology development and transfer. A strong partnership will be particularly needed with government as CAVAC will utilise the existing organisational structure of the Cambodian Agriculture Research Fund (CARF) for its institutional, management and procedural platform.[5] The CARF will be utilised to engage various organisations under the National Agricultural Research System (NARS) to conduct research activities, thereby building the capacity of contracted agencies. For other research a multi-channel approach to research delivery could be utilised with activities potentially contracted to a range of major public providers as well as private sector providers and NGOs.[6]

Aid effectiveness and sustainability:
To promote aid effectiveness and research sustainability CAVAC will promote the following measures:

- adoption of a multi-channel approach for providing research including private as well as public sector providers;
- encouraging more diversified funding of public sector research with stronger links to extension services, including linkage with the D&D funding mechanisms at commune level, and user-pays where this is realistic.

4.) Extension

Strategic Focus
Recognising the significant technology and knowledge constraints of smallholders the program will focus on strengthening all channels of extension delivery. There is a role for both public and private delivery of extension services. Although the development of private sector extension delivery mechanisms will provide the greatest sustainability it is unlikely that the private sector will be in a position to meet all the demands from farmers. Furthermore, this capacity is likely to develop only slowly over time as the depth and sophistication of markets develop. Therefore, the program

[5] CARF is currently managed by ACIAR.
[6] Examples include CARDI, DAALI, Department of Agro-Industry, Royal University of Agriculture, Prek Leap and Kampong Cham Schools of Agriculture, Maharishi Vedic University.

will work substantially through government systems whilst enabling and promoting the private sector when sensible and appropriate. As a guiding principle, farmer extension activities will be expected to align with the nature and location of agribusiness activities and more specifically CAVAC targeted irrigation area to the maximum extent possible. Furthermore the extension program needs to be strongly driven by the research program. Importance of research and extension provider to improve technology development and transfer to farmers and agribusiness.

Key Strategic Challenge for Intervention

- quality and utility of extension. Ensuring that extension providers are addressing the identified priority needs of farmers and have good access to relevant, high quality extension materials;
- scope and sustainability of extension provision given current low capacity of government.

Strategic approach and areas for support

CAVAC approach is concerned with facilitating the provision of extension services whilst strengthening the linkage between extensionists, agribusiness and farmers so that extension services become more market relevant and demand-driven. This will occur principally in three ways:

i.) Extension system capacity building through comprehensive training programs for extensions workers

ii.)Strengthening extension delivery process. Linking with and building on the structure and capacity of farmer and private sector organisations as a delivery channel. CAVAC will initially focussing on Field Farmer Schools (FFS) as a community-centred extension methodology. The FFS are also the "seed bed" for budding farmer organisations which are rapidly expanding in Cambodia. CAVAC will also consider other extension approaches including crop demonstration and the use of the mass media.

iii.) Partnership programs which increase interaction and information exchange between extension workers. researchers, agribusiness and farmers.

Partnerships Approach

In terms of the management, coordination and capacity-building platform for the extension support services the Program will form partnerships with government extension system stakeholders (i.e. MAFF, MOWRAM, DAE and PDAs). With respect to extension delivery the program targets multiple carriers. For extension delivery by government DAE and the PDAs will be an important provider through the district offices and field-level extension services in many areas. Other partners will be contracted to provide field-level extension delivery according to capacity include agribusiness traders, farmer and private sector organisations and NGOs.

Aid Effectiveness and sustainability: Linking extension activities provided within a commune as closely as possible with objectives outlined in the 5-year Commune Strategy Development Plan and associated annual Commune Investment Plan, with the intent of progressively transferring funding of extension activities from the Program to the commune. Other sustainability measures include:

- adoption of a multi-channel approach for providing extension services, including private as well as public sector providers;

- encouraging more diversified funding of public sector extension services, including linkage with the D&D funding mechanisms at commune level (i.e. commune councils), and user-pays where this is realistic.

5.) Business Enabling Environment

Strategic Focus

Central to the strategy is the establishment of an improved policy and regulatory environment. The key element in the strategy is to achieve mutually beneficial outcomes which enable the private sector to reduce its business transaction costs while not impinging on the right of the public sector to impose fair rents and increase public revenues. Areas supported under component will also be selected on the basis of their potential to reduce transaction costs and encouraging increased investment in target VCs and address high priority issues affecting the development of rice-based farming systems. The attached Policy Facility will also provide higher-level support for ongoing development of national level SAW policies and programs, together with the development of institutional capacity required to implement the SAW[1].

Key Strategic Challenge for Intervention

- Policies that affect agribusiness and smallholder farmers are generally poorly known or understood throughout much of rural Cambodia. Officials (and others), especially at provincial level, are often unaware of national policies;

Strategic Approach and Areas for Support

{include strategic approach - distinction between national and provincial?}
i.) Capacity Building of Officials Strengthening the capacity of officials to develop and implement good policy.
ii.) Widespread Knowledge of policies Improving the knowledge of relevant policies and regulations by key VC participants.
iii.) Strengthening public/private partnerships: Establishing PPD mechanisms that enable stakeholders to identify and discuss key constraints affecting industry development and cooperate in the development of solutions. Developing alternative investment models such as PPPs for financing the design, implementation and management of high priority market-facilitating infrastructure projects.
iv.) Private sector capacity: Improving the capacity of industry for self-organisation and self-management.

Partnership Approach

Stakeholders from all components will be involved in setting priorities. MOWRAM and the PDWRAMs (and also MAFF and the PDAs) will be important participants in PPD mechanisms supported by the Program. MOWRAM (and also MAFF) will also play an important role in the definition of policies and policy implementation measures; in ensuring that the direction of CAVAC remains consistent with the emerging SAW policy framework; and in utilising the lessons from CAVAC to inform the ongoing development of this framework and its related programs. In terms of partnerships with other donors the Asia Foundation supports the Provincial Business Environment Scorecard (PBES) in Cambodia, which involves ranking provinces according to their business environment and has attracted considerable

media attention. To date, it only covers 10 provinces[7], but there are plans to expand the activity nation-wide and strong linkages with CAVAC would be useful.

Aid effectiveness and sustainability:
Business Enabling Environment sustainability through supporting the establishment of PPD mechanisms.

[7] Of which Kampot is the only CAVAC targeted province.

Appendix 5

Poverty Analysis

1.) Context

In response to strong economic growth performance, average poverty rates have declined from around 47% in 1993 to 35% in 2004. However, while urban areas have experienced significant improvements, rural areas have lagged behind. Around 90% of all poor households live in rural areas, with the proportion increasing. While growth in the urban economy combined with rural-urban migration goes some way towards addressing this issue, it is not sufficient given the high proportion of the total population that resides in rural areas and the high proportion of working age and near-working age individuals in the total population. Considering the much lower economic growth performance of the agricultural sector *vis-à-vis* other sectors, rural poverty is therefore likely to become increasingly entrenched unless the underlying issue of low agricultural productivity is addressed.

2.) Who are the rural poor?

The majority of the rural poor (?) are found within the 2 million smallholder faming households who are the main producers and managers of the country's agricultural production. They are the main decision makers regarding what production (crop, livestock, fish, etc.) to undertake and when to do it. They are the main stakeholders of the rice-based farming systems. The farmers can be divided into several sub-groups with different interests and needs.

The bulk of the remaining poor (?) are found among the rural landless who make up around 20% of the rural population. Although not all landless households are poor (some have profitable non-agricultural sources of income) the majority are as they have few rural livelihood opportunities beyond low and variable income from wage labour.

3.) Agricultural value chains and the poor

The development of value chains in rice-based farming systems will affect different stakeholders (farmers, agro-entrepreneurs, and service providers) in different ways. The effect on poor farm households is also varied. The typology of the poor presented in Box 1 provides a useful way to examine the possible channels through which a program for the development of value chains in rice-based farming systems could affect the poor. For the purpose of the analysis, it is worthwhile to consider three groups: the poorest, the poor, and the lower medium income.

Box 1 Typology of Farm Households in Cambodia

Poorest Households

- Little or no land. Perhaps one draft animal but no farming implements
- Housing made of thatch in very poor condition. Few household utensils
- Live on hand-to-mouth basis (food shortages for up to eight months)
- Much reliance on natural resources to meet subsistence needs
- Accumulated debts and inability to repay or borrow additional amounts
- No kinship support; and large families with 5-12 children

Poor Households

- Have land less of 2 ha in unfavourable locations (slopes, no water source)
- Usually have at least a pair of draft animals and at least some farm implements
- Houses made of thatch sometimes with tile roofs and bamboo walls
- Limited number of household utensils; food shortages of 3-6 months duration
- Able to borrow money for rice farming and family

Lower Medium Income

- Have land of less than 3 ha. Draft animals and farm implements
- Houses made of bamboo or wood, thatched roods and walls, and tile roofs
- Food shortages of 3-4 months duration; able to borrow money for rice farming

Middle Income

- Landholding of up to 6 ha; 2-4 draft animals, some livestock, and all farm implements
- Houses made of wood with either bamboo or wooden floors and tile roofs
- Reasonable number of household utensils
- No food shortages, except when major crisis (ill-health) or ritual (wedding) occurs
- Limited cash savings. Small-scale business; and old motorbike or boat

Non-Poor

- Having more than one ha of very productive agricultural land
- At least two draft animals and many other livestock and farm implements
- Houses made of permanent building materials, including corrugated iron and tiles
- Full food security with limited surplus for lending, sale or labour exchange
- Well-furnished households, often with television sets
- Able and willing to lend money to other villagers

Soucre: ADB – TSRWSS-TA No. 4570-CAM

A minimum set of assets (physical or human capital) are usually required for the movement of farm households out of poverty to occur. The poorest farm households, who have little or no land assets would require a different set of interventions from the ones usually associated with improvements in agricultural productivity and agroenterprise development.

This does not imply that the poorest household will not benefit from improvement in value added. It means however that to be successful in terms of poverty reduction, those interventions along the value chain will not be targeted to the poorest. Instead the interventions will target the poor, the lower medium income, the middle income and the non-poor groups. All these groups have a minimum set of assets (particularly land) on which to build and promote income generating activities that could benefit not only the direct beneficiaries of the interventions but also the poorest strata.

There are numerous examples (see Box 2) of smallholders that started from being poor or lower medium income farm households and then progressed to higher income

and improved livelihood through many of the activities typically included in a program to develop value chains in rice-based farming systems. The common factor of all these previously poor households is that they could start from some basic land or human capital asset. The land asset could be a small parcel of rice land, often less than one ha; the human capital could consist of some capacities acquired through outside employment, often in the big city or in neighbouring countries.

Box 2 Success Story of Ken Yean and his wife Neary

Seven years ago, Ken Yean and his wife Neary were typical rice farmers in the Mekong Delta region of Southeast Cambodia. They and their five children eked out an existence on one hectare of paddy land. In some years they failed to meet their basic food needs. At the same time, IDE was working with local manufacturers and dealers in their area to establish a supply chain for affordable foot-powered treadle pumps. Yean and Neary learned of the pump from their neighbours and purchased one from the local market. The total installation cost, including an 18-metre deep borehole, was about $50, which they financed with their small savings and by borrowing from family members. Yean and Neary began growing vegetables, mostly cucumbers and bitter gourd, and within a year had paid off their loans. In subsequent years, they have earned a net additional income of between $100 and $175. The extra income has helped them to purchase additional rice land and will finance all of their children, including the girls, through high school, an amazing achievement in rural Cambodia. "When the children are all educated, then I'll start improving the house," says Yean. A few years ago, Yean and Neary purchased a second treadle pump to use on another plot of land that is farther away from their house. And just this year, after seven years of use, they replaced their original treadle pump with a new one.

Source: http://www.ideorg.org/page.asp?navid=203

Land distribution patterns suggest that the average size of landholdings is about 1.21 ha and about 77 percent of rural households have less than 3 ha of land (see Table 1). Landholding size in the two main rice-based regions, the Mekong and the Tonle Sap, is 0.89 ha and 1.34ha, respectively (see Table 3). It is suggested that farm households for program interventions should have at least 0.5 ha. According to the distribution described in the previous tables, this implies that the lowest 10 percent in the distribution of landholding farmers would not be targeted directly by the program.

Table 1 Landholding and Land Distribution

Land distribution, ha	Operator, #	Area, ha	Operator, %	Area, %	Operator, Cum %	Area, Cum %
<0.5	21,327.0	7,005.5	36.7	10.0	36.7	10.0
0.5-1	15,772.0	12,224.0	27.1	17.4	63.8	27.4
1.01-2	10,274.0	16,031.5	17.7	22.9	81.5	50.3
2.01-3.0	7,418.0	18,604.5	12.8	26.5	94.3	76.8
3.01-5	2,533.0	8,991.0	4.4	12.8	98.6	89.7
5.01-10	750.0	5,016.0	1.3	7.2	99.9	96.8
10.01-100	44.0	2,033.0	0.1	2.9	100.0	99.7
>100	1.0	200.0	0.0	0.3	100.0	100.0
Total	58,119.0	70,105.5	100.0	100.0		
Average landholding		1.21				
Minimum landholding		<0.5				
Maximum landholding		200				

Source: ABiC Survey 2005

Table 2 Average Landholding by Landholding Group

Land distribution, ha	Operator, #	Average by group, ha
<0.5	21,327.00	0.3
0.5-1	15,772.00	0.8
1.01-2	10,274.00	1.6
2.01-3.0	7,418.00	2.5
3.01-5	2,533.00	3.5
5.01-10	750	6.7
10.01-100	44	46.2
>100	1	200
Total	58,119.00	70,105.50
Average landholding		1.21

Source: ABiC Survey 2005

Table 3 Operator and Landholding by Agro-ecological Zone

Zone	Operator, #	Operator, %	Landholding, ha	Landholding, %	Average landholding, ha
Northeast	9,274.00	15.96	18,624.70	26.57	2.01
Mekong	16,329.00	28.1	14,566.50	20.78	0.89
Coastal	14,204.00	24.44	12,310.50	17.56	0.87
Tonle Sap	18,312.00	31.51	24,603.80	35.1	1.34
Total	58,119.00	100	70,105.50	100	1.21

Source: ABiC Survey 2005

4.) Paths of Poverty Reduction

Three main paths of poverty reduction could be envisaged in a program to develop value chains in rice-based farming systems:

(i) creation of employment opportunities in the rural economy, both on farm and off-farm;
(ii) productivity increases at the farm level resulting in higher value and income for the smallholder farmers; and
(iii) enterprise development including micro, small, and medium enterprise involvement of rural households in the lower income strata.

The following Table 4 highlights which path is more likely to affect the poorest, the poor, and the lower medium income rural households.

Table 4 Main Paths for Poverty Reduction in a Program to Develop Rice-Based Farming Systems

	Path of Poverty Reduction		
	Creation of Employment Opportunities	**Productivity Increase for Smallholders**	**Enterprise Development**
Poorest	√		
Poor	√	√	√
Lower Medium Income		√	√

a.) Creation of Employment Opportunities

Without physical assets, the poorest can only rely upon their own labor to get an income. The development of rice-based farming systems can induce a growth of the rural economy that results in an increasing demand for labor.

Normally, during peak periods of agricultural crop production (particularly during land preparation, transplanting, and harvesting) labor shortages often occur. As production expands, demand for labor increases. Currently, production volumes are limited by market demand and constraints in technology and access to water during the dry season. This limited production in turn implies limited and mostly seasonal demand for labor.

When demand for labor increases, this is sometimes accompanied by higher wages. While in most cases field agricultural wages range between R 3,000 and R 5,000 per day, in intensive systems or in higher value production systems like those related by the agricultural cooperative in Battambang, vegetable production, and in irrigated systems (like those in Chu Pring commune in Svay Rieng), agricultural wages range between R 5,000 and R 7,000 and can reach levels of R 14,000 per day.

Labor creation by processing activities and trading activities normally provides lower wages (around R 4,000 per day), but the labor requirements are for longer periods than the short terms associated with specific agricultural activities. Activities such as handling, loading and unloading, grading and sorting are often seasonal activities.

However, as the volume of trade and processing increase, the total labor requirement also increases and provides employment opportunities to the poorest. An unskilled laborer working 300 days per year at a wage of R 4,000/day could get an income comparable to a low-productivity farmer with 1 ha of land.

As the demand for labor increases and wage rise, the adoption of mechanization becomes more widespread. Whether mechanization is labor displacing or not is a complex issue. While on one hand mechanization reduces the cost of labor, on the other hand there are effects on demand for skilled labor (for example tractor operators) which is usually paid higher wages. The higher income associated with mechanization results in more spending in the rural economy, more demand for services (construction, food, industry, trade), and higher employment opportunities for rural households. Without a full assessment of the rural economy-wide effects is difficult to determine the impact on overall employment. At the macro level however, the multiplier effects from agricultural growth to overall growth of the rural economy are quite high and agricultural growth is generally considered the most effective way to reduce poverty in rural areas.

b.) Productivity Increase for Smallholders

The majority of the poor in rice-based farming systems of Cambodia are to be found among the smallholder farmers who typically own less than 2 ha of rice land. For these households, increase in productivity at the farm level is perhaps the single most important determinant of poverty reduction.

Through increases in yield and crop intensity, diversification into higher value agricultural activities (vegetables, aquaculture, livestock, special rice), and integrated farming, income could increase well above the self-consumption level. An example from the fieldwork (Table 5) illustrate the experience of a previously poor farmer who has achieved a status of middle income through diversification.

Table 5 Kampong Thom Rice and Vegetable Farmer

	Cultivated Land (ha)	Gross Margins/ha ($/ha)	Total Gross Margins of Household ($)
Rice	2	89.63	179.25
cabbage	0.6	1,430	858
			1037.25

Source: CAVAC Diagnostic Study Fieldwork

Typically a smallholder farmer with 2.6 ha will utilize the land only for paddy cultivation and, in rainfed conditions without stable access to irrigation, would not be able to grow two crops of rice in a year. However, just cultivating one third of the paddy land with vegetable, the total gross margin is almost 5 times higher. This does not suggest that the main strategy for poverty reduction is to abandon paddy cultivation and embark on vegetables. Obviously, the total demand for vegetables is considerably lower than for paddy. At the same time, vegetable cultivation is more risky given the perishability of the product and the higher incidence of pests and diseases. The key point is however that a strategy of diversification is possible and profitable. The conditions for effective diversification depend on several factors

including agroecological conditions, market demand, food security and risk concern of the household, and knowledge about markets and technology.

The examples above suggest that the path for poverty reduction based on increase of agricultural productivity can vary considerably from environment to environment. The common thread, however, is that poor households who have even very limited assets (say land of between 0.5 and 1 ha) can benefit from the development of value chains in rice-based farming systems.

c.) Enterprise Development

Small and medium enterprises in agroprocessing or trade require more specialized activities and skills. Even though a program cannot "create" entrepreneurs, it could certainly facilitate the emergence of "latent" entrepreneurs and promote the existing ones through various interventions including capacity strengthening, training, facilitation of supply chain linkages, provision of information, and networking.

Some of the poor could become entrepreneurs in their own right, rather than simply providing labor to the agro- enterprises. Micro-enterprises directly related to value chain in rice-based farming systems include retailing of food products, management of food outlets, transportation services, assembling of raw materials, handicrafts, food processing.

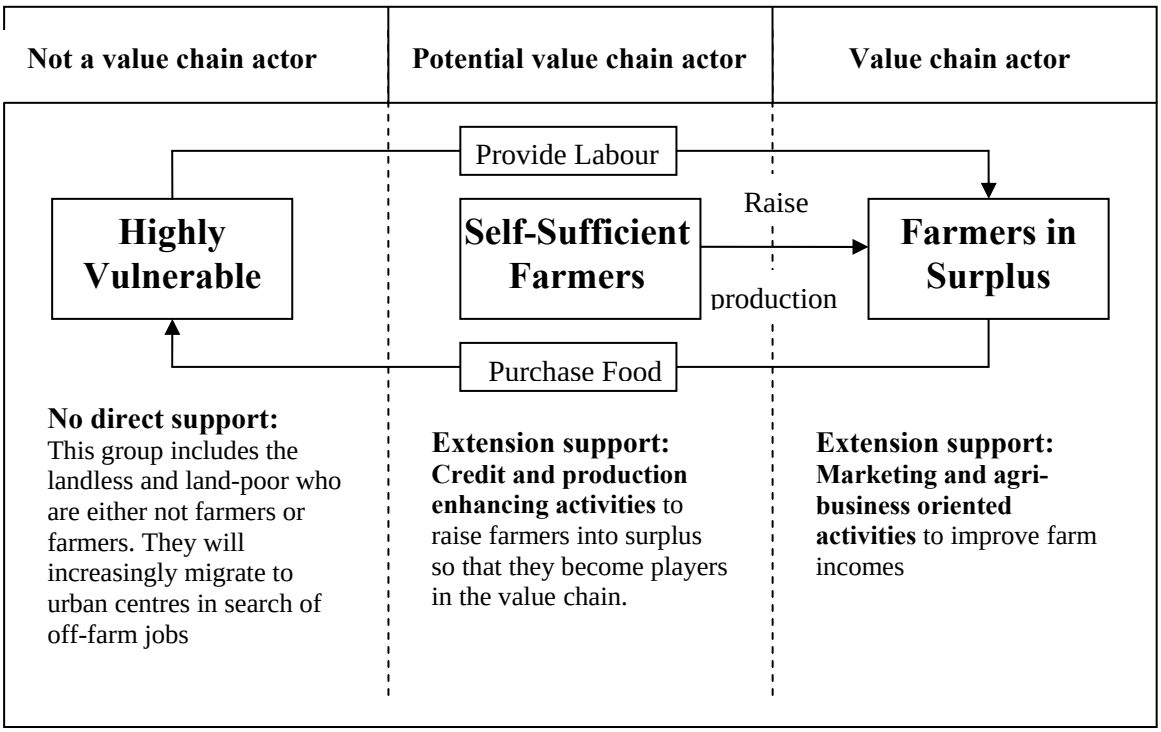
5.) The CAVAC Target Group

Three types of farmer can be identified in Cambodia:
(1) Farmers with only subsistence prospects, who might be better off targeting wage employment, rather than market-based farming.
(2) Farmers currently largely producing for household consumption, but whom with access to appropriate technology (i.e. research and extension) and knowledge on how to best access markets, could more consistently enter the markets.
(3) Farmers already engaged in market production and who are potentially able to be more profitable.

Each of which would benefit from value chain improvements in rice-based farming system in different ways (see Figure next page). All three types of farmer could be considered for targeting. Targeting only those who are already value chain actors would exclude over half of all farm families in the country, but including all three categories would require most resources to be expended on the highly vulnerable group. Many in this group do not have the land resources to produce a marketable surplus and enter value chains, and in many cases they (or their children) are likely to leave the land in search of work in the cities within the next few years.

Consequently, it is proposed to focus on the self sufficient and surplus group, as potential and current value chain actors. This targeting strategy may allow CAVAC to directly or indirectly target over 80 percent of the rural population. Therefore the primary target group comprises smallholders engaged in rice-based farming systems, who have access to adequate land and other resources to meet their subsistence needs and produce a marketable surplus, or who have reasonable prospects of reaching this position over the medium term. This group will be largely self-selecting

Figure: Target Farmers



If CAVAC is to effectively impact on smallholder farmers the strategy acknowledges the important role of women in both the production and marketing process and their special role in the business trading environment. Furthermore, it is important to note that the program can therefore only partially address the total livelihoods situation of the poor smallholder households, which depends on arable farming for only a part of their income.

CAVAC will not seek to directly address the situation of the chronically poor, who are generally operating at subsistence or sub-subsistence levels. Many in this group do not have sufficient land resources to produce a marketable surplus (the *land-less* rural population, which may amount to around 20% of rural population). The most vulnerable rural families will however benefit indirectly from CAVAC due to improved on-farm labour opportunities, increased employment in processing and marketing, and more favourable food prices in the areas, enterprises and markets targeted by CAVAC as the smallholder sector grows.

Traders and agribusiness operators, who provide the principal focus for developing the production and market linkages that will drive VC improvements, form an important secondary target group.

Appendix 6

Gender Analysis

Context

To effectively impact on smallholder farmers the important role of women in both the production and marketing process and their special role in the business trading environment needs to be recognised. Often this is not the case with the women's roles in production, processing, marketing, and in short, the entire agricultural production cycle is not emphasised. The central role women have in rice-based farming systems is evident by the following:

- Rural women are responsible for 80% of food production and more than 65% of women are farmers. Among all female farmers, half are illiterate or have less than an elementary level of education and 78% farm as a family.

- The prevalence of women-headed households (WHH) in Cambodia.... WHH working in agriculture tend to have smaller landholdings and to be more vulnerable to losing their land; they also tend to be more isolated than men due to constraints on mobility and time, and exclusion from male dominated community networks.

Roles, Responsibilities and Incomes

- Women manage food security in the family and ensure that there is food daily. Their work has two parts, side by side with the men in the fields in addition to their housework and the caring of children. Women are the primary labour force in farm work with the exception of work related to irrigation, field management and the care of farm animals. If a woman is employed, her additional income is not discretionary, but rather vital to the support of the family's entire way of life. The visibility of women in the agriculture sector is clearly limited.

- Men and women spend approximately the same amount of time on income generating labour in rural areas. Female farmers provide 74 % of agricultural labour in rural areas. Women spend more time than men on non-income generating work and household work. In agricultural work they work longer than men. In terms of agricultural wages women are paid less than men. Women also experience wage discrimination when, even after taking differences in age and education into account, women's wages are only 75% of men's wages.

- Women have less opportunity to participate in community activities, training and other opportunities that enhance knowledge and skills or to improve their management and leadership roles due to many hours of household work (non-income generating work).

Land

- With increasing pressure on land, Cambodia is in the process of resolving the legal aspects of ownership and inheritance rights to land. The Land Law of 2001 and the

Sub-Decree on Social Land Concession have implications on the rights, receipt and control of land. Although some people may believe that there is no discrimination against women, ethnic minorities and the poor, there are still many vulnerable people who are dispossessed and have limited access to land. This is particularly so when they need to provide security or collateral for loans, securing viable divorce settlements and claiming rights to land. Female-headed households have smaller land holdings than male-headed households and are particularly at risk of poverty.

- Registration of land titles is not in joint signatories of husband and wife. In general, land registration is usually in the name of the husband, especially in the rural areas. Protecting the security of women will become increasingly important as pressure on land becomes more intense and land grabbing happens. Even where the names of both the wife and husband appear on a land title, men still make the major decisions in relation to the use of the land. Most poor women live in male-headed households.

Traders/Agribusiness

- Women tend to dominate trading activities, with some estimates that well over 80% of F&V traders, for example, are women. Women also often play a central role in the management of small and medium sized business. Particular issues faced by women at this level include….

- Although the majority of rural women are farming for livelihood sustenance some female farmers are turning towards commercial agricultural production and agro-enterprise in order to supplement household income.

- Women have limited opportunities to participate actively in the area of agro-enterprises. Special support to provide female-specific activities in with relation to information, credit, technology and training will open up opportunities for women to become owners and managers of independent businesses. The future may see the creation of female farmer associations or female entrepreneur groups which are robust in rural development.

Research and Extension

- Agricultural research and information does not as yet fully address the immediate needs and activities of female farmers. Research can provide opportunities for women in decision-making in order to increase agricultural productivity and increase standards of living of farming households.

- Agricultural extension techniques are still limited and have not addressed the differing problems and needs between women and men. A shift towards agricultural development that distinguishes and caters to the differences between male and female farmers requires that there is a robust agricultural framework that provides procedures, sets inspectional standards, and supervises and enforces standards that all stakeholders comply with.

Appendix 7

Entrepreneurship in rice-based farming systems

Entrepreneurship refers to the assumption of risk and responsibilities in designing and implementing a business strategy or starting a business. For the purpose of the Diagnostic Study an entrepreneur could be a farmer, a rice miller, a trader, a leader of a cooperative, or a business person who has engaged in innovative activities related to value-adding agricultural and agribusiness activities (including processing, trading, and distribution) for rice-based farming systems. These innovative activities usually involve taking risks, making investments, and mobilizing resources to ensure that higher income is generated through successfully meeting market requirements.

A key feature of an entrepreneur is his or her capacity to identify a market opportunity, organize human resources and systems, and manage processes to achieve higher returns to investment. To do so, the entrepreneurs will need to establish horizontal and vertical linkages across the value chain. Horizontal linkages refer to other stakeholders at the same level of the value chain. For example, if the respondent is a farmer, horizontal linkages refer to other farmers (in the same community or in other parts of the country). Vertical linkages refer to other stakeholders in the value chain at different stages of the value chains (for example, for a farmer these other stakeholders could be input suppliers, collectors, wholesalers, millers, credit suppliers, extensionists, agroenterprises, etc).

Based on the analysis of various cases of entrepreneurship in rice-based farming systems (see case studies section below) a number of conclusions can be drawn:

1.) Neglect of Agroentrepreneurs.

In the formulation of agricultural programs, the role of agroentrepreneurs is often neglected. There is almost an exclusive focus on farmers and agricultural productivity as the main and only content of the programs. While giving a central attention to farmers and agricultural productivity is certainly an important aspect of agricultural programs, it is often forgotten that without a parallel emphasis on agroentrepreneurs (whether they are farmers, processors, or traders) very limited value added will occur. The example of Angkor Kasekam shows that one company could affect and improve the livelihood of 80,000 farmers. The issue is how to facilitate the emergence of other Angkor Kasekams in Cambodia.

At the same time, the discussion of various entrepreneurs above suggests that not only large enterprises are to be promoted, but also small and medium enterprises have a key role to play to link farmers to the market and create higher value added. The rice noodle company in Battambang in section 0 employs 35 workers and procures paddy equivalent to the surplus of at least 700 smallholder farmers. In addition, through induced services (repair of machinery, distribution outlets, transporters, financial services, local restaurants and food outlets, etc) it might induce several hundred jobs in the rural economy. Lacking these entrepreneurs, the income of farmers and rural households would be considerably lower.

2.) Success Factors

There are several factors explaining the success of entrepreneurs that need to be taken into account and promoted by a Program that intends to increase value added. These factors include:

1. Seizing Market Opportunities
2. Willingness to Take Risks
3. Making Innovations
4. Continuously Learning New Technologies
5. The Importance of Establishing a Distribution Network
6. Learning New Technologies to Improve Quality
7. Establishing Effective Backward Linkages (farmers and suppliers)
8. Establishing Effective Forward Linkages (domestic and foreign customers)

3.) The enabling environment

There is sometimes confusion as related to what an "enabling environment" for private sector development is. It is often assumed that the private sector will respond to market signals and the main issue to promote the private sector consists in creating an enabling environment for private investment to flourish. The enabling environment consists of appropriate policies, adequate infrastructure, and a legal system that protects property rights and minimizes corruption. While all these aspects are certainly necessary to promote private sector, other aspects are neglected. Facilitating private sector investment and growth might involve:

1. To disseminate market intelligence so that more opportunities are known and seized by prospective entrepreneurs;
2. To provide tools and information to evaluate and minimize risk;
3. To disseminate innovations;
4. To provide mechanisms to access technologies that are suitable to the varying conditions of the market and the socio-economic and agroecological environment;
5. To provide training and capacity strengthening based on the demand of the entrepreneurs, keeping in mind that no single technology is appropriate in all circumstances;

6. To promote methods to measure and improve quality; and, perhaps most important,

7. To facilitate the formation of value chains, particularly backward linkages with farmers and suppliers.

ENTREPRENEURSHIP CASE STUDIES

a.) Seizing Market Opportunities - The Vegetable Trader

Mr Keun Ron is a vegetable trader in Kampong Thom. He started the business of vegetable trading about 3 years ago and before then he was a smallholder farmer and fish collector. In 2003 he saw an opportunity in vegetable trading to supply the increasing market demand in Siem Riep, induced by the tourism industry. He made an initial investment in a truck and started to make deliveries to Siem Riep. Currently, he is specialized only in vegetable trading and completes about 120 deliveries per year. For each delivery he requires a working capital of about R 5 million, of which R 4 million he finances with his own funds and obtain R 1 million as credit from the collector agent. He and his three workers spend about 3 days to procure the vegetables from farmers and send a truck to the market in Siem Riep. For some vegetables (ie cucumber) he has contract relations with a buyer. The contract establishes terms of delivery and prices. To honor the terms of the contract he sometimes has to accept lower prices. With a margin of about 20 percent on his invested capital, he is able to obtain an income of about $30,000 per year. He is facing an increasing competition to supply vegetables to Siem Riep and does not yet have a clear strategy of how to stay ahead of the competition. As many other small business persons, he finances most of the capital with his own funds, pays illegal fees, gets market information through mobile phone contacts with collectors, farmers, and buyers. He is also aware of losses he incurs due to lack of refrigerated truck and also due to poor quality of handling and producing vegetables.

b.) Willingness to Take Risk - The Paddy Trader/Rice Miller

Ms Hout Eng is a successful trader and rice miller. She started in 1980 with only $200 capital and she currently has sales of about $3 million per year including paddy, rice, cashew nuts, pigs, sesame and mungbeans. In spite of low education (reached only 4th grade), she has a very good sense of business. She was a trader for a long period and has been shifting from one business opportunity to another, always willing to take high risk. During last year, she lost about $30,000 on cashew trade. At the same time she is quite responsive to new market opportunities, whether they are related to paddy trade to Viet Nam, rice milling for Cambodia market, pork for government contracts, or cash crops such as cashew, sesame, and mungbean.

She has access to credit. ACLEDA bank has given her a loan of $70,000 at 1.5 percent per month, but she is thinking to refinance the loan at a lower interest rate of 1 percent per month that she could get outside of the formal banking system. She seems to have an extensive network of suppliers including both collectors and farmers. At

the same time she is quite vigilant about new market opportunities. Her family strongly supports her in her business decisions.

Ms Eng started her career as a rice farmer, she shifted to trading, then added milling, and now in face of increasing competition in the paddy and rice milling industry, she is thinking again to engage in a new business venture. She plans to invest in farming and get access to an economic concession of about 2,100 ha where she is thinking to develop irrigation system and contract farming.

c.) Making Innovations - The Integrated Farmer

Mr Long Saroeun is a 55 year old farmer from Svay Rieng. His small farm of 1.7 ha is located in an area without access to irrigation and with very low productivity of rice (less than 2 tonnes/ha). Until 3 years ago, he and his family (including 9 children) could hardly make ends meet and provide for basic necessities. In 2003 he was selected by an international NGO (CRS) to be involved in an integrated farming system demonstration using the land surrounding his house (0.8 ha). The demonstration involved making several innovations in farming, changing practices and learning several new techniques. Since then, with technical support of CRS, he has started various agricultural activities including vegetable production, tree nursery, pig raising, and aquaculture. In addition to agricultural activities, his wife has a small retail store located in the farm and he and his children provide repair services to the villagers (flat tires repairing). His farm is a good model of integrated farming; recently he was one of the exhibitors in the provincial Agricultural Fair where he exhibited a model of his farm. His current income for various agricultural and non-agricultural activities is about $800 per year. That is still relatively low but represents a considerable increase from the barely $200 per year he could make with only rainfed rice production. In spite of a large family and not been young anymore, Mr Saroeun and his family have been able to make considerable innovations and add value to the meager assets they started with. He and his family have clear plans of what needs to be done in the next 5 years, including investment in a small tractor and thresher that could be used to rent to other villagers. He also would like to send his son to college to study agriculture, but he currently would have difficulty in financing the studies.

d.) Continuously Learning New Technologies - The Intensive Farmer

Mr Dieu Heuy is a farmer in Svay Rieng in one commune that is fully irrigated, as a result of a PRASAC project started in 1997. Before 1997 he was a soldier in the army and his wife was in the village trying to make ends meet through some early wet season paddy cultivation and raising of cows. Once irrigation was available in the village, his land of 3 ha could be cultivated with two crops per year and an average yield of 4 tonnes/ha. He broadcast rice using seeds from Viet Nam, has 2 pumps and rents tractor services to prepare land. Threshing is also mechanically done. As he started to have higher income from rice cultivation he invested in digging ponds on his land and has currently three ponds that produce about 1000 kg fish per year which he sells in the commune and occasionally in the provincial market; the total level from this activity is about $1,000 per year. He attributes the increased income and success

of his business to intensive use of new agricultural techniques that he has learned through various training courses with the Provincial Department of Agriculture and also through frequent visits to Viet Nam. At the same time, he believes that rice alone cannot be a business to provide sufficient income to his family, given the relatively small size of the farm. For this reason he has started both aquaculture and animal raising (cows and pigs). He is constantly learning new techniques in both crop and animal husbandry.

e.) The Importance of a Distribution Network - The Sauces Processor

Ms San Kimheun is a 35 years old food processor from Battambang. She and her husband started the business of producing fish, chilli, and soy sauce about 4 years ago. Previously her husband was a worker in a processing plant in Phnom Penh and she was a small trader in the local market. She convinced her husband to start the business. Since the beginning her target market was farmers from neighboring districts. In order to compete with cheaper and higher quality products from abroad, she and her husband thought of developing a distribution network which has been continuously increasing; they aim at covering all the districts in Battambang province very soon. Every day, her husband makes delivery to the various customers. The delivery services provided to farmers, often in distant villages provide a competitive advantage for her products. Her yearly income is about $10,000.

f.) Learning New Technologies to Improve Quality - The Rice Noodles Processor

Mr Seng Map is a rice noodle processor in Battambang province. Over the past 10 years he has consistently increased his production capacity and sales; his distribution network covers now the provinces of Battambang and Pailing. His main competitors are rice noodles from Thailand and Viet Nam. His factory is producing about 2,300 kg of noodles per day. He employs 35 people and uses about 2,000 kg of rice per day, implying a procurement of about 700 tonnes per year. His main problem is in learning new technologies to improve quality of the product and become more competitive with imported products. However, currently he does not know where he could learn the new technology. His estimated yearly income is about $70,000.

g.) Establishing Effective Value Chains - Angkor Kasekam

The example of Angkor Kasekam (see Box) is rightly cited as a model of an entrepreneur in Cambodia who single-handedly has created a value chain for a niche rice market and in the process has been able to generate a supply chain involving more than 80,000 farmers, as of 2005. His main product is a fragrant, long-grain, high quality rice variety (Neang Malis) which he exports to overseas markets at a premium over the competing Jasmine rice from Thailand. In order to do so, the mill has created a well organized supply chain with a network or farmers and suppliers in several provinces of Cambodia. He provides seeds and technical assistance and ensures purchase of paddy at prices well above the average (R 700 rather than R 500). The mills has advanced technology (Satake rice mill), is extremely well organized, and its

product is well packaged and directly put on containers at the mill for shipment at the port of Sihanoukville.

Box. 1: Niche Strategy in Rice Export: The case of Angkor Kasekam

Background
Angkor Kasekam is one of the largest commercial mills in Cambodia, with a mill capacity of 30 tonnes per hour. Established in 2000, but not operational until 2001, Angkor Kasekam is unique in terms of their integrated supply chain on the production side. Angkor Kasekam specializes in the production of organic Neang Malis rice from Battambang province and engages in contractual agreements with farmers to produce this pure variety.

Contracting Arrangements
Farmers who contract with Angkor Kasekam must first apply to be a member of a commune-level farm association, which requires approval by the association head, village chief, commune chief, and village representatives who are members of the association. Once approval has been granted, the farmers are subject to strict contractual obligations. For instance, farmers are provided free seed, with the provision that for every 50 kg of seed distributed, they are to return 100 kg to the company. In exchange for these conditions, farmers are guaranteed a premium price for their paddy, although a schedule of deductions is published that deducts from the paddy price products with high levels of moisture content, immature grains, and foreign matter. The company also maintains a private extension service which works with farm associations in 65 communes to promote proper farming techniques and monitor supply.

Linkages with Suppliers and Buyers
For the year 2001, the company reports that 27,000 households were affiliated with the company on 17,000 ha. For 2002, these numbers nearly doubled to 50,000 households on almost 30,000 ha. Estimated production in 2002 was 50,000 tonnes. The majority (95 percent) of Angkor Kasekam's production is destined for export markets, including Hong Kong and several markets in the EU.

Value Added
The price paid for Angkor Kasekam's rice fetches a high premium on international markets, with fob Sihanoukville prices reported at $460 per tonne ($100 per tonne more than the best Thai Jasmine varieties). Angkor Kasekam has been a victim of its success, as one of the constraints cited were working capital bottlenecks needed to purchase paddy from greatly expanded production.

Institutional Structure
One of the interesting facets about Angkor Kasekam is their ability to develop and enforce contractual arrangements in a country where high transactions costs and an underdeveloped legal and institutional framework impede the enforcement and application of many basic laws. Reliance on existing communal structures appears to prove critical to these relationships, though further research is needed to understand these dynamics. In addition, through the use of their own company-specific extension service, they have found means to ensure quality along the supply chain.

Such supply-chain management techniques draw parallels to those used by multinational and agribusiness companies in Latin America in the 1990s, which integrated their supply chains in response to a lack of public grades and standards necessary to export their production. While these extension services are limited in the sense that they only apply to a narrowly-defined, organic variety, the production lessons are still valuable for farmers given the lack of comprehensive public extension services in Cambodia.

Challenges

The challenge for Angkor Kasekam and other companies with similar business models is the need for the development of an appropriate enabling environment, in terms of institutions and infrastructure, to facilitate and manage these relationships. More importantly, while these models may facilitate private sector trade, particularly for exports, they do not necessarily have a major impact on the poor who either do not have land or have little in the way of marketed surplus to sell, highlighting the important role needed for government, multilateral institutions, and private institutions to better integrate the poor into the market.

Source: Adapted from (ACI 2002)

h.) It is not only about Capital and Transportation Cost - The Large Miller

A variety of entrepreneurs (farmers, traders, and processors) experience several constraints. Often cited as key constraints are the lack of capital, the competition from neighboring countries, and high transportation costs including illegal fees. All of these constraints are certainly relevant. However, as the examples above show, several entrepreneurs in Cambodia have been able to overcome several of these constraints and embark on a higher path of growth and value added. Even though a Program and appropriate government policies and effective institutions might contribute to enhance the opportunities for entrepreneurs to prosper, one should not forget that there are also other factors explaining the lack of success, including the unwillingness to adapt or lack of capacity.

The case discussed in Box 2 shows an entrepreneur who has a large mill, with adequate processing capacity to export quality rice, has sufficient capital, yet the current capacity utilization of the mill is only 10 percent (which when taking into account depreciation of capital would imply negative margins). Even though the increase in paddy price during the last 4 years (originated by growing demand from Viet Nam) is often considered the main factor behind the present difficulties of the rice milling industry, a closer analysis of the mill performance show in fact an inability to establish a supply chain (ie backward linkages with farmers and suppliers) as well as the inadequate effort to meet buyers requirements.

Box 2. How Large Mills Cope with Changing Paddy Prices?

During the period 2002 to 2005, paddy prices have increased substantially, mostly as the result of imports of paddy from Viet Nam and Thailand. This increase in paddy prices has been often indicated as the major reason for the stagnant growth of the milling industry in Cambodia. The analysis of a large mill visited by the Consultant's Team during the field work however suggests that other reasons may play a role in explaining the low performance of the milling industry. The mill visited by the Team is one of the largest mills in Cambodia: it has a capacity of about 40,000 tonnes per year of milled rice, is endowed with modern equipment able to produce milled rice of good quality acceptable in international markets, and has excellent facilities located along one of the main national roads. Moreover, the owner of the mill has access to considerable finance from his own funds. The conditions of the mill would seem excellent to embark on exports of rice. This, however, has not occurred. During the last year, the mill was operating at 10 percent capacity, producing and selling only about 4,000 tonnes.

During the period 2002 to 2005, prices of paddy have indeed increased considerably, even when one takes into account inflation. The paddy prices over the period have increased by 25 percent in real terms; see Figure 1. Over the same period, the decrease in revenues of the mills has been dramatic, dropping by 75 percent from US$5.2 million in 2002 to US$1.3 million in 2005; see Figure 2.

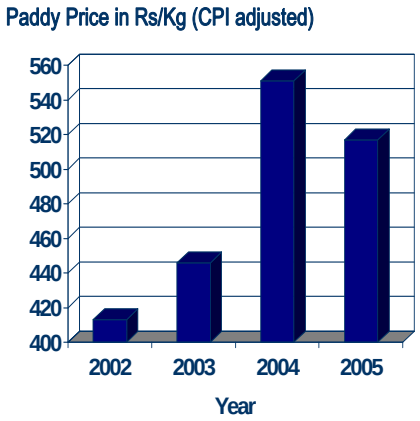


Figure 1 Change in real Paddy Prices

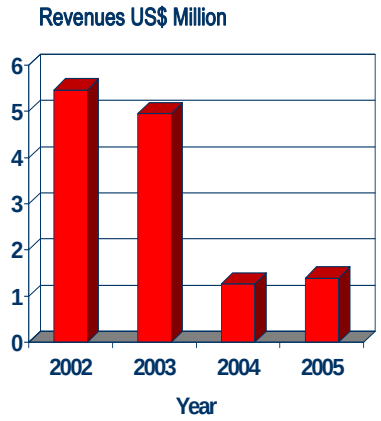


Figure 2 Change in Revenues

On the surface, it would then seem that there is a close relationship between paddy prices and revenues of the mill. In fact, the situation is rather different. An analysis of revenues of the mill, made available by the owner, showed that the high revenue in 2002-03 were due to the existence of a major contract with the Government. That contract value was about $4million. In 2004 the mill lost the contract and therefore could only sell to the domestic market (about $1million). There is a strong hypothesis that the mill was established in the expectation that the large government contracts could last, which in fact did not happen. Faced with a declined contract, the mill so far has not been able to reach foreign buyers. Yet, if the mill has to survive, it will have to develop backward linkages with farmers and forward with foreign buyers.

Source: Diagnostic Study Fieldwork

Appendix 8

Value Chain Stakeholder Analysis

This analysis provides indicative measures of value added for different stakeholders along the value chain in rice-based farming systems, namely farmers, traders, millers, and processors.

Value Added – Farmers

Table 1: Different crops and farming systems: Revenues, Costs, Gross Income, and Margins

	Unit	Battambang Typical Wet Season	Kg. Speu Aromatic Wet Season	Kg. Speu Dry Season but not Intensified	Svay Rieng Dry Season Intensified	Kg. Thom Vegetable Cabbage	Svay Rieng Vegetable Convolvulus
Revenue	000 Riels/ha	885	1,360	1,290	2,600	7,550	12,000
Cost							
Material	000 Riels/ha	290	610	755	1,280	1,900	388
Labors	000 Riels/ha	288	380	380	325	640	2,375
Total cost		577	990	1,135	1,605	2,540	2,763
Gross Income	000 Riels/ha	308	370	155	995	5,010	9,237
	$/ha	$77	$93	$39	$249	$1,253	$2,310
Margin %		34.8	27.2	12.0	38.3	66.4	77.0

Note: Exchange rate applied: 1US$ = Riels 4,000
Source: Diagnostic Study Fieldwork

A sample of revenues, costs, gross income, and margins (gross income as a percentage of revenue) for different types of farming systems and commodities is illustrated in Table 1. The conclusions from analyzing the margins for farmers are:

- Paddy cultivation is generally adding low value. With average landholding size of around 1 ha, most smallholder farmers (comprising the vast majority of farmers) produce just enough for self-consumption and a slight marketable surplus. In a typical wet season the gross income is about $77/ha. Without much land available and without an additional crop during the dry season, the overall gross margin is low. The land constraint cannot really be removed given the current agrarian structure. Double cropping is either not possible or very risky without access to irrigated water.

- The dry season paddy cultivation conducted under conditions of rainfed agriculture is very risky, as already mentioned. Moreover, the dry season cultivation requires higher material costs (for fertilizers, pesticides, herbicides, and pumping water) than the wet season. As a result, even if some improvements in yield could be obtained through the use of dry season varieties, the overall outcome in terms of value added can be even lower than during the wet season (in the example of Table it is $39/ha, about half the level in the wet season).

- Improvement in margins could be obtained by either cultivating aromatic varieties or by intensifying agriculture through the use of irrigation, high yielding varieties, and sound plant nutrient and pest management. The increase in gross income resulting from aromatic varieties is about 20 percent (from $77/ha to $93/ha) and for intensified agriculture can be of more than 200 percent (from $77/ha to $249/ha). The increase in margin for aromatic varieties is mainly the outcome of

higher prices for the product (Riel 700/kg instead of Riel 500/kg) and the increase in margin for intensified rice is mainly the outcome of increase in yield (5 tonnes/ha instead of 2 tonnes/ha).

- Diversifying into high value products, such as vegetables, can result in dramatic increases in value. The two examples shown in the table above indicate that vegetable production can lead to gross income 16 to 30 times higher than in the case of paddy produced during the wet season. Shifting to vegetables and other higher value products is of course partly an issue of technology and partly an issue of market access. The total size of the vegetable market in Cambodia is much smaller than the size of the rice market. However, one should not forget that there is still a large demand for vegetables that is currently met by imports from Viet Nam (estimated at 80 percent of total demand).

Value Added – Traders

Table 2: Paddy Traders: Revenues, Costs, Gross Income, and Margins

	Unit	Kg. Speu Medium 1	Svay Rieng Medium 2	Kg. Speu Large
Volume	Tonnes	1,430	2,200	5,525
Revenue	000 Riels	940,200	1,286,000	4,068,500
Total Expenses	000 Riels	934,140	1,193,700	3,955,336
Gross Income	000 Riels	6,060	92,300	113,164
	US$	$1,515	$23,075	$28,291
Margin	%	0.6	7.2	2.8

Note: Exchange rate applied: 1US$ = Riels 4,000
Source: Diagnostic Study Fieldwork

A sample of revenues, costs, gross income, and margins (gross income as a percentage of revenue) for different types of paddy traders is illustrated in Table 2. The conclusions from analyzing the margins for paddy traders are:

- Gross income from trading activities is much larger than in the case of production activities by farmers.

- Margins are relatively low, suggesting that contrary to commonly held belief there are not monopolies. Traders themselves often complain about too much competition. A study conducted in Battambang[8] has supposedly indicated local monopolies in which farmers become captives of traders. This situation however might be the outcome of interlocking products and credit markets: the trader provides credit to farmers in need and by doing so exercises influence on the price of the product. In most cases observed by the Consultant's Team there is no credit involved in selling of paddy from farmers to traders and markets appear rather competitive.

- There are considerable differences among the performance of difference traders. Comparing just two traders of similar size (referred to in the table above as medium 1 and medium 2), the difference in gross income is striking. The main

[8] Referred to by Julien Calas during the Final Workshop.

difference is related to storage decisions by different traders. In the case of the first trader, she decided to store paddy and was penalized by a sudden drop of prices when she finally put the produce on the market. In the case of the second trader, he was quite skilful in exploiting high price hikes during the postproduction period. There were no noticeable differences in varieties of paddy sold by the two traders. This suggests that trading is a highly risky and specialized occupation. Good knowledge of seasonal prices and the capacity of taking quick decisions in response to market conditions are critical skills for success.

- Almost all of the traders self-finance their investment both for working capital requirements and investment capital. The reason is obvious. Given the high cost of capital and the relatively low margins in paddy trade, there is hardly any chance of making a profit in trading after paying the interest on borrowed capital.

Value Added – Millers

Table 3: Millers: Revenues, Costs, Gross Income, and Margins

	Unit	Kg.Speu Small	Kg. Thom Medium	Battambang Large
Volume	Tonnes	200	3,000	5,100
Revenue				
Rice	000 /Riels	99,600	1,390,800	2,010,000
Others	000 /Riels	20,400	342,000	1,129,752
Total Revenue	000 /Riels	120,000	1,732,800	3,139,752
Total Expenses	000 /Riels	113,565	1,521,940	2,773,027
Gross Income	000 /Riels	6,435	210,860	366,725
	US$	$1,609	$52,715	$91,681
Margin %		5.4	12.2	11.7

Note: Exchange rate applied: 1US$ = Riels 4,000
Source: Diagnostic Study Fieldwork

A sample of revenues, costs, gross income, and margins (gross income as a percentage of revenue) for different types of millers is illustrated in Table 3. The conclusions from analyzing the margins for millers are:

- Gross income from milling activities is much larger than in the case of production activities by farmers.

- Small mills have relatively low margins. When compared these margins to larger mills, however, one should take into account the actual costs of structures and capital and the depreciation factors which are much higher in the case of larger mills.

- As in the case of traders, storage decisions might cause tremendous changes in gross income. The medium mill in Kampong Thom has a volume of sales which is 15 times the volume of sales of the small mill in Kampong Speu, yet the gross income is 33 times higher. Part of this difference is explained by better quality provided by the medium mill when compared to the small mill. However, a large part of the difference is due to storage decisions.

- In the case of large mills, the gross margin is deceptively high (almost 12 percent). In fact the mill is operating at only 10 percent of capacity (see Box explaining the story behind it). When depreciation of fixed assets is taken into consideration, the net margins might be much smaller and possibly negative.

- Small and medium mills market only to the domestic market. The quality of rice they are able to provide is of insufficient quality and consistency for exports. On the other hand, the larger mill has the capacity of providing quality rice, but it is not doing so, mainly because of bottlenecks at the supply side or at the marketing side.

Value Added – Processors

Table 4: Processors: Revenues, Costs, Gross Income, and Margins

		Battambang	Kg Speu	Battambang	Kg. Thom
	Unit	Sauces (Chili,Soy,Fish)	Soybeans (popussandeak)	Noodles	Soy bean Fermented
Revenue	000 Riels	600,000	43,200	1,175,300	16,200
Cost	000 Riels	562,500	36,000	903,375	13,770
Gross Income	000 Riels	37,500	7,200	271,925	2,430
	US $	$9,375	$1,800	$67,981	$608
Margin	%	6.3	16.7	23.1	15.0

Note: Exchange rate applied: 1US$ = Riels 4,000
Source: Diagnostic Study Fieldwork

A sample of revenues, costs, gross income, and margins (gross income as a percentage of revenue) for selected food processors is illustrated in Table 4. The conclusions from analyzing the margins for food processors are:

- Gross income from processing activities is generally larger than in the case of production activities by farmers.

- All of the food processors encountered by the Consultant's Team are small scale.

- They fund activities with their own funds.

- They are able to obtain moderate gross income by meeting consumer demand for processed foods and are able to compete with imported products.

Appendix 9

Selection of Provinces Analysis

Regions and Provinces of Cambodia

Tonle Sap Region (Kampong Chhnang, Kampong Thom, Siam Reap, Oddar MeanChey, Banteay MeanChey, Battambang, Pursat provinces);

Plains Region (Kampong Cham, Svay Rieng, Prey Veng, Kandal, Phnom Penh, Takeo, Kampong Speu provinces);

Coastal Region: (Kampot, Kep, Sihanoukville and Koh Kong provinces);

Uplands (Kracheh, Mondolkiri, Rotanakiri, Stueng Treng, Preah Vihear and Paillin provinces).

The program will focus its development interventions on the rice-based farming systems of Cambodia This will, as a consequence, exclude the Uplands Region[9], and geographically focus attention on the Tonle Sap Region, the Plains Region and possibly parts of the Coastal Region.

The main criteria for CAVAC province selection were:

1.) the incidence of poverty and food insecurity;
2.) synergy with RGC and other donor / NGO supported activities;
3.) feasibility of interventions, including management capability and support of provincial administrations.
4.) provinces representative of different rice-based farming systems

The final selection was Kampong Thom, Takeo, and Kampot provinces.

{Give summary for rationale}
Kampong Thom and Takeo are two of the main agricultural production provinces, while a major part (possibly 50%) of the export trade passes through Takeo. Much of the fruit and vegetable (F&V) production is located within the target provinces of Takeo and Kampot. Irrigation ranging from 6-32% of total paddy land in the target provinces. Although agribusiness/traders are already established in the three initial target provinces, providing smallholders with some inputs and access to markets. However, they tend to be small-scale, poorly organised, and poorly skilled.

[9] The 'Regions' referred to are agro-ecological regions (not administrative)

Table 1: Criteria for the Tonle Sap Region

Provinces:	**Kampong Chhnang**	**Kampong Thom**	**Siem Reap**	**Otdar Mean Chey**	**Banteay Mean Chey**	**Battambang (incl. Pailin)**	**Pousat**
Poverty:	Over 50% HDI: 0.45 PRI: 0.59	HDI: 0.34 PRI: 0.77	Over 50% HDI: 0.33 PRI: 0.49	Very Poor HDI: 0.1 PRI: 0.65	HDI: 0.41 PRI: 0.65	Pailin o. 50% HDI: 0.46 PRI: 0.80	HDI: 0.40 PRI: 0.63
Food Insecurity:	Moderate FSI: 0.52	Severe FSI: 0.45	Severe FSI: 0.40	Most severely FSI: 0.32	Moderate FSI: 0.52	Moderate FSI: 0.59	Minor FSI: 0.48
Landlessness:						Over 25%	Over 25%
Main Farming Systems	Rain fed terrace	Rain fed terrace	Rain fed terrace	Uplands + irri	Rain fed terrace	Rain fed terrace	Rain fed terrace
Major Donor Projects	SLPP, NSDP	IFAD/GTZ	Ecosorn DFID/Danida		Ecosorn, JICA	Ecosorn, JICA, FAO	DFID/Danida SLPP, JICA
Other AusAID		ACIAR	ACIAR, ADRA			ACIAR, CARE	
MOWRAM Projects	South Korea	AFD/ADB	ADB/AFD		ADB/AFD	ADB/AFD	
SME Projects		GTZ,	GTZ, EU		EU	EU	EU
PDAFF rating	**	***	**	?	**	***	**

HDI = Human Development Index. Source: Food Security Atlas of Cambodia, draft, World Food Program, 2005
PRI = Poverty Rate Index. Source: Food Security Atlas of Cambodia,World Food Program, 2006.
FSI = Food Security Index. Source: Food Security Atlas of Cambodia,World Food Program, 2006.

Table 2: Criteria for the Mekong Plains Region

Provinces:	**Kampong Cham**	**Svay Rieng**	**Prey Veng**	**Kandal**	**Kampong Speu**	**Takeo**	**Phnom Penh**
Poverty:	HDI: 0.48 PRI: 0.96	HDI: 0.43 PRI: 0.60	Over 50% HDI: 0.42 PRI: 0.50	HDI: 0.50 PRI: 0.89	HDI: 0.46 PRI: 0.89	HDI: 0.43 PRI: 0.92	HDI: 0.94 PRI: 0.96
Food Insecurity:	Minor FSI: 0.57	Moderate FSI: 0.52	Moderate FSI: 0.52	Moderate FSI: 0.50	Moderate FSI: 0.53	Minor FSI: 0.50	Minor FSI: 0.72
Landlessness:					14%		
Main Farming Systems	Rain fed terrace	Rain fed terrace	Rain fed terrace + irrigation	Rain fed terrace + irri	Rain fed terrace	Rain fed terrace & irri	Rain fed terrace
Major Donor Projects	ASDP, AFD	ASDP, IFAD	ASDP, IFAD, JICA		ASDP	ASDP	
Other AusAID	ACIAR		CARE	ACIAR			
MOWRAM Projects				AFD, JICA		JICA	
SME Projects	EU	EU	EU	EU		EU	
PDAFF rating	**	***	**	?	**	***	**

HDI = Human Development Index. Source: Food Security Atlas of Cambodia, draft, World Food Program, 2005
PRI = Poverty Rate Index. Source: Food Security Atlas of Cambodia,World Food Program, 2006.
FSI = Food Security Index. Source: Food Security Atlas of Cambodia,World Food Program, 2006.

Detailed Selection Analysis

1.) Incidence of Poverty and Food Insecurity

Applying the **combined severity** of poverty and food insecurity as the first selection criteria for provinces to be included in CAVAC – with e.g. the human development index (HDI) of 0.45 as a cut-off rate, all seven provinces of the Tonle Sap Region will qualify, while three (of seven) provinces of the Mekong Plains Regions (Svay Rieng, Prey Veng, and Takeo) will qualify.

In terms of **poverty distribution** among the provincial populations, four of the Tonle Sap provinces have incidences of poverty of over 50% (ref. Food Security Map, 2003), while this is only the case for one province (Prey Veng) on the Mekong Plains. Applying 0.80 as the cut-off poverty index this would again include all provinces in the Tonle Sap Region as program candidates, while only Svay Rieng and Prey Veng provinces from the Mekong Plains Region would qualify. (Kampot: 0.9).

In terms of **food insecurity**, three Tonle Sap provinces experience most severe (Otdar Mean Chey) or severe (Kampong Thom, Siem Reap) food insecurity. None of the Mekong Plains provinces appears in the 'severe food insecurity' category (Source: Cambodia Food Security mapping, 2003). Applying 0.5 as the cut-off food security index, this would exclude all the Mekong Plains provinces, and include only four (of seven) provinces from the Tonle Sap Region: Kampong Thom, Siem Reap, Otdar Mean Chey and Pousat (e.g. exclude Battambang province). (Kampot 0.55).

2.) Feasibility and Production Potential

Three main criteria for feasibility and production potential have been utilised:
- potential for intensification and diversification in rain-fed terrace areas,
- water and soil conditions, agrarian structure,
- rice & fruit & vegetable potential and market possibilities

a.) Potential for intensification and diversification in rain-fed terrace areas,

This applies to two regions where the majority of the population is concentrated (8 million):
i.) South-East Plain Provinces (Prey Veng, Svay Rieng, Takeo, Kampot and Kompong Cham south), and
ii.) North-West Tonle Sap Region (Battambang, Siem Reap, Banteay Maenchey).
Irrigated double cropping has mainly developed in the South-East around Phnom Penh (incl. Kandal and Kampong Speu).

b.) water and soil conditions, agrarian structure,

Water constraints and low soil fertility are the main constraints to the further intensification of this system

Rainfall pattern and water availability: Annual rainfall on the Mekong Plains range from 1200-1800 mm (MOWRAM data 1990-1998). Total land area with shallow well

potential varies between 90% in Svay Rieng, Prey Veng and Kandal to 2% in Kampong Speu. With respect to irrigation potential :

- Svay Reing: 6,000 ha in the wet season and 4000 ha in the dry season (total land area 0.3 mill ha). Of this potential, 20 irrigation systems (some of which may need rehabilitation irrigation) cover 87% in the wet season and 90% in the dry season. Prey Veng: 25,000 ha in the wet season and 31,000 ha in the dry season (total land area 0.5 mill ha). Of this potential ,111 irrigation systems (some of which may need rehabilitation) cover 41% in the wet season and 72% in the dry season.
- Takeo (total land area 0.4 mill ha), 100 irrigation systems (some of which may need rehabilitation) cover 24,000 ha in the wet season and 60,000 ha the dry season.
- Kampong Speu: 33,000 ha in the wet season and 3,000 ha in the dry season (total land area 0.7 mill ha). Of this potential, 95 irrigation systems (some of which may need rehabilitation) cover 58% in the wet season and 22% in the dry season.
- Kampot: 5,000 ha in the wet season and 10,000 ha in the dry season (total land area 0.6 mill ha). Of this potential, 32 irrigation systems (some of which may need rehabilitation) cover 70% in the wet season and 29% in the dry season (data source: Diagnostic Study 2006, Table 48).

Annual rainfall around the Tonle Sap area range from 1200-1600 mm – with the upland areas receiving up to around 2000 mm per year (MOWRAM data 1990-1998). Total land area with shallow well potential varies between 50% in Battambang and 25% in Pursat (45% in Kampong Thom). With respect to irrigation potential :

- Kampong Thom: 70,000 ha in the wet season and 6,000 ha in the dry season (total land area 1.4 mill ha). Of this potential, 64 irrigation systems (some of which may need rehabilitation) cover 63% in the wet season and 59% in the dry season.
- Pursat: 57,000 ha in the wet season and 2000 ha in the dry season (total land area 1.3 mill ha). Of this potential, 47 irrigation systems (some of which may need rehabilitation) cover 11% in the wet season and 2% in the dry season (data source: Diagnostic Study 2006).

Soil conditions: In the Mekong Plains provinces, lowland soils are generally of lower fertility, with large areas of upper terrace Prateah Lang soils in both Prey Veng and Svay Rieng. The flood plain Krakor soils and Kok Trap acid clay soils have higher potential. Prey Veng have some upland areas of fertile Kampong Siem soils in the north. Only small areas of Kampot province have been mapped, but Prateah Lang, and soils derived from the sandstone mountainous areas, are known to exist. Both Takeo and Kampong Speu have large areas of unfertile Prateah Lang soil, but also areas of fertile Kbal Ko used for recession rice. Takeo has no significant upland areas, but in Kampong Speu there are areas of sandy uplands suited to horticulture. Super-imposed on all this, adjacent to all the major rivers there are levee areas of very fertile Kien Svay soils which are very suited to vegetables and maize"[10].

Very good rice soils (Toul Samrong and Bakan) are mainly found in Battambang, Siem Reap, Banteay Maenchey, and Pursat (large pocket) provinces – with pockets spread across the lower areas of the remaining provinces. Kampong Thom otherwise mainly has (poor) sandy soils and uplands red basaltic. Pursat, to the south of the lake has large contiguous areas of the fertile Tuol Samroung and Bakan soils, which have

[10] Ref. CARDI-AP (personal communication)

great potential for improved mechanized lowland rice production (even larger areas of these soils in Battambang). In Kampong Thom to the north of the lake the lowland soils are less fertile with significant areas of sandy Prateah Lang soil, but Kbal Ko and Krakor (surrounding the lake, and well suited to recession rice) are more productive. The upland regions of Kampong Thom and Pursat are largely unmapped, but areas of fertile Lobansiek and Kampong Siem soils are known to occur".

Agrarian Structure: Average farm holding size is 0.9 ha, which is said (Diagnostic Study 2006) to be the acreage necessary for family paddy needs (at current yield levels) – meaning that there is room for commercial production through yield increases. Average farm size in Svay Rieng is 1.3-1.7 ha and in Prey Veng 1.1-1.4 ha (different sources). Average farm holding size for the region is 1.3 ha, more in Pursat (1.8 -2.3 ha) and Kampot Thom (1.4), than in the western provinces (0.9 ha).

Among the provinces, Kracheh has the highest level of landlessness at 39% follows by Koh Kong at 38%. Also Battambang and Pursat had over 25% landless. Thus, three out of four provinces with high landlessness are in Tonle Sap and coastal regions, which are predominantly rice-growing areas.

c.) Rice & fruit & vegetable potential and market possibilities

Rice Production: Acreage allocated to rice production is much less in both Pursat and Kampong Speu, than in the other four provinces. (Table 1 (page 9)) The volume of paddy/rice trade may therefore also be more limited from Pursat and Kampong Speu, and this may be an important consideration for paddy/rice business potential, which is a low margin/high volume industry**.**

Fruit & Vegetable Production: The category of F&V is broad and all crops have varying characteristics especially in perishability and this is one of the key drivers for where production is located, with drought resistant crops such as gourds and pumpkins produced in the dry season without irrigation and relatively far away from urban centres, while green leafy vegetables are a peri-urban activity as in most countries but especially in Cambodia because of the absence of a cold chain. Other drivers are quality (and price/costs).As regards imports from Vietnam, temperate crops such as cabbages, carrots beets etc, their infrastructure in the Highlands of Dalat is superior in addition to a very suitable agro-ecological zone that it could be pointless to focus on these crops, while the commercial vegetable sector in Cambodia is in its infancy. Instead targeting could be on tomatoes, cucumbers green leafy vegetables and others with focus on quality".

Fruits & vegetable production is the second most important agricultural activity in Cambodia (after rice/cereal production) However, this involvement differs substantially among provinces. 75% of tomatoes and nearly 100% of cabbages as well as substantial amounts of other vegetables are imported from Vietnam – total imports of fruits & vegetables are estimated as between 65-80% of commercial consumption. Locally produced vegetables are usually from nearby areas, Phnom Penh is supplied mainly from Kandal and Kampot in the wet season. Inter-provincial trade is otherwise small (Diagnostic Study 2006).

In the wet season a significant vegetable production originates in Kampong Cham, Kampot, Kampong Speur and Kandal, while production in Prey Veng and Svay Rieng appears to have limited potential due to high likelihood of widespread flooding. Kandal, Kampong Chhang, and Kampong Cham have a significant production in the dry season, where also Prey Veng and Svay Rieng can produce, if irrigation is available.

Market Possibilities[11]

- **Kampot Thom** is situated on the marketing channel axis Phnom Penh – Siem Reap, where PP is the premier market for fruits and vegetables in Cambodia, with Siem Reap interesting from the same perspective because of the tourist trade.
- **Pursat** is situated near Phom Penh and could access that market as well as the general rice markets. It is on the main axis of paddy rice trading in Cambodia (Figure 2). The potential for further expansion along such lines may therefore be more limited than in Kampong Thom.
- **Svay Rieng and Prey Veng** Both provinces are situated adjacent to the Vietnamese border along highway nr. 1 and thus have good potential for rice exports into Vietnam. The provinces are also not far from Phnom Penh and its fruit and vegetable markets. Prey Veng has, in addition access to bulk river transport on the Mekong and Bassac rivers. "However, F&V production in Svay Rieng is too small and too fragmented. Prey Veng has a lot more potential but is still marginal - a central problem is the Ferry at Neak Loeung, which significantly increases transport costs and time"[12].
- **Takeo, Kampong Speu, and Kampot** The first two provinces are situated near Phom Penh and can take advantage of the prime fruit & vegetable as well as the rice/paddy markets there. Takeo is already well endowed with irrigation possibilities, and may have an advantage in very perishable (e.g. leafy) vegetable production, while Kampong Speu is more poorly endowed but could have an advantage in dryland production of products such as gourds and pumpkins. Kampong has more rainfall, already grows a lot of orchards, and already supplies a significant volume of fruits and vegetables to Phnom Penh.

3.) Synergy with other development projects

Tonle Sap Region

Battambang, Siem Reap and Banteay Meanchey are covered by the $ 25 million dollar EU-supported ECOSORN agricultural development project (2006-10), which also includes enterprise developments. In addition, other relatively large projects also operate in those provinces (Table 2). It therefore seems that the development potential in those provinces are adequately covered at least for now, and those provinces may thus be excluded from the initial CAVAC phase on those grounds. Kampong Chhnang is focused on fisheries as also covered by the ASPD project, so

[11] The Ankor Kassekam rice exporting company already have a heavy presence in some provinces (over 80,000 contract farmers mainly in Battambang, Kampong Speur, and in two districts in each of Kampot, Takeo and Kandal). That may to some degree as a 'competitor' for the rural business component on its rice value chain part.

[12] Pieter Ypma (personal communication).

the synergy criteria thus only leaves Pursat and Kampong Thom as potential provinces for the CAVAC start-up phase in the Tonle Sap Region.

There are opportunities for cooperation with the IFAD/GTZ-supported RDP program (mainly organic farming) and with AFD/ADB supported irrigation developments in Kampong Thom; while Pursat offers cooperation possibilities with both JICA and ADB/AFD supported river-basin focused water management projects (under formulation) as well as with the DFID/Danida supported rural livelihoods/NRM commune-based project in its initial roll-out phase. ACIAR further support research projects in Kampong Thom.

Mekong Plains Region
Kampong Cham, and Kandal are both relatively well developed, and may be excluded on those grounds. Svay Reieng and Prey Veng are covered by several donor-supported projects (IFAD, JICA, ASDP) and could be said to be covered for now. That only leaves Kampong Speu and Takeo as good potential candidates for the initial CAVAC phase on the Mekong Plains as per the synergy criteria.

The AQIP Seed Company will continue its seed centre in Takeo, where there is also possibility for cooperation with the ASDP and JICA projects – the later is also the case for kampong Speu, which is not otherwise currently included under any major projects.

4.) Regionally representative provinces

This would involve the inclusion of one or two provinces <u>in each</u> of the two main rice-growing regions of Tonle Sap and Mekong Plains.

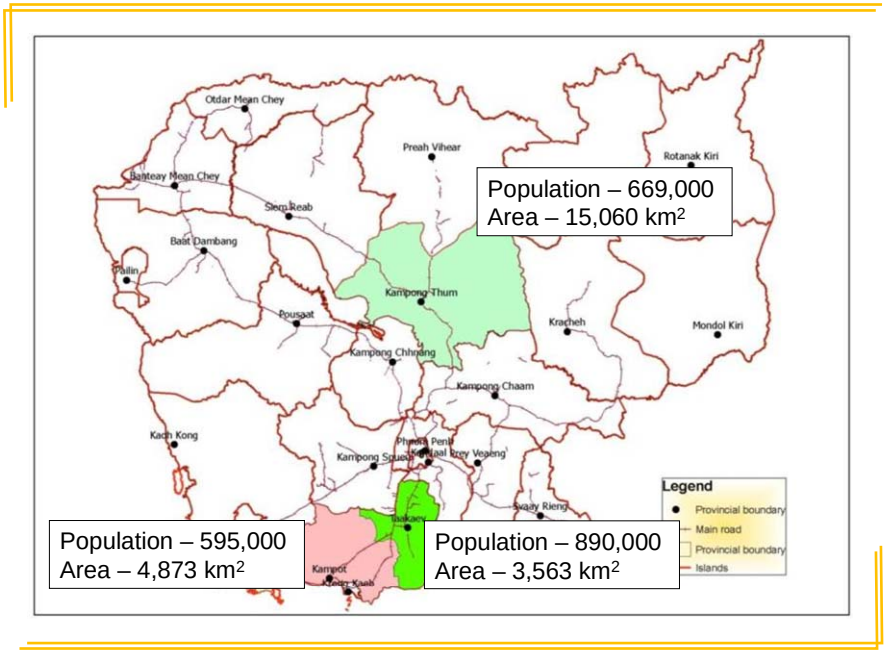
Table 3: Synergy with RGC and other donor supported activities (major projects only)
Current Coverage of Donor-supported Agricultural and Rural Development Programs (project concluding 2006 not included)

Name / Agent-Donor Period	Subject Coverage	Province	No. Communes Covered	Budget (mill. US$)
ECOSORN MAFF-EU / 2006-10	Agriculture, livestock, fisheries – farming system approach	Northwest: Banteay Mean Chey, Battambang, Siem Reap (PTF in Siem Reap)	40 (of 96 communes)	25 (grant)
ASDP / MAFF-ADB / 2004-10	MAFF Policy, legal, institutional, research & education, agro-business, Rural development	South: Kampong Cham, Prey Veng, Svay Rieng, Kampong Chhang, Takeo	280 communes	32 (loan & grant) TA and budget support 1.8 for Provincial devel. only
Rural Livelihoods / MAFF-IFAD, UNDP 2006-10	Farming system improvement	*East:* Kracheh, Preach Veang,, Ratanakiri	?	9 (grant ?)
Livelihoods & NRM CARD-DFID / Danida 2006-10	Decentralisation, livelihoods and NRM	Initial roll-out in: Kampot, Koh Kong, Pursat, Siem Reap, Kracheh.	National coverage in principle, but: 1000 (of 1625 communes)	62 (grant)
North-West Irrigation AFD/ADB 2005-10	Irrigation development	Siem Reap, Bantey Meanchey, Battambang, Pursat, Kandal		18/5 (loan/grant)
JICA Projects 2006-8	Irrigation and agricultural development	Battambang, Prey Veng, Kandal, Pursat, Takeo, Kampong Speu	?	14 (grant)
AFD Projects 2001-10	Irrigation, rubber, silk and agricultural development	Sihanoukville, Kampong Cham, Kratie, Kampong Thom, Pursat	?	26 million
IFAD Projects 2002-11	Ag./Rural Development and extension	Prey Veng, Svay Rieng, Kampong Thom, Kampot	?	26 Million

In addition a $26 Million irrigation project for Kampong Chhnang has recently been agreed with South Korea.

Appendix 10
Provincial Diagnostic Work

SUMMARY



Cambodian Agricultural Value Chain

kmµviFIsgVak;témøp

Table 1: Main Characteristics of three CAVAC provinces

	Kamp. Thom	Takeo	Kampot
Population	0.7 mill	0.8 mill	0.6 mill
Districts / Communes	8 / 81	10 / 100	8 / 92
Villages	737	1116	482
Wet season Paddy area	120,000 ha	158,000 ha	106,000 ha
Dry season Paddy area	6,000 ha	67,000 ha	2,500 ha

Source: General Statistics and Agrarian Structure Study, 2005); Paddy data from Diagnostic Study 2006, Table 38.

Household Production and Food Balance

RURAL Household Producing Crops	Takeo	K. Thom	Kampot	National
Wet Season-Rice Crop (%)	97	95	93	69
Dry Season-Rice Crop (%)	30	6	3	16
Rice Food Balance				
Provincial Level : meeting minimum white rice needs (%)	244	121	95	126
Smallholders (0.5 ha): meeting minimum white rice needs (%)	86	48	51	66

Agricultural land per household

	Takeo	K. Thom	Kampot	National
Landless (%)	4	7	7	15
Less than 1 ha (%)	63	44	86	49
1 – 3 ha (%)	29	40	6	30
> 3 ha (%)	4	10	1	6

1.) KAMPOT PROVINCE

Kampot is a coastal province with average annual rainfall of about 1,714mm (2,134mm in 2005). Good soil unit in this province is Hydromorphics and Lithosols groups. Kampot is also classified among the most suitable provinces for rice cultivation (Food Security Atlas). Farmers who use water from small scale reservoirs were limited in their capacity to cultivate the second crop because of the capacity of these storages could not meet the demands of larger fields or lengthy droughts (Food Security Atlas). Thus there is potential for rain water catchment intervention. Total irrigated area is 69,707 ha (MOWRAM, Food Security Atlas).

Besides rice (121,621 ha incl. 2,250 ha dry season – MAFF Report 2006), black pepper is the second commercial crop followed by coconut, sugar palm and other fruits such as durian, rambutan, mango, and other local fruits. Seafood is the potential product of this province. Kampot shares the border with Vietnam. It therefore has potential for export of agricultural produce to this country. Probably more importantly in the short term, it has a growing tourist sector and is close to Sihanoukville, so also has potential to produce fruit and vegetables to serve this domestic market.. It is also one of the provinces having high potential in cattle production (5th province - 256,000 heads in 2005 – MAFF Report 2006). Kampot is also CAAEP target province. There are two business associations in this province (PBES), and AusAID is planning to work with The Asia Foundation to further strengthen business associations there.

Agricultural Productivity and Food Security

Kampot province is heavily dependent on agriculture for employment, with 84.4% of the males and 79.1% of the females being in this sector. Some 3.5% males and 2.3% females are in manual labour, and 10.4% males and 18.4 females are in sales, clerical work and technical or managerial services (Field Study: Cambodia Bokor, Kirirom, Kep and Ream National Park, Protected Areas Review, 2002 [4] 2005 *Cambodia Demographic and Health Survey*).

Rural households are commonly engaged in crop production - rice production - to grow their own food and for cash income at least for one season per year. Majority own less than 1 hectare of agricultural land that are, according to the gathered information during the visits, gradually loosing fertility due to misuse of chemical fertilisers and salt intrusion, thus lessening the volume of production. Most food crop production is confined to the wet season with 93% of households producing rice crop in the wet season and only 3% during the dry season (Table 6). This indicates that a very small number of households have access to ground water or irrigation facility in the province. As an effect of single cropping, poor soil and small land holdings, only 53% of the communes meet the minimum white rice needs and only 51% of the farmers with half a hectare of land produce enough for their own consumption.

Table 6. Percentage of Rural Households Producing Crops

Household Rice Production & Rice Food Balance	Kampot	National
Rural Household Producing Crops		
Any Season-Any Crop (%)	93.0	85.0
Wet Season-Rice Crop (%)	93.0	69.0
Dry Season-Rice Crop (%)	3.0	16.0
Rice Food Balance		
Provincial Level: overall white rice food balance as % of minimum rice needs	95	126
Commune Level: Percentage of Communes with rice food balance >= 100%	53	61
Smallholders (cropping 0.5 ha.): white rice food balance as % of minimum rice needs	51	66

Source: Data and Calculations from MAFF 2004 Statistics

Market Access

Table 7 presents the market access indicators for Kampot and shows that market access is better than the national averages. Road networks in the province is also better than most of the provinces in Cambodia. Even rural roads are well maintained and exist in relatively good condition. However, according to the village visits, farmers and fishermen have little choice as to where or to whom they would sell their products. This is due to the low volume of production, fish catch and lack of marketing information and cost of bringing their products to the market. Their only choice is to sell their products at low prices to traders that come into the villages.

Table 7. Market Access

Market Access Indicator	Kampot	National
Ave. time (minutes) taken from village to the nearest market	33.0	45.0
Distance (km) to nearest year-round road	0.9	3.8

Source: Data taken from the World Food Programme's Food Security Atlas at this website: http://www.methodfinder.com/wfpatlas/index.php

Household Economic Assets/ Credit

An important dimension of poverty in Kampot province is the lack of physical assets with which to generate household income. As mentioned before, most of the rural households (86%) own less than 1 hectare of agricultural land (Table 8). However, only 10,373 have secure land titles, all being in Kampong Trach District. Table 8 also present the widespread lack of physical assets among households in Kampot in comparison to national

Credit access varies from village to village. The visit to the villages indicated that only 10-20% of the households access credit institutions while in two or three villages, the figure can go up to 90%. There are private credit institutions operating in Kampot like ACLEDA, AMRET, PRASAC, CWDCC, Thaneakea Phum and some local lenders. Reasons for borrowing are mostly for start up of household livelihood projects like raising livestock, starting a small store or food stall and to buy rice seedlings and fishing gears.

Table 8. Households' Economic Assets

Assets	Kampot	National
Agricultural land per rural household		
No agricultural land (landless) (%)	7.0	15.0
Less then 1.0 hectare (0.01- <1.0 ha) (%)	86.0	49.0
1.0- < 3.0 hectares (%)	6.0	30.0
>= 3.0 hectares (%)	1.0	6.0
Average crop land area (ha/ rural hh)	1.1	1.2
% households with thatched roof houses	33.0	34.0
Livestock Ownership among rural households		
Mean poultry per rural household (head)	14.5	6.5
Mean pigs per rural household (head)	1.4	0.9
Mean cattle per rural household (head)	2.0	1.2
Mean water buffalo per rural household (head)	0.1	<0.1
% HH not owning any cattle or buffalo	25.0	49.0
% HH not owning any pigs-CDB 2004	22.0	54.0

Source: Data taken from the World Food Programme's Food Security Atlas at this website: http://www.methodfinder.com/wfpatlas/index.php

Education

Literacy rate of the total population above 15 years is 73.6% and female literacy above 15 years is 63.3% which is higher than the national rate, at 67% and 60% respectively (Table 9). In the 22 villages visited, 80%-95% of the children attend schools with only very few drop outs. Parents sell assets and even borrow money to send their children to school. In villages without schools, parents buy bicycles to send their children to the school in the next village. It was also noted that a couple of international NGOs support the education of children by giving out clothes and books or school supplies. ILO-IPEC through the CCPCR has been supporting the education of fishermen's children through non-formal classes in some villages.

Table 9. Access to Education

Indicators	Kampot	National
Literacy rate >15 years % total population	73.6	67.0
Literacy rate >15 years % females	63.3	60.0
Teacher: Pupil ratio	1:40.2	1:43.6
Classroom: Pupil ratio	1:63.1	1:63.1
% Total students in:		
Pre-school	2.8	2.2
Primary	71.1	74.6
Lower secondary	19.7	17.2
Upper secondary	6.3	6.0

Source: MoEYS, Education Statistics & Indicators 2005/2006

2.) KAMPONG THOM PROVINCE

Kampong Thom is located on the edge of the Tonle Sap Great Lake. To the north of this province are forest areas. Soil is generally sandy in the northern part while closer to the Tonle Sap Great Lake it is more fertile because of siltation.

Rice is the common crop in this province, but yield is still not high (~2t/ha). Based on rice cultivation suitability analysis (yield and spread factors), Kampong Thom is classified among the most suitable provinces for rice cultivation (Food Security Atlas). Other common products are freshwater fishes. Crops with significant areas of production include rice (156,074 ha incl. 9,043 ha dry season-MAFF Report 2006), maize, cashew, soybean and mung bean. It also has potential in the production of cattle (4th province - 257,000 heads in 2005 – MAFF Report 2006). 18.4% of the total land area are water bodies. So, there is potential for irrigation scheme development. Total irrigated area is 77,162 ha (MOWRAM, Food Security Atlas).

The province has good road connection to Phnom Penh and Siem Reap province which are the potential markets for agricultural produce. The new program can be linked to the ADB-AFD funded project – the Stung Chinit Irrigation Scheme. Kampong Thom is one of the current CAAEP target provinces. AQIP Seed Company also has its branch in that province.

Agricultural Snapshot:

- Positive rice food balance (14,171 tons in 2002).
- Much of the surplus is from large commercial farmers.
- Many farmers produce insufficient rice to feed their families
- Many families who produce enough are forced into rice deficit to repay debts.
- Percentage of rice deficit families varies from village to village (10% - 70%).
- Guestimate – at least 40% of farmers in Kampong Thom are in rice deficit.
- Less than 60% of farmers are currently players in the rice value chain[13].

[13] See 'CAVAC Impacts on Poor Farmers' in Annexes.

Average length of rice deficit in communes in kampong thom (source: caea data):

District	Commune	Average rice deficit (months)
Baray	Chaeung Daeung	2
	Chhuk Khsach	1.5
	Chong Doung	7
Kampong Svay	Kampong Svay	4.3
	Tbaeng	7
Stueng Saen	Kdei Doung	2
	Tboeung Krapeu	5
Prasat Balank	Tuol Kreul	3
Prasat Samboru	Koul	4
Sandan	Ngan	2
Santuk	Kakaoh	3
	Prasat	2
Stoung	Pralay	9
	Rung roeang	5

3. TAKEO PROVINCE

Takeo is located in the Mekong plains region South-West of Cambodia, most part of which is flooded during the wet season. Average annual rainfall is 1,032.4mm (1,201mm in 2005). It also shares the border with Vietnam. Total land area is about 3,562 km^2, of which 68.49% are agriculture land areas, 170 km^2 or 4.77% are forest areas, 140 Km^2 or 3.93% are water bodies and non-use areas. In Takeo, farmers tapped into groundwater resources by using pumps and wells while farming the second crop in the early wet season. Study shown that the lack of tube well and pumps to access groundwater is a key constraint to the expansion of double cropping (Food Security Atlas). Takeo has the largest irrigated area (121,295 ha) and largest dry season rice production area in the country.

Soil in Takeo is generally more fertile than in Kampot, in particular for rice production. Cultural hydromorphics, grey hydromorphics and plinthite podzols are the main soil types found in this province. According to Food Security Atlas classification, Takeo is categorised among the most suitable provinces for rice cultivation having high yield and large cultivated areas.

Besides rice production (251,737 ha incl. 76,584 ha dry season – MAFF Report 2006), black pepper is the dominant commercial crop (total production is larger than in Kampot) followed by fruit tree production (small scale family orchard) such as coconut, sugar palm, mango, root crops etc. Freshwater fishery products including fishes and lobsters are the potential products of Takeo. It is the 4th province for cattle production (313,191 heads in 2005-MAFF Report 2006).

Takeo is one of CAAEP and AQIP target provinces. CAAEP has good relationship with Provincial Department of Agriculture and the Office of Agricultural Extension is considered a strong office.

For this year, Takeo produces a total of 787,277 t of paddy rice with an estimation of surplus about 478,305 t. Thus, from the economic point of view, rice is a highly potential crop for export considering there is still a large gap between current obtainable and the potential yields. Food sufficiency at the provincial level, however, is based on rice availability and does not necessarily imply nutrition adequacy. At the household level, however, food insecurity still prevails among small holders. With the exception of Borei Chulsar, rice deficit is reported in 38 communes of the 9 districts in Takeo with Bati and Samrong are the two leading districts with 8 communes each reported rice deficit. Income generation among these groups is needed to tackle food security and this can be achieved through value addition facilities and off-farm activities.

Appendix 11

RGC Merit Based Performance Incentive Scheme

Most Cambodian civil servants are poorly paid by the ministries that employ them; selection and promotion is often not based on competence or commitment to work; supervision is frequently minimal or absent; and consequently attendance is often poor and unpredictable as officers seek other forms of income. In addition, ministries often lack the equipment and supplies (particularly vehicles and fuel) that would allow staff to carry out the functions assigned to them. As a result, many of the tasks that might be expected to be carried out by civil servants are done erratically or not at all. It has therefore been common practice for donors wanting to utilise and develop the skills and systems within the Cambodian government to provide some form of salary supplementation to civil servants to encourage and assist them to work on the implementation of donor programs, even when this work involves tasks that they might normally be expected to carry out in their ministerial roles.

Most donors recognise the disadvantages and dangers inherent in this salary supplementation, and (for this and other reasons) have been working for some years to encourage a number of reforms to the civil service, including in relation to personnel management. One of these reforms is the Merit-Based Pay Initiative (MBPI), which provides a higher level of remuneration to staff in a number of key positions, who are selected on the basis of ability and subject to regular performance appraisal. The objective of the scheme is to improve governance in priority ministries by improving performance in the key policy and Program management areas thereby reducing the risk of corruption through better salary structures and meritocratic civil service management principles. Most of the additional salary costs are carried by the MBPI donors, with the RGC agreeing to pick up a gradually increasing proportion over a number years. The MBPI has been fully operational for approximately two years in the Ministry of Economy and Finance (MEF), where it is credited with contributing to improved performance.

(The RGC's Council for Administrative Reform has promoted its own salary enhancement scheme, called Priority Mission Groups (PMG), and has long sought donor funding for this. To date, no donor has been prepared to do so, due to concerns that the PMG approach lacks the appropriate merit selection and performance management features of MBPI.)

Following the success of the MBPI in MEF, donors have strongly encouraged RGC to extend the scheme to other ministries. While there has been much discussion, little concrete progress has been made, although a new sub-decree has been signed, setting out new salary scales for the MBPI (now referred to as the Merit-Based Pay *Incentive*) and linking this to the PMG. Plans for extension of MBPI are most advanced in the health sector. After more than two years of discussion, planning and preparation, donors hope that the MBPI may commence in the Ministry of Health in early 2009, and later be rolled out to sub-national level. The health sector's experience will have a strong influence on

whether and how quickly MBPI is considered in other sectors. The Ministry of Commerce also has some plans to establish an MBPI in the near future.

While donors in the TWGAW have suggested that MAFF and MOWRAM would benefit from MBPI, to date the progress on implementation has been slow, in part due to concerns within some sections of RGC. The institutional development program under the SAW is expected to make reference to personnel reform (including salary and management aspects), and if accepted by the ministries, may promote consideration of MBPI. However, given the general uncertainty and the considerable work required within a ministry before an MBPI scheme can commence, it currently appears unlikely that an MBPI will be able to be introduced into these two ministries within the next three years (at least). However, AusAID and other donors would be prepared to consider support to MAFF and MOWRAM if there was significant progress towards introduction of an MBPI.

In the absence of a full MBPI, donor and government members of the TWGAW have agreed that as far as possible and practical, any salary supplementation should follow the levels set out for the MBPI. This should increase the degree of consistency between donors, and make it easier to move to an MBPI if and when this is introduced to the sector. CAVAC would therefore be expected to adhere to these principles in those aspects that utilise civil servants to help implement parts of the program. If an MBPI (or similar scheme) is introduced, CAVAC would be expected to adjust its operating mechanisms to support these reforms.

APPENDIX 12: Lower Order Performance Indicators (indicative)

COMPONENT 1: AGRIBUSINESS DEVELOPMENT				
	Performance Logic	Performance Indicators	Means of Verification	Assumptions
	Intermediate Outcome: Agribusiness contributes to the strengthening of selected value chains and equitably shares benefits.			
	Outcomes/Outputs:			
1.1	Critical constraints to strategic value chains identified and developed for business action	• Whole-of-VC descriptions and agribusiness mapping prepared and updated. • Business market research reports prepared. • Business development opportunities identified and proposals prepared.	• VC descriptions. • Business market research reports. • Business development proposals.	• There is sufficient transparency and information available to scope the nature and scale of opportunities on offer.
1.2	Agribusiness partnerships supported to innovatively address constraints	• Number, type, cost and nature of projects established. • Number still operating successfully 12 months after support ceases. • Percentage of smallholder suppliers involved.	• Program / AIF records. • Activity designs. • Activity monitoring reports.	• Suitable agribusiness partners and farmer organisations can be identified that are willing to work with the Program in developing target VCs in specified locations. • The BEE provides a sufficient operational framework for these projects.
1.3	Enhanced farmer services embedded within Agribusiness practices	• Number and percentage of firms providing embedded services including: information, technical services (problem identification, recommendations, quality testing etc), and training. • Number and percentage of farmers obtaining information or services from agribusiness/ traders.	• Trader surveys. • Farmer surveys. • Training evaluations.	• Sufficient financial incentives exist or can be created for traders to provide 'embedded' services.
1.4	Improved availability and communication of market information between value chain stakeholders	• Increase in accuracy/timeliness of market information • Increased % of farmers accessing market information. • Increased availability of agricultural and market information.	• Farmer survey. • Market survey. • Survey of major media channels.	• Sufficient financial incentives exist or can be created for mass media to carry additional agricultural content.
1.5	Key infrastructure participatively planned, and constructed to address value chain bottlenecks.	• Type of infrastructure developed. • Total investment cost by sources. • Utilisation of infrastructure developed. • Condition of infrastructure developed. • Operation and maintenance provision	• Investment completion reports. • Management records (e.g. marketplace records) • Rapid field assessments.	

COMPONENT 2: WATER MANAGEMENT				
	Performance Logic	Performance Indicators	Means of Verification	Assumptions
	Intermediate Outcome: Sustainable increase in the area and yield of irrigated crops.			
	Outcomes/Outputs:			
2.1	Capacity of MOWRAM and PDWRAM improved to participatively design, develop, operate and maintain irrigation schemes	• Number of MOWRAM and PDWRAM engineers trained in feasibility, design, construction supervision and dam safety assessments. • Number of PDWRAM FWUC Facilitators trained • Percentage of participants receiving training reporting that skills/ knowledge learned has been applied. • Evidence of changed design processes within MOWRAM and PDWRAM. • Number of facilitation visits and FWUC trainings undertaken by FWUC Facilitators • Number and percentage of systems rehabilitated with FWUC sign-off during feasibility, design, and construction. • Number and percentage of dams receiving safety assessments annually.	• Ministry Prakas/ guidelines. • Program records. • FWUC performance assessments. • Training plans. • Training evaluation reports. • Safety assessment guidelines/ procedures. • Dam safety review reports. • MOWRAM policy related to dam safety assessment.	• MOWRAM and PDWRAM are willing and capable of improving the current design process, including cooperating with FWUC, MAFF and PDA.
2.2	Capacity of FWUCs improved to efficiently and effectively operate and maintain their irrigation systems	• Number and percentage of irrigation schemes with effective FWUC (effective means a FWUC's must have: 90% of eligible membership; all executive positions filled; and hold at least two member meetings per irrigated cropping cycle with >50% attendance). • Number and area of systems where secondary and tertiary structures are operated and maintained by FWUC • Changes in FWUC membership. • Changes in Irrigation Service Fees (ISF) and ISF collection rates. • Increase in O&M expenditure by FWUC. • Presence of annually updated O&M plans for each FWUC.	• FWUC membership lists, financial statements, and O&M plans. • O&M Plans. • O&M monitoring and evaluation reports (incl. Performance assessments). • O&M training plans and training evaluations. • O&M Completion reports.	• There is sufficient cohesion in farming communities for FWUCs to function effectively. • Farmers are willing to pay water user fees at a realistic level. • RGC allocates sufficient budget for O&M of headworks. • Sufficient technical support is provided by PDWRAMs to the FWUCs. • The new FWUC decree empowers rather than constrains FWUCs.
2.3	Selected systems rehabilitated and transferred to effective FWUCs	• Number of provincial schemes selected for rehabilitation; • Number small-scale schemes supported;	• Program records. • ISAEAs; Feasibility	• Sufficient design expertise can be mobilised.

COMPONENT 2: WATER MANAGEMENT				
	Performance Logic	Performance Indicators	Means of Verification	Assumptions
		• Number Feasibility Studies and technical designs completed and approved. • Number schemes where rehabilitation works completed and signed off by program; • Total area rehabilitated (provincial and small-scale schemes); • Increased service area (if any) (provincial and small-scale schemes); • Number farmer households benefiting (provincial and small-scale schemes). • Total investment by source (Program, participants etc) (provincial and small-scale schemes) • Total number of schemes (and service area) where full operation and maintenance is transferred to water user groups	Studies; technical designs. • Rehabilitation contracts and supervision reports. • Completion reports.	• Sufficient experienced contractors are available to complete rehabilitation contracts. • Farmers are able to manage construction/ rehabilitation activities for small-scale schemes. • Schemes are rehabilitated in accordance with approved plans
2.4	Improved models of water management adopted in rainfed areas	• Selection, implementation and review of pilots.	• Design reports. • Implementation reports. • Completion review reports.	• Affordable pilots of appropriate scale can be identified.
2.5	Increased use of hydrological data in the planning and management of irrigation systems	• Hydrological data collected in 3 provinces and being applied for river basin planning.	• Hydrological reports. • River basin plans developed utilising the data.	

COMPONENT 3.0: RESEARCH AND EXTENSION				
	Performance Logic	Performance Indicators	Means of Verification	Assumptions
	Intermediate Outcome: Farmer and service provider capacity increased and key value chain constraints alleviated.			
	Outcomes/Outputs:			
3.1	Priority research and extension projects supported that address constraints in selected value chains.	• Number and nature of activities identified and approved. • Number of projects that specifically address problems in selected value chains in target provinces. • Funding by source (Program, national R&D orgs, intl R&D orgs, etc). • Number of activities completed with PCRs prepared and approved.	• Activity Design Documents and Contracts. • Activity Monitoring Reports. • Activity Completion Reports. • QAI assessment. • Peer Review Reports.	• Research providers are focused on the needs of end-users and highest priority needs. • Agreement can be reached on high priority R&D activities and how they should be addressed.
3.2	Researchers, extensionists, farmers and agribusiness effectively linked through Partnership programs.	• Active involvement of extensionists, agribusiness and farmers in identification of priority research topics. • Number and nature of Action Research activities implemented involving extensionists, agribusiness and farmers as well as researchers. • Number and nature of extension/marketing activities involving extensionists, farmers and agribusiness implemented. • Evidence of extensionists and agribusiness cooperating in the establishment of follow-on commercial ventures. • Number of Farmer Marketing Schools implemented. • Number of participants, by sex. • Percentage of participants receiving training reporting that skills/ knowledge learned has been applied. • Nature of dissemination mechanisms (e.g. field days) implemented for various research activities, by type. • Estimated outreach achieved. • Nature of dissemination materials (e.g. FFS curricula, TIPs, mass media articles etc) prepared for various research activities, by type. • Estimated outreach achieved.	• Activity Design Documents and Contracts. • Activity Monitoring Reports. • Activity Completion Reports. • Peer Review Reports. • Training plans and records. • Training evaluations. • Extension monitoring reports. • Field inspections. • Dissemination materials.	• Effective mechanisms can be developed to ensure that R&D activities are adaptive and fully demand-driven, with meaningful input from researchers, end-users (farmers and agribusiness), extensionists and government (national and provincial). • Agribusiness/ traders are interested in participating in farmer extension activities • Effective working relationships can be established linking R&D providers with industry groups, extension agencies and national R&D providers. • Results will be ready for dissemination within the life of the Program. • Research outcomes can be translated into effective applied extension programs. • R&D providers accept their mandate and responsibility to

COMPONENT 3.0: RESEARCH AND EXTENSION				
	Performance Logic	Performance Indicators	Means of Verification	Assumptions
				verify potential impacts of R&D outcomes in the field.
3.3	Operational capacity of CARDI sustained through the provision of budgetary support.	• CARDI is able to retain core staff. • CARDI has sufficient operation funds to continue core research programs. • Institutional operation and funding is reviewed.	• CARDI Annual Reports. • Program Reports. • Institutional review reports.	• Funding from other sources will combine to sustain CARDI in the medium term. • Mechanisms are developed under the SAW for sustained longterm funding of research organisation s in Cambodia.
3.4	Enhanced capacity of formal and informal extension providers to transfer improved technologies and information to farmers	• Number of professional extensionists trained and accredited in FFS methodologies, by sex, province, and type of provider. • Number of farmer extensionists trained and accredited in FFS methodologies, by sex, province, and type of provider. • Percentage of participants receiving training reporting that skills/ knowledge learned has been applied. • Farmer knowledge and skills enhanced through participation in extension activities such as FFSs. • Number of FFSs and other extension events conducted, by type. • Number of participants, by sex. • Percentage of participants receiving training reporting that skills/ knowledge learned has been applied • Extension agents and farmers have good access to relevant high quality extension materials.	• Training plans and records. • Training evaluations. • Training plans and records. • Training evaluations. • Extension monitoring reports. • Field inspections	• Extension providers are able to develop the skills to provide good quality market-relevant extension services. • Extension providers are focused on the and highest-priority needs of end-users. • Appropriate farmer extension methods are utilised. • Methods adopted are effective in reaching women as well as men.

COMPONENT 4: BUSINESS ENABLING ENVIRONMENT				
	Performance Logic	Performance Indicators	Means of Verification	Assumptions
	Intermediate Outcome: Improved business enabling environment facilitates the development of selected value chains			
	Outcomes/Outputs:			
4.1	Improved research and understanding informs change in the enabling environment surrounding key value chains.	• Number and nature of studies conducted. • Number of stakeholder workshops held and participation. • Number of policy advocacy issues selected for action. • Number submissions made to govt. • Number policies/ laws / regulations changed as a result of CAVAC influence. • Percentage of participants receiving BEE-related training reporting that skills/ knowledge learned has been applied	• Program reports. • Submissions/ policy briefs. • Ministry Prakas. • Training plans and records. • Training evaluations.	• Studies and activities will have sufficient value to attain impact. • Government is willing to act on recommendations arising from studies and trials.
4.2	Increased opportunity for public private dialogue around key enabling environment issues	• Number fora established and regularity of meetings, at provincial and national levels. • Number of formal recommendations resulting from the PPD process. • Number and nature of changes that have resulted.	• PPD forum minutes. • Case studies.	• Both Government and the private sector are willing and able to engage in PDD mechanisms. • Practical measures to alleviate or remove constraints can be identified. • Government is willing to act on identified BEE issues.
4.3	Strengthened industry representative organisations	• Number, type and membership of organisations supported. • Activities conducted.	• Program records. • Membership lists. • Annual plans and financial statements.	• Industry perceives value in supporting the establishment of industry representative organisations.
4.4	Increase use of Public Private Partnerships for the construction and/or management of value chain infrastructure.	• Number feasibility studies and technical designs supported. • Number of PPPs facilitated. • Value of investment facilitated, by type.	• Program records. • Provincial government records.	• Potential private sector investment partners can be identified. • Transparency is maintained in PP investment proposals and transactions.

	Intervention Logic	Performance Indicators (PIs)	Means of Verification MoVs	Assumptions
	PROGRAM MANAGEMENT			
	Intermediate Outcome: To effectively and efficiently manage the Program in a manner that is responsive to stakeholder needs.			
	Outcomes/Outputs:			
5.1	Program governance arrangements established and operating effectively.	• NSC established and meeting routinely. • AWPs and M&E reports reviewed and endorsed by NSC. • Adequate PS representation on NSC.	• NSC membership. • NSC minutes.	• Effective working relationships with govt (national, provincial and district) is developed and maintained. • Effective working relationships with relevant industry organisations is developed and maintained. • Govt is willing to include PS, and PS is willing to be involved.
5.2	Program Management Office and Provincial Coordination Offices established and operating effectively.	• PMO and PCOs fully staffed. • Staff performing at a satisfactory level. • Number and type of training conducted for PMO and PCO staff. • Key physical and financial management systems established. • Operations Manual, Communication and Gender Strategy established and revised. • AWPs prepared in timely manner and approved by AusAID. • AWPs implemented in an efficient manner. • Progress reports prepared in a timely manner. • M&E Framework established and operating effectively. • MC and ACIAR-managed components effectively coordinated. • Timely mobilisation of quality ST TA.	• Staffing records and duty statements. • Annual staff performance evaluations. • 6-mnthly Progress and Financial Reports. • Training reports. • Operations Manual, Communication and Gender Strategy. • AWPs • MEF design. • M&E reports. • SMG reports. • External reviews. • TA mobilisation records and contracts.	• Competent Program staff can be recruited and retained, with clearly defined and accepted roles and responsibilities. • An effective working relationship is established and maintained between the MC and ACIAR. • Robust and reliable communication and coordination procedures are implemented.

	Intervention Logic	Performance Indicators (PIs)	Means of Verification MoVs	Assumptions
5.3	Agribusiness Innovation Fund (AIF) effectively and efficiently managed.	• Operational guidelines prepared. • Activities and partners identified and proposals prepared. • Activities implemented in accordance with required procedures. • Activities efficiently monitored and reported.	• Operational Guidelines. • Activity design summaries. • Activity monitoring reports. • Activity completion reports.	• Workable operating procedures and responsibilities can be agreed between AusAID and Danida.
5.4	Policy Support Facility effectively and efficiently managed			
5.5	Program effectively linked with the SAW.	• Program remains consistent with the SAW policies and programs. • Lessons identified through the Program being used by govt to inform future directions of the SAW.	• SMG reports. • SAW policy and program docs. • Program recommendations.	• Sound working relationship is maintained with the TWGAW. • Program remains sufficiently flexible to evolve as the SAW evolves. • • CAVAC generates approaches/ lessons that are relevant to the SAW.
5.6	Program effectively coordinated with other donor programs.	• Number of other donor programs with which CAVAC is formally cooperating. • Nature of cooperation.	• 6-mnthly Progress Reports. •	• Program actively networks with other donors.
5.7	Lessons learned systematically reviewed and shared with RGC and other donors.	• Number lessons learned/ sharing workshops conducted; Number of participants.	• 6-mnthly Progress Reports. • Lessons-learned reports.	