



REPUBLIC OF YEMEN

PROPOSAL FOR

**YEMEN: SMALLHOLDER AGRICULTURAL
PRODUCTIVITY ENHANCEMENT PROGRAM**

*Phase One Roll Out of
National Agriculture Sector Strategy (NASS)*

**FOR
YEMEN'S EFFORTS
TOWARDS
ACHIEVING FOOD SECURITY
UNDER
GLOBAL AGRICULTURE AND FOOD SECURITY
PROGRAM (GAFSP)**

**SANA'A
JUNE 4th, 2013**

Yemen: Agricultural Growth Program (GAFSP Financing Proposal)

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AREA	Agricultural Research and Extension Authority
ASMSP	Agriculture Sector Management Support Project
EOF	Economic Opportunities Fund
FU	Field Unit (of NIP/GSCP)
GAfsp	Global Agriculture and Food Security Program
GCC	Gulf Cooperation Council
GDAEI	General Department of Agricultural Extension and Information
GDP	Gross Domestic Product
GSCP	Groundwater and Soil Conservation Project of MAI
IFPRI	International Food Policy Research Institute
LWCP	Land and Water Conservation Project
MAI	Ministry of Agriculture and Irrigation
MCM	Millions of cubic meters
MoF	Ministry of Finance
MoPIC	Ministry of Planning and International Cooperation
MWE	Ministry of Water and Environment
NASS	National Agriculture Sector Strategy
NAPA	National Adaptation Program of Action (climate change)
NFSS	National Food Security Strategy
NGO	Non-governmental organization
NIP	National Irrigation Program (of MAI)
NWRA	National Water Resources Authority
NWSSIP	National Water Sector Strategy and Investment Program
OBA	Output-based aid
PES	Payment for environmental services
PCU	Program coordination unit
PPCR	Pilot Program for Climate Resilience
PSIA	Poverty and Social Impact Assessment
PWP	Public Works Project
RALP	Rainfed Agriculture and Livestock Project
SCFS	Supreme Council for Food Security
SFD	Social Fund for Development
SO	Sector Objective
SSO	Sub-Sector Objective
SWAp	Sector-Wide Approach
WUA	Water User Association

Exchange rate (May 2013)

Yemeni rials 215 = US\$1.00

Foreword

This proposal to support the Republic of Yemen's efforts to achieve food security for the Yemeni people has been prepared by government and is presented to the Global Agriculture and Food Security Program (GAFSP) Secretariat with a view to obtaining grant financing for the priority program proposed.

The proposal is in two parts. Part 1 provides a summary of Yemen's overall food security, agriculture and water strategy and the associated investment plan. Part 2 comprises a detailed and specific proposal for GAFSP financing of a program within the national strategy and investment plan. The implementation structures are in place and the program is essentially ready to begin implementation once financing is secured, subject to final preparation.

Although Yemen is amongst the most food insecure countries in the world, with alarming and deteriorating incidence of malnutrition and infant and child stunting, the country has previously been unsuccessful in applying for GAFSP financing. Extremely useful guidance has been provided by the Steering Committee (letter of May 23rd, 2012). Consequently, extensive further work has been done, including a further major round of stakeholder consultations. As a result, the National Agriculture Sector Strategy (NASS) and the associated agricultural investment programme have been updated on an interim basis to reflect revised orientations, including a stronger community-based and demand-driven approach and to reflect in the investment program a more programmatic (rather than project-driven) approach.

The Yemen GAFSP proposal has been revised in line with these changes to: (1) reflect stronger participatory approaches in design, implementation, monitoring and governance; (2) be a first phase of implementation of a scalable country-wide program; (3) strengthen the linkages to poverty reduction, food security and nutrition through productivity enhancement, strengthening of gender focus and integration with the National Food Security Strategy; (4) reinforce the linkages to the National Adaptation Program of Action for climate change (NAPA) through emphasis on an integrated watershed management approach; (5) enhance readiness for implementation through building on and scaling up successful experience whilst ensuring broad-based beneficiary participation; and (6) strengthen the risk analysis.

Following a decade of declining public expenditures in the sector under the previous government, Yemen's new administration is putting emphasis on rebuilding the public investment plan based on the strategic priorities in the NASS, on past experience and implementation readiness, and on investments that will have a substantial impact on the problems of poverty, food security and malnutrition. Investments are predominantly decentralized, community-based smallholder productivity programs. Government is working with development partners to seek financing for priority investments and it is expected that these efforts will progressively raise the share of public spending and will be supplemented by partnerships and private investment.

An independent review by IFPRI of the *National Agriculture Sector Strategy*, carried out in May/June 2013 following GAFSP Guidelines, has resulted in useful recommendations for further strengthening the *Strategy*. Many of these recommendations have already been included in an interim update of the NASS and others requiring further analysis will be incorporated in a formal update to be prepared and presented to the Council of Ministers shortly.

1.1 Objectives and indicators

The food security challenge in Yemen and recent deterioration

Yemen, a poor IDA-only country, is one of the ten most food insecure countries in the world. In 2012, about 46 percent of Yemenis – some 10.5 million people – did not have enough food (www.ipcinfo.org), and almost half of all households (45 percent) are now purchasing food on credit. Of the food insecure, the vast majority live in rural areas - 6.4 million people, 37 percent of the total rural population. About 60 percent of very young Yemeni children are stunted, and severe (life threatening) stunting affects one third of all children in the country. The problem of stunting is predominantly rural, affecting two children out of three in rural areas. The poor mountain agriculture areas of the highlands are a particular problem, with two thirds of all Yemen's food insecure living in dry highland areas.

Very reliant on food imports, which account for 80% of cereals consumption (2012), Yemen is also very vulnerable to external shocks. The global food crisis of 2007-8 led to steep rises in the cost of food and placed stress on the balance of payments. With the average Yemeni only 300 calories above hunger, domestic price rises pushed many more Yemenis into food insecurity. In 2000, Yemen used 10% of its export earnings to import food, by 2012 it was using 35%, representing a significant deterioration in its macro-level food security.

In response to this alarming and deteriorating situation, the Yemeni government, through the National Food Security Committee, developed its *National Food Security Strategy (NFSS)*, which was adopted by the Council of Ministers in February 2011. The *NFSS* was prepared with technical guidance and quality assurance from IFPRI. The key objectives are to reduce food insecurity by one third by 2015, to make 90 percent of the population food secure by 2020, and to reduce child malnutrition by 1 percent annually. The *NFSS* is multi-sectoral, including measures for restructuring the national budget, promoting rapid economic growth, improving risk management, investing in agricultural development and natural resource management, strengthening service delivery particularly for health, family planning, nutrition, and promoting women's empowerment. Because of the prevalence of food insecurity in rural areas, and the strong linkages between agricultural production and food security, part of the implementation of the *NFSS* is through the investment program for agriculture. In particular, the agricultural sector would contribute to several key elements of the action plan:

- Increase incomes through higher productivity and development of value chains (part of NFSS Action # 1)
- Promote high value alternatives to *qat* (part of Action # 3)
- Better targeted public investments and improved service provision for agriculture and poverty-reducing rural development (part of Action # 6)
- Women's empowerment through better access to agricultural assets and services (part of Action # 7)

Since early 2011, Yemen has passed through a period of political uncertainty and economic disruption which has significantly worsened the already grave food security situation. Estimates indicate that the economy shrank considerably in 2011. The agricultural sector was particularly hard hit, with an estimated drop in output of 16%, due to shortages of inputs and disruption of markets. Preliminary surveys suggest that food insecurity has worsened as a result, particularly in rural areas, with 43% of children nationwide underweight, 15% of them severely underweight. The transitional government¹ has therefore given absolute priority in economic recovery to the most vulnerable and affected groups, particularly in rural areas,

¹ Elections are due in 2014. See Section 1.3 below: 'Political and governance issues'.

prioritizing investment to raise agricultural productivity, improve rural incomes and strengthen food security.

Agriculture and food security

Food security and the agriculture sector are closely linked in Yemen. The agriculture sector produces about 12.6 percent of GDP (2012), and is the main source of income for 73 percent of the population – either directly (33 percent) or indirectly through the services and industries that are connected to the agricultural economy. Over the last thirty years, the rapid growth of demand for higher value products and the transformational role of groundwater have driven growth and employment in agriculture. Now, however, productivity is stagnating and water availability is declining. The priorities are to boost productivity whilst conserving water.

Most farms are extremely small and household farm incomes are typically very low. Unlike most of the world, economic dependence on agriculture has been growing because of reduced opportunities in the industrial and services sectors since 2000. The sector does have potential, with growth of over 5% a year 2005-2010, with grain, coffee and honey showing large increases. Livestock production, practiced by all farming households and particularly by the poorest, the landless and women, has potential to double value added, so increasing household incomes, nutritional status and food security. The current Five Year Plan forecasts continued growth in the sector at an average 5.1 percent 2011-2015, sustaining agriculture's share of GDP.

Agriculture strategy

In March 2012, the Council of Ministers adopted the *National Agriculture Sector Strategy (NASS)*. The NASS was prepared with technical guidance and quality assurance from UNDP. This formed the basis for an unsuccessful presentation of a proposal to GAFSP in 2012. Subsequently, Government decided to conduct an Update of the NASS and the associated investment plan for the following reasons:

- To reflect Government's determination to address the worsening poverty, food security and malnutrition problem through a strengthened agricultural development programme
- To take account, through an enhanced participatory consultation, of the louder 'voice' following Yemen's 'Arab Spring' of rural stakeholders, including women, youth and the marginalized
- To incorporate in the investment programme a realistic estimation of financial resources likely to be available in the near to medium term from government, the private sector and development partners.
- To reflect guidance from peer reviewers and development partners, including from GAFSP

The resulting Update of the NASS is summarized in Table 1 below, which sets out the linkages between objectives, contributing strategies and the main measures and investments.

Table 1: NASS Update Objectives, Strategies and Measures & Investments

Objectives	Strategy	Main measures and investments
SO 1: Increase production, food security and climate resilience by:	SSO 1.1: Increase production and incomes sustainably from rainfed systems, grains and fodder	<ul style="list-style-type: none"> ✓ Improved seed availability ✓ Research and extension
- Raising productivity in both crop and livestock production	SSO 1.2: Increase production and incomes sustainably from livestock	<ul style="list-style-type: none"> ✓ Animal health and animal husbandry extension at community level ✓ Promote fattening and dairy ✓ Promote apiculture and backyard poultry ✓ Disease control
- Integrated management of land and water resources	SSO 1.3: Improve productivity and sustainability of agricultural water management within an integrated watershed management approach	<ul style="list-style-type: none"> ✓ Climate change adaptation ✓ Improve irrigation efficiency and sustainability ✓ Promote water harvesting, small-scale spate and watershed management ✓ Community-based water governance and management
- More efficient use of water in both rainfed and irrigated agriculture	SSO 1.4: Provide efficient, demand-driven extension, research and input supply	<ul style="list-style-type: none"> ✓ Research focused on productivity, diversification and sustainability ✓ Strengthened extension, especially at community level ✓ Improved plant protection, including IPM
	SSO 1.5: Enhance productivity and sustainability of land resources within an integrated watershed management approach	<ul style="list-style-type: none"> ✓ Terracing and soil and water management ✓ Rangeland management and anti-desertification ✓ Land tenure and access for the poor and women
	SSO 1.6: Ensure efficient delivery of essentially public services	<ul style="list-style-type: none"> ✓ Adequate funding of public services ✓ Change management ✓ Development of AFPPF ✓ Coordinate with SFD, EOF, PWP, CAC Bank and Amal Bank ✓ Work in tandem with the Pilot Program for Climate Resilience (PPCR)
SO 2: Fight rural poverty and malnutrition by:	SSO 2.1: Increase production and incomes from high value crops, especially horticulture, and reduce <i>qat</i>	<ul style="list-style-type: none"> ✓ Promote small farmer horticulture ✓ Public-private partnership to increase value added in commercial horticulture ✓ <i>Qat</i> substitution
- Promoting employment-intensive and commercial agriculture	SSO 2.2: Increase value-added through processing and marketing development	<ul style="list-style-type: none"> ✓ Develop coops and associations, including for small farmers
- Encouraging community participation, the role of women and household dietary diversity	SSO 2.3 Enhance food security and nutrition through greater women's participation	<ul style="list-style-type: none"> ✓ Increase female participation and access to assets and services ✓ Integrate nutrition and nutrition awareness into all programmes, with delivery at community level ✓ Coordinate all nutrition-related interventions under the NFS Council within the NFSS ✓ Women livestock programs (backyard poultry, apiculture and honey production, small ruminant fattening)

Agricultural water and food security

Yemen is an arid country and agriculture accounts for some 93 percent of water use. The NASS Update is consistent in all points with the *National Water Sector Strategy and Investment Program (NWSSIP, 2008-2015)*, which has as its goal for agricultural water to maintain a profitable, economically efficient, equitable and sustainable agriculture by: (1) strengthening institutions to play their role in promoting efficient water use; (2) promoting sustainable agriculture through water resources protection and allocation; (3) increasing farmer incomes through increased water use efficiency; and (4) enhancing resource availability, sustainability and quality through water harvesting and watershed management. The strategies and investment programs for agriculture and for water are complementary within an integrated water resources management (IWRM) framework, with institutional strengthening and improved management of water supporting the agricultural strategy for productivity and income enhancement within an integrated watershed management approach.

Investment program for agriculture

The public investment plan (PIP) for agriculture was set out in Government's *Five Year Plan (FYP 2011-2015)*, totaling \$602 million. However, the FYP was developed before the recent political changes and before the development of the NASS and its Update, and does not reflect the results of the 2012 Riyadh Friends of Yemen meetings on support to Yemen's reconstruction and development. A revised agricultural investment programme has been prepared by MoPIC and MAI as an integral part of the NASS Update (Table 2).

As shown in Table 2, the indicative cost of full implementation of the NASS 2013-2017 would be \$2.2 billion, of which \$1.6 billion for agricultural programs under MAI, and \$630 million for broader agriculture, rural development and environmental programs under other agencies. Given current absorptive capacity and existing and prospective financing commitments and GoY budget availability, a 'priority investment plan' has been prepared which, if financed and implemented, would move Yemen towards key NASS targets.

The 'priority plan' reflects past and current successful implementation and results of community-oriented field level operations, including the IFAD-supported Dhamar Participatory Rural Development Project (DPRDP) and al-Dhala' Community Resource Management Project (ADCRMP), and the IDA-supported Rainfed and Livestock Project (RALP) and the Groundwater and Soil Conservation Project (GSCP), as well as integrated programs supported by other development partners, including Japan and USAID. These projects have demonstrated a successful model based on community-level organizations within a watershed management and integrated approach, and on MAI's relatively strong implementation capability at local, district and governorate level. The NASS Update is based on generalization of this approach and its progressive scaling up nationwide, and this approach has driven the prioritization of the investment program. The investment program also includes a number of thematic investments targeting increased productivity in the rainfed and cereals sub-sector (SSO 1.1), in the livestock sub-sector (SSO 1.2), and in land and water management and irrigation (SSO 1.3 and SSO 1.5).

Programs under SO1 are primarily pro-poor and public-service based and are indicated for predominantly public sector financing or (as in the case of improved irrigation) for a mix of private and public financing. The programs under SO2 that support commercial agriculture are indicated primarily for private sector or PPP financing.

As the NASS is further updated during 2013/2014 and as the availability of resources from the Government budget, the private sector and development partners is firmed up, the investment program will be updated.

Table 2: Revised agricultural investment programme (source: NASS Update)

Objectives	Programmed investment areas	Indicative costs US\$ millions		Indicators
		Full investment program	Priority investment program	
Integrated delivery of community-based investments and services (targeting SO1 and SO2)		(MAI) 325.5	(MAI) 325.5	❖ Poverty levels ❖ Nutrition status
SO 1: Increase production, food security and climate resilience by: - Raising productivity in both crop and livestock production - Integrated management of land and water resources - More efficient use of water in both rainfed and irrigated agriculture	SSO 1.1 Rainfed systems, grains and fodder SSO 1.2. Livestock SSO 1.3 Agricultural water management SSO 1.4 Extension, research and inputs SSO 1.5 Land resources SSO 1.6 Service improvement and capacity development	(MAI) 1,071.5	(MAI) 138.5	❖ Increase in grain yields ❖ Increase in meat production ❖ Climate resilience plan under implementation ❖ Area under integrated watershed management planning ❖ Groundwater area under improved irrigation ❖ Number of households benefitting from improved agricultural water availability ❖ Expenditure on research and extension ❖ Terrace area under cultivation ❖ Key points of the 'Aden Agenda' implemented ❖ AFPPF reoriented and programme aligned with NASS
SO 2: Fight rural poverty and malnutrition by: - Promoting employment-intensive and commercial agriculture - Encouraging community participation, the role of women, and household dietary diversity	SSO 2.1 Horticulture SSO 2.2 Marketing development through cooperatives SSO 2.3 Women's participation and nutrition	214.0	204.2	❖ Reduction in area under <i>qat</i> cultivation ❖ Number of active members of functioning cooperatives ❖ Nutrition themes integrated into agricultural extension work
Sub-total MAI program		1,611.6	668.2	
Other agriculture and rural development programmes (not MAI)		(not MAI) 632.5	(not MAI) 632.5	
TOTAL MAI and non-MAI programs		2,244.0	1,300.8	

1.2 Key elements of the policy environment

Over the last twenty years, Yemen has pursued an agricultural policy characterized by market-led development. Government has provided development support through decentralized services and through national programs for irrigated and rainfed farming and livestock, with particular emphasis on natural resource conservation and productivity. Farmer associations and cooperatives have been promoted. Support to community agricultural and rural development investment at the local level has been provided through several quasi-autonomous funds, including the Agriculture and Fisheries Promotion Fund (AFPPF), the Social Fund for Development (SFD), and the Public Works Program (PWP).

The NASS and its Update provide for new emphases in production on:

- Improving productivity in rainfed agriculture, including through terrace restoration, watershed management and water harvesting
- More efficient agricultural water management through adoption of modern irrigation techniques and agronomic packages within sustainable community-led water resources management plans, and increased efforts to improve productivity in rainfed agriculture through investment in all forms of water harvesting and through adoption of crop packages adapted to the arid environment and resilient in the face of prospective climate change. These elements were all proposed in NASS stakeholder workshops, with an emphasis on integrating agricultural water management within broader resource management, especially through community governance of water resources.
- An increased recognition of the role of rural women in meeting food needs, improving nutrition and protecting the environment.
- Improving productivity in irrigated agriculture through modern irrigation techniques and advisory services
- A strong focus on improving productivity and sustainability of livestock production, as this sub-sector has growth potential and as livestock are the principal asset and economic activity of the poorest and of the landless
- Diversification of cropping patterns into new or revived cash crops (coffee, honey, almonds, oil crops etc.) and into more nutritious foods to help improve and diversify household nutrition, and development of related value chains, and parallel reduction of area planted to *qat*.

The NASS Update also provides for new institutional emphases on:

- A demand-driven and participatory approach, factoring in the needs and views of farmers, particularly the poorest, from the bottom up
- A decentralized approach, adapting policies and programmes to local requirements
- An integrated approach, offering a range of support to farming systems, and linking with parallel programmes in nutrition, human development and rural infrastructure
- Reliance on the private sector and on public/private partnerships wherever feasible
- Strengthening of key necessarily-public services to agriculture
- Efficient use of scarce public finances

The expected impacts of these strategic emphases will be increased returns on sector investment, greater household food security, and enhanced sustainability, particularly: (1) increased incomes and employment in rainfed agriculture areas and from livestock; (2) improved household food security due to higher incomes and availability of more nutritious foods (traditionally grown legumes such as beans, broad beans, lentils, cowpeas, peas and peanuts, and oil crops such as sesame etc.); and (3) an increase in farm income per hectare and/or drop of water.

1.3 Plan components to achieve the objectives

Key issues and how they are addressed

Reaching NASS objectives requires the resolution of a number of issues, as discussed in the following paragraphs.

Poverty, food insecurity and malnutrition. Tackling these deep-seated problems requires the implementation of the full range of measures in the NASS and its Update as well as those in the NFSS and the NWSSIP. Specific approaches and measures have been incorporated into the NASS, including: (1) a rebalancing of public investment and support towards the production systems of the poor and food-insecure; (2) targeting inclusive growth with particular emphasis on the poor's ability to engage and benefit from a growing agriculture sector; (3) targeting of the poorest and most food insecure geographical areas through strengthened public programmes; and (4) specific measures to improve nutritional status. In view of the implementation constraints (financing, delivery capacity), the stakeholder workshops emphasized the need for prioritization and targeting, using mechanisms to target and deliver to the poor, notably the use of both data-based and participatory approaches, and design of services that the poor can readily access.

Balancing growth of commercial farming with equity and poverty reduction. The NASS combines attention to both growth and distribution, and prioritizes the poverty reducing and nutrition role that agriculture and agricultural services can play. Although this strategy applies to all farmers, the balance differs somewhat between: (1) rainfed and smallholder agriculture; and (2) irrigated commercial agriculture. The growth strategy in rainfed and smallholder agriculture focuses more on inclusion and adding value to the assets of the poor and on improving their nutritional status. Growth in commercial, largely irrigated agriculture will be stimulated more through support to private sector development, public-private partnerships and strengthening of key public services such as trade negotiations, animal disease control and plant protection.

Sustainability and governance of land and water resources. Yemen is suffering growing water stress, particularly in groundwater, where governance mechanisms have proved too frail to stem overexploitation of the resource. Government passed a Water Law (2003) and put in place a program to support basin-level and local community-based water management. Government has also adjusted the incentive structure to encourage water conservation. In particular, energy prices have been increased several times towards border parity levels. However, these increases need to be matched by investment in rural areas or they will have a negative effect on rural incomes and food security. The NASS and its Update therefore address this issue by providing support to: (1) improved land and water governance within an integrated watershed management framework, based on local community self-management of local natural resources, including an enhanced role for women as managers; (2) investment in rainfed and livestock systems, including terraces, watershed management, water harvesting, traditional spate diversion systems, and rangeland; and (3) (increasingly on private finance) water-conserving irrigation improvement through physical investment in e.g. piped conveyance or drip systems, and through water saving extension advice, with the objective of 'more income for less drop'.

Limited knowledge and technology transfer. Despite a long tradition of agriculture in harsh natural conditions, Yemeni agriculture remains low-yielding, with significant yield gaps. The NASS and its Update address this issue by: (1) expanding the successful *Rapid Impact Program* of applied research and technology transfer; (2) expanding the coverage of the Irrigation Advisory Service to include irrigation agronomy; (3) restructuring the agricultural extension service to make it community-based, and putting the service on a demand-driven basis; (4) promoting private and NGO/CBO advisory services; (5) promoting the development

of private markets and value chains for cash crops, including coffee, honey and almonds, as well as for protein-rich crops like soybean, peanuts etc.; and (6) raising the productivity of livestock production through animal health, nutrition, and herd and range management.

Neglected role of women and relation to nutrition. Women have always played a vital role in Yemeni agriculture (particularly livestock) and this role has increased with male migration for work. However, women have scant access to resources and services. There is a need for rural women to be empowered to the point where they can exert influence and participate in decision-making. In fact, real development of agriculture and improvement in household food security and nutritional status is impossible without women's empowerment. Throughout the NASS, there is therefore emphasis on female empowerment through inclusion of women systematically in all committees etc., priority to widows and single women households, female staff to address females in agriculture. Linkages between production guidance and nutrition will be systematic and paramount. Specific focus on nutrition will be provided through nutrition awareness and education, nutrition-specific agricultural extension, school food programmes, vegetable home gardens, backyard poultry etc. During consultations, stakeholders strongly supported the mainstreaming of gender and nutrition issues across the entire NASS.

Qat. About one third of Yemeni agriculture is devoted to producing *qat*, a mild stimulant leaf chewed by Yemenis for relaxation. *Qat* production is profitable but crowds out production of food crops or export crops, and its consumption can be a social and health problem. However, it is also a mainstay of the rural economy in the highland areas where it is grown, with over 25 percent of farmers, including very poor ones, growing the crop. *Qat* is a powerful agent for transferring cash back from urban to rural areas. A 2006 World Bank report suggests that one in every seven working Yemenis is employed in producing and marketing *qat*, making it the second largest source of employment, exceeding even employment in the public sector. The NASS and its Update recognize that *qat* plays a vital role in the rural economy and in poverty reduction but factor in measures to reduce, and ultimately phase out, production by promoting market-driven alternatives, modeled on recent experiences in public projects (GSCP) and in the private sector which have led to replacement of *qat* stands by other high value crops such as coffee and almonds.

Climate change. Models suggest that temperatures in Yemen will steadily rise, and that there is likely to be an increase in variability and intensity of rainfall. Already, Yemen is experiencing an increase in damaging floods. Climate change and variability will thus add to other natural resource challenges to create a need for a wide range of adaptive measures. Drawing on the National Adaptation Program of Action (NAPA), the NASS and its Update provide for the following adaptation measures: (1) more efficient groundwater irrigation and more use of groundwater only as supplementary irrigation; (2) investment in infrastructure and improved water use efficiency of surface irrigation; (3) return to traditional agricultural and water harvesting techniques; (4) adapting farming practices, including changing cropping patterns, growing shorter cycle or later maturing varieties, changing the cropping calendar etc.; and (5) adoption of integrated management of land and water resources at all levels and within an integrated watershed management framework. These adaptation measures, which are consistent with both the NAPA and the Pilot Project to Improve the Resilience of Rural Communities to Climate Change (a PPCR project) will be needed whatever climate change may occur, particularly in the context of dwindling water availability.

Political and governance issues. Following the events of 2011 and the ouster of the previous regime, there has been a popular consensus on a two year transition period (2012-2014) and on a national dialogue conference to frame a new constitution and to prepare elections to a fully democratic government. To date this process has proceeded without significant problems and elections are due to be held in 2014 as planned. In this process, Yemen has experienced for the first time an open nation-wide dialogue about the future of the country,

and voices are being heard from all sections of the population. External support, both political and technical, has helped to guide the process, which there is every reason to believe will result in a democratic, stable government with popular support, and in the development of democratic institutions and behaviors which will anchor the new political arrangements.

Government ministries/entities responsible for strategy and plan delivery

Implementation of the *National Food Security Strategy* is coordinated by the Yemen Food Security Committee which brings together representatives of the Ministries of Planning, Finance, Public Health and Population, Agriculture and Irrigation, Water and Environment, and Fish Wealth, together with key agencies such as the Social Welfare Fund and the Social Fund for Development. The committee was established in May 2013, together with a Technical Secretariat located in MoPIC.

Responsibility for implementation of the NASS lies with the Ministry of Agriculture and Irrigation (MAI), in coordination with the Ministry of Water and Environment (MoWE), and with other agencies responsible for rural development, rural water supply, health and nutrition. Responsibility for implementation of the *National Water Sector Strategy* lies jointly with MAI and MoWE.

1.4 Planned composition and level of spending to implement the components

The total cost of carrying out MAI's proposed agriculture investment programme is estimated at \$1.6 billion (see Table 2 above). On an annualized basis, this would represent total program disbursements of \$300 million per year, about four times the level of annual expenditures in the 2006-2010 period. To achieve this increase would require both a major increase in resources and a strengthening of sector structures to increase absorptive capacity. Therefore, as discussed above, a realistic 'priority agricultural investment program' has been identified of total value \$530 million over the coming five years.²

Regarding absorptive capacity, sector structures are growing in capacity, with disbursements up by 50 percent in the last several years in the agriculture and agricultural water program. On this basis, and taking into account the further strengthening and expansion of delivery capability now ongoing and to be further supported under the proposed GAFSP financing, absorptive capacity for the agriculture and agricultural water program is estimated at up to about \$100-150 million annually, a figure which has been used to set a ceiling when trimming the priority investment program. In addition, the other programs outside MAI (including the large SFD program for agriculture, water and environment) are estimated at about \$150 million a year. The proposed GAFSP disbursement of \$10 million annually would represent about 10 percent of the total estimated MAI absorptive capacity.

The projected total spending on agriculture, rural development and environment from all sources of up to about \$250 million a year is around 10 percent of total government investment spending of about \$2.3 billion annually. This reverses the pattern of relatively low historical allocations to agriculture under the previous regime, which averaged as little as 2-3% of total government spending 2005-2010. The new transitional government is thus planning for a significant increase in support to the sector, and thereby to food security.

² In addition, ongoing programs or firm commitments for agricultural, rural development and environment programs outside the MAI budget total a further \$760 million over the next five years.

1.5 Financing sources and gaps

At present, MAI's priority agriculture investment program totaling \$668 million (Table 2) has attracted firm financing of \$370 million, leaving a financing gap of \$300 million. Further pledges were received at the 2012 Friends of Yemen conference, but these have yet to translate into firm commitments. Filling the remaining financing gap could require a significant increased contribution from government, which is a challenge at a time when post-crisis fiscal receipts are constrained and oil revenues on which the budget is largely reliant are declining. However, programs under SO2 supporting commercial agriculture are being partly financed under partnerships between the private sector and USAID.

The *National Food Security Strategy* concludes that, historically, budget allocation has been misaligned with food security goals. The *Strategy* therefore contains corrective measures, essentially to reduce the fuel subsidy and reinvest the savings in pro-food security programs, and particularly in agriculture and water. The new Government has initiated this rebalancing with a more than doubling of fuel prices, with further increases planned. This will release government resources for other high priority programs, including the agriculture program.

1.6 Process by which the strategy and investment plan were developed

The NASS built on previous policy and strategy work, starting with the 2000 *Aden Agenda* and with an interim strategy prepared with FAO support in 2003. The NASS was prepared in a highly participatory manner, including workshops throughout the governorates and in the capital with farmers, NGOs and CBOs, elected local government, officials and decision makers. For the initial preparation of the NASS in 2011/2012, field visits were made to eleven governorates (Hajja, Hodeida, Taiz, Aden, Lahej, Abyan, Ibb, Dhamar, Hadramout, Sa'ada and Sanaa) to consult with stakeholders, including smallholders, sharecroppers, landless laborers, community organizations, water user associations, commercial farmers, export centre staff, concentrate producers, a variety of cooperatives, poultry producers, large water projects etc. Consultations were also held with local officials, donor-funded programs, and a wide range of officials in the governorates and at MAI headquarters. Discussions and workshops to discuss consolidated findings and NASS drafts were also held in December 2010 and January 2011, including with representatives of farmers and the commercial private sector, NGOs, governmental agencies and parliamentarians. Experience from implementation of previous projects and programs was reflected, particularly in the emphasis on community-led and demand-driven approaches, community-based natural resource management, the need for a market-based value chain approach, and the need to mobilize greater private sector involvement in services and investment. The NASS was approved by the Council of Ministers in March 2012.

For the 2013 Update, eight further consultative workshops were held in regional centres, involving 350 farmers and 230 other stakeholders, of whom, overall, 190 were female. The quality of stakeholder participation was high. Stakeholders addressed issues frankly, and the results of these processes have also been reflected in the NASS Update.³ The consultation process also benefited from the recent emergence of popular voices and particularly those of young people and women. In the past fifteen years, Yemen has developed a strong participatory approach in its design of public investments in rural development and agriculture. The political and social movements beginning in 2011 (Yemen's version of the 'Arab Spring') intensified and broadened involvement of ordinary people in the workshops and encouraged them to express themselves with greater determination. This is particularly true in the case of women and youth. As a result the involvement of ordinary Yemeni male

³ The report on the 2013 consultations is annexed to the NASS Update.

and female farmers of all ages was far more effective for the design of the NASS Update than would have been the case in earlier years.

Government led this participatory approach to NASS development and there is clear ‘country ownership’ from all stakeholders, as well as commitment to implementation. One key outcome has been the agreement of all stakeholders, including Government, that consultative mechanisms will be established to monitor and follow up on NASS implementation, and Government is setting this up. Independent peer review of the NASS has been provided by the University of Sana’a and IFPRI and by individual specialist consultants, and the guidance has been incorporated in to the Update.

The priority investment program gives priority (two thirds of resources) to decentralized programs to deliver investments and services at community level. This priority reflects the success of the series of area-based agricultural programmes mentioned above (Section 1.1) in recent years.

1.7 Implementation arrangements and capacity to implement

Coordination and implementation of the NASS

At national level, NASS implementation is coordinated with the Supreme Council for Food Security (SCFS), and with the Food Security Technical Secretariat and Steering Committee within MoPIC. MAI works with the Ministry of Planning and International Cooperation (MoPIC) and the Ministry of Finance (MoF) on investment programming and financing, and coordinates with MWE on implementation of the joint agriculture and water program.

The NASS is implemented by MAI which has the required structures and basic institutional capacity at the center for planning, programming, information and monitoring, and for key public sector regulatory roles. There is a national research service (AREA), with decentralized units throughout the country. All agricultural production is by farmers, overwhelmingly poor smallholders and herders. Input and output marketing, processing and trade are private sector activities.

In recent years, a succession of fiscal crises have eroded operating budgets and reduced the effectiveness of public services. The NAS and its Update target the restoration of capacity and operations at field level through a fully-financed programme for integrated delivery of community-based investments and services (including the proposed GAFSP-financed programme in four governorates). At central level, the NASS Update programmes a change management agenda, restructuring of Government’s Agricultural Fund (AFPPF), and a progressive increase in recurrent budgets.

Within MAI, steering of NASS implementation is the responsibility of MAI’s specialized programmes; i.e. the National Irrigation Programme (NIP) and the Agricultural Improvement Programme (AIP). NIP coordinates all activities and investments in the field of irrigation and land and water conservation; AIP coordinates all activities and investments in the field of crop and livestock development and improvement.

Implementation of the strategy on the ground is primarily through decentralized, local-level demand responsive programmes tailored to the requirements and potential of each governorate and district, working with community-based organizations.

Governorate and local level programmes are delivered by:

- The local MAI offices and services, strengthened as needed, or by specialized institutional structures in place, such as the Tehama Development Authority (TDA)

- Local units of national programmes (in particular, the Field Units of the National Irrigation Programme, and the field staff of the veterinary services in partnership with staff of the private Veterinary Association)
- Community-based organizations, community mobilizers, community-based extensionists etc.

Local level structures and programmes are supported by AREA (research, extension themes) and by key services at MAI headquarters (animal disease surveillance, plant protection etc.).

Governance and accountability

Oversight is provided by the Agriculture and Water Committee of Parliament, which contains many farmers. The voice of smallholders and herders is reflected through the large number of village-level associations such as producer and herder associations and water user associations. The ongoing decentralization and democratization process is progressively increasing accountability and opening up more channels for hearing the voice of small farmers and factoring farmer views into program design and implementation. Specific measures under NASS for improving accountability – in addition to participatory monitoring and oversight, see Section 1.6 above) are: (i) participatory district and governorate level planning; and (ii) encouraging producer and user associations and linking them into decentralized planning processes.

Investment programme

In order to present farmers at the farm and community level with services and support adapted to mixed farming systems and to varying levels of assets and socio-economic status and capacity, the primary delivery vehicle for the NASS is investment in local multi-functional and demand-driven services. This approach has been tested and proven in Yemen in a number of area-based agricultural and rural development programmes, and will be mainstreamed as the primary approach for the future.

The current pattern of a mix of ‘projects’ will be phased out, and all development partners will be requested to support implementation of the NASS as follows:

- Progressive consolidation of existing area-based projects within the NASS approach
- Financing of the NASS ‘community-based’ approach in selected governorates not covered by ongoing ‘projects’
- Scaling up of the NASS community-based approach nationwide over the next five years (by 2018)
- Investment in strategic ‘national’ programmes for essentially public services (statistics and information, plant protection, animal disease etc.)

The investment programme is thus a mix of ongoing ‘projects’ which will be progressively consolidated within the NASS and proposed new financing of investments in the NASS. Proposed investments are at varying stages of preparation and financing, ranging from those that have been presented for external financing, those where feasibility studies or other preparation materials are ready, and those where preparation is underway or is being initiated.

Government is financing a number of investments on its own resources through the public investment budget and through the Agriculture and Fisheries Production Promotion Fund (AFPPF) and the Social Fund for Development (SFD).

Through consultation with stakeholders in workshops, investment proposals have been **prioritized**, based on four principal criteria:

- What would have a measurable impact on the incomes and nutritional status of the largest possible number of poor rural households?
- What activities have been shown to work and are ready for scaling up?
- What activities, geographical areas and institutional mechanisms are most likely to demonstrate how the NASS community-based approach can be rapidly scaled up?
- What can be implemented rapidly through existing structures?

It is expected that by the end of the period of Yemen's transitional administration (2012-2014), the investment programme will be aligned and prioritized with the NASS and the availability of external financing will have been confirmed.

Monitoring and Evaluation

With inputs from stakeholder workshops, preliminary indicators for NASS results have been identified (see Table 2). These will be confirmed through further consultation and will then form the basis for results reporting and M&E by the AIP Technical Secretariat in the MAI minister's office. NASS M&E follows the overall GoY M&E strategy of expanding the participation base in all stages of the M&E process. Throughout the NASS stakeholder workshops, great emphasis was placed on the role of community participation in M&E, and this will be systematically generalized throughout the monitoring of the results of the NASS and the investment programme.

Part 2: Specific Proposal for GAFSP Financing

2.1 Objectives and results

Specific objectives, expected results, target beneficiaries

The proposed GAFSP-financed Smallholder Agricultural Productivity Enhancement Program will implement a time-slice of the NASS in four governorates. The objectives at the level of the four governorates are the same as the overall NASS objectives (Table 1) of: (i) increasing production, food security and climatic resilience by raising productivity in both crop and livestock production, through integrated management of land and water resources, and through more efficient use of water in both rainfed and irrigated agriculture; and (ii) fighting rural poverty and malnutrition by promoting employment-intensive and commercial agriculture and by encouraging community participation, the role of women and household dietary diversity. The overall impact is expected to be that ‘increased productivity and sustainability improve household incomes, food security and nutritional status sustainably’ (see Annex Log Frame).

Four specific outcomes⁴ are targeted under the GAFSP financing proposal: (1) participating households in the program areas enjoy sustainable increased net incomes from farming (crops and livestock); (2) land and water resources in the program areas are being used efficiently and sustainably, incorporating climate resilience; (3) the poorest, women and marginalized groups improve their livelihoods and nutritional status; and (4) an efficient and sustainable model and institutions for promoting sustainable increases in productivity and water use efficiency nationwide through a community-based, demand-driven model are in place.⁵

Links to the overall strategy and investment plan

The proposed program is a major vehicle for implementing the NASS. The linkages between the programme and the overall NASS are set out in Table 3 below.

The program will promote increased access of women, including women-headed households to resources and services, an important strategic approach of the NASS (SSO 2.3). Under the proposed program, gender-specific approaches in research, extension and natural resource management will be integral to all components.

Governance improvements will be through: (i) demand-driven community-based participatory planning; (ii) participatory M&E; and (iii) participation of community representatives at all levels of program governance.

The key area for improved environmental sustainability is natural resource management. Improvements are already underway, with ongoing decentralization of water management responsibility to stakeholders at the basin and sub-basin level, and this will be reinforced at the local level under the proposed program, which will support the creation of inclusive land and water management associations and strengthen their ability to manage their own local land and water resources sustainably. The livestock component will support demand-driven sustainable rangeland management.

⁴ See Annex Log Frame for draft indicators.

⁵ Specific outputs and related indicators will be defined during detailed preparation, but see the Annex Log Frame for a first draft.

Table 3: NASS and the GAFSP Financing Proposal Activities and Indicators

NASS Strategy ⁶	Main NASS measures and investments ⁷	Activities under the financing proposal implementing the NASS (component or activity reference in brackets)	GAFSP financing proposal - selected sample indicators
SO 1: Increase production and food security by (i) raising productivity in both crop and livestock production; and (ii) more efficient use of water in both rainfed and irrigated agriculture			
SSO 1.1: Increase production and incomes sustainably from rainfed systems, grains and fodder	<ul style="list-style-type: none"> ✓ Improved seed availability ✓ Research and extension 	<ul style="list-style-type: none"> ✓ Research and extension on high value rainfed crops, including for <i>qat</i> substitution (1.3) ✓ Applied research, demonstration and training on climate-resilient crops and husbandry (1.3) ✓ Development, multiplication and dissemination of drought-resistant varieties (1.3) 	<ul style="list-style-type: none"> ❖ Increase in grain yields and production
SSO 1.2: Increase production and incomes sustainably from livestock	<ul style="list-style-type: none"> ✓ Animal health and extension at community level ✓ Promote fattening and dairy ✓ Disease control 	<ul style="list-style-type: none"> ✓ Veterinary services (1.2) ✓ Community animal health workers (1.2) ✓ Improved livestock nutrition (1.2) ✓ Grants for livestock micro-projects for women (1.2) 	<ul style="list-style-type: none"> ❖ Increase in meat production
SSO 1.3: Improve productivity and sustainability of agricultural water management	<ul style="list-style-type: none"> ✓ Climate change adaptation ✓ Improve irrigation efficiency and sustainability ✓ Promote water harvesting, small-scale spate and watershed management ✓ Community-based water governance and management 	<ul style="list-style-type: none"> ✓ Water harvesting, small scale spate, community land and water management (1.1) ✓ Extension on land and water management, and <i>qat</i> substitution (1.1) ✓ Watershed management, rangeland management, and anti-desertification measures (1.1) 	<ul style="list-style-type: none"> ❖ Area under intertiered watershed management ❖ Number of households benefitting from improved agricultural water availability
SSO 1.4: Provide efficient, demand-driven extension, research and input supply	<ul style="list-style-type: none"> ✓ Research focused on productivity and sustainability ✓ Strengthened extension, especially at community level ✓ Improved plant protection, including IPM 	<ul style="list-style-type: none"> ✓ Community-based extension and farmer field schools. (1.3) ✓ Plant protection, with focus on IPM. (1.3) 	<ul style="list-style-type: none"> ❖ Expenditure on research and extension
SSO 1.5: Enhance productivity and sustainability of land resources	<ul style="list-style-type: none"> ✓ Terracing and soil and water management ✓ Rangeland management and anti-desertification ✓ Land tenure and access for the poor and women 	<ul style="list-style-type: none"> ✓ Terrace rehabilitation, wadi bank protection etc. (1.1) 	<ul style="list-style-type: none"> ❖ Terrace area under cultivation
SSO 1.6: Ensure efficient delivery of essentially public services	<ul style="list-style-type: none"> ✓ Adequate funding of public services ✓ Change management ✓ AFPPF reform 	<ul style="list-style-type: none"> ✓ AFPPF financing of livestock and other community-based agricultural production development (1.4) 	

⁶ See Table 1.

⁷ See Table 1.

NASS Strategy	Main NASS measures and investments	Activities under the GAFSP financing proposal implementing the NASS	GAFSP financing proposal - selected sample indicators
SO 2: Fight rural poverty and malnutrition by: (i) promoting employment-intensive and commercial agriculture; and (ii) encouraging community participation and the role of women			
SSO 2.1: Increase production and incomes from high value crops, especially horticulture, and reduce <i>qat</i>	<ul style="list-style-type: none"> ✓ Promote small farmer horticulture ✓ Public-private partnership to increase value added in commercial horticulture ✓ <i>Qat</i> substitution 	<ul style="list-style-type: none"> ✓ Analysis and development of value chains for new crops (1.4) ✓ Training on marketing (1.4) ✓ Agriculture-related village level micro-enterprises, with particular emphasis on youth and women (1.4) ✓ Development of savings and credit organizations (1.4) 	❖ Reduction in area under <i>qat</i> cultivation
SSO 2.2: Increase value-added through processing and marketing development	<ul style="list-style-type: none"> ✓ Develop coops and associations, including for small farmers 	<ul style="list-style-type: none"> ✓ Support to coops, producer associations and marketing groups (1.4) ✓ Technical training and support to primary processing and post-harvest activities (1.4) 	❖ Number of active members of functioning cooperatives
SSO 2.3 Enhance food security and nutrition through greater women's participation	<ul style="list-style-type: none"> ✓ Increase female participation and access to assets and services ✓ Integrate nutrition into all programmes with delivery at community level ✓ Coordinate all nutrition-related interventions under the NFS Council within the NFSS 	<ul style="list-style-type: none"> ✓ Enhanced access for women to inputs and extension, and promotion of nutrition awareness and packages. (1.3) ✓ Rooftop rainwater harvesting to save women's labor (1.1) 	❖ Nutrition themes integrated into agricultural extension work

Results/M&E framework

MAI's existing M&E Unit, which already carries out M&E for ongoing programs, will be responsible for developing and managing systematic M&E designed to create a learning environment. With inputs from stakeholder workshops, preliminary results and indicators for the proposal have been identified (see Annex). Results and indicators will be confirmed through further consultation during final preparation. Before the start of implementation, the detailed performance measurement framework will be prepared by the M&E unit, and a baseline survey will be carried out. Throughout the stakeholder workshops, great emphasis was placed on the role of community participation in M&E. This will be systematically generalized throughout the monitoring of the results of the programme, and will provide a continuous feedback mechanism. Results at the community level will be consolidated and reported by the M&E unit. Monitoring reports will be issued quarterly, with major reporting milestones each six months.

Independent evaluations will be conducted at mid-term (30 months after inception) and at the end of the five year program period to allow corrections to the program and the drawing of lessons for continuation and scaling up. Particular focus will be on: (1) relations between program activities and food security and nutrition outcomes (at individual, household, and district/governorate levels); (2) impacts on specific target populations (farmers in rainfed or

spate systems, landless rural households, women – including women-headed households – and livestock herders); and (3) impacts on land and water resources sustainability and productivity.

2.2 Activities to be financed

Basic approach – first phase implementation of NASS

The approach is to finance scale-up in four particularly poor governorates (Shabwa, Abyan, Hajja, Sana'a) of selected key NASS measures and investments that are pro-poor, community-based and strongly supported by stakeholders. The proposal is intended to constitute the first phase of a nationwide integrated approach to community-based pro-poor service delivery within the NASS to increase production, improve food security, reduce poverty and improve the nutritional status of poor rural households. Progress and results are to be tracked by participatory M&E.

Target area and population

As GAFSP financing is not enough for an immediate nation-wide approach, it is proposed to select a target area comprising specific governorates and districts with a high concentration of poor, and where the four selection criteria can be met (see 2.1 above). The main target population will thus be food-insecure households in target districts and communities in four governorates (Shabwa, Abyan, Hajja, Sana'a) and in districts where poverty is severe and where institutional structures are in place for rapid scaling up of delivery of services to the poor. This population will be primarily composed of: (i) smallholders, tenants and sharecroppers; (ii) landless livestock farmers; and (iii) households dependent largely on casual labour. The secondary target population will be all other farmers in the target area. It is expected that about 128,000 households will benefit, with total beneficiaries of 880,000. About 170,000 women will be direct beneficiaries.

Table 4: Target population

Governorate	Rural population	% of rural population poor	Households targeted	Poor population targeted	Number of women targeted
Shabwa	492,000	51%	16,500	124,000	23,000
Abyan	402,000	51%	18,750	103,000	26,000
Hajja	1,672,000	55%	67,000	462,000	89,000
Sana'a	1,110,000	34%	25,500	190,000	35,000
Total	3,676,000		127,750	880,000	173,000

Participatory approach and mechanisms

In the 2013 NASS consultations, stakeholders emphasized the successful experience in Yemen in the past decade of participatory approaches (see Section 1.1). There was unanimity that a highly participatory approach involving communities is the most effective way to ensure sustainability and improvements in production and food security. Stakeholders emphasized that by participation they mean involving the selected communities in the full cycle of activities starting with the decision-making process for investments and services, followed by supervision, management and physical implementation of the activities, monitoring physical and financial aspects etc.

The mechanisms for participation that were proposed by stakeholders were also based on recent successful experiences, notably: community and producer associations set up at the local level; cooperatives to strengthen partnership at the community level and to empower farmers in marketing and purchases; community mobilizers to act as the interface between

communities and community planning and the services responding to community demand; community-based extension and animal health workers; and joint and participatory M&E.

Focus on cross-cutting policy goals

In addition to activities directly targeting NASS cross-cutting policy goals (e.g. on gender), each of the activities proposed are designed to reflect as far as possible an impact on cross-cutting NASS goals: food security, poverty reduction, nutrition, gender, *qat* reduction, climate resilience.

Poverty targeting

The stakeholder workshops agreed on the need for clear poverty targeting and endorsed (with modifications) approaches which have been successfully tested in two governorates.⁸ As a result, the following approaches to poverty targeting have been adopted:

- ❖ Identification of poorer governorates, districts, *uzla* and *markaz* using SFD data, agricultural census data, WFP Comprehensive Food Security Surveys + specialized initial consultant identification
- ❖ Review and agreement with local authorities and elected councils
- ❖ Identification of target populations in each selected area using transparent eligibility criteria, based on landholding size and type of tenure, numbers of livestock held, other assets.
- ❖ Clear poverty-reduction criteria for targeting activities addressed to individuals and households.
- ❖ Inclusion of ‘self-targeting’ activities, i.e. those which are likely to be of interest to the poor and less so to the non-poor.⁹
- ❖ Ensuring community support and solidarity by providing activities of common interest, e.g. improved seeds, access to improved technology, support to marketing
- ❖ Providing differential subsidies according to status, i.e. higher for tenants and sharecroppers
- ❖ Accuracy of targeting to be followed up and monitored regularly, including through participatory M&E, and the involvement of civil society organizations in M&E.

Labour –intensive approach

Because labour is the principal asset and income source for the majority of the poor, activities supported with GAFSP financing emphasize the NASS approach of prioritizing activities which are labour-intensive on both a short and long term basis, including through:

- Paying the poor to rebuild/rehabilitate terraces (starting with those of other poorer smallholders in community rather than the better-off)
- Paying the poor to build small-scale wadi protection and other minor anti-erosion structures, ensuring that knowledgeable local community representatives have participated in design
- Providing technical and managerial training to young men and women to enable them to get higher incomes when in the towns

⁸ In Dhamar in the IFAD-supported Dhamar Participatory Rural Development Project (DPRDP) and in al-Dhala’ in the al-Dhala’ Community Resource Management Project (ADCRMP)

⁹ These include: focus on labour-intensive activities and interventions such as terraces construction/rehabilitation, and livestock breeding; establishing associations limited to small farmers; programmes for services and interventions to reach small farmers and focused on their production systems (rainfed, small-scale spate, small livestock); priority to small scale projects etc.

- Financing construction and rehabilitation of community infrastructure providing paid labour opportunities to local men and women
- Support to local people to organize as small-scale contractors

Demand-driven approach

NASS contains a range of measures and investments for all production and socio-economic situations, which need to be matched to demand and potential at the local level using agreed criteria and methods to prioritize the poor, food insecure and malnourished. The proposal therefore identifies a series of investments and services which are most appropriate to the areas of intervention but leaves it up to the communities and households targeted to agree with the MAI local office on the programme. This will be done through a joint process of identification of needs and potential, and joint planning and programming (see below).

Community-Based Agricultural Development Program: Activities to be supported

The activities described in this section will be supported in the four governorates under the GAFSP financing proposal. Each activity implements one or more elements of the NASS: the linkages are shown in Table 3 above, which shows selected sample monitoring indicators, which are a sub-set of the overall NASS monitoring indicators. The draft Log frame for the proposal is shown in Annex.

Table 5: Proposed NASS activities to be financed by GAFSP (US\$ million)

Activity	Total cost	%
1. Poverty-reducing activities		
1.1 Land and water management and improvement	14.20	32%
1.2 Livestock	9.45	21%
1.3 Rainfed agriculture, including cereals and fodder	5.20	12%
1.4 Adding value to the agriculture of the poor	7.70	17%
<i>Sub-total 1</i>	36.55	82%
2. Strengthening key service delivery functions in the project area		
2.1 Community organization, capacity building and planning	3.30	7%
2.2 Strengthening services to improve the productivity of rainfed farming and livestock	1.85	4%
<i>Sub-total 2</i>	5.15	11%
3. Implementation support	3.10	7%
TOTAL	44.80	100%
TOTAL including 10% contingencies (rounded)	50.00	

Activity 1. A range of poverty-reducing agricultural activities offered to target rural communities in four governorates

1.1 Water and land management and improvement

This activity will finance implementation, in the target areas and for the target populations, of the NASS strategic approaches of: promoting community land and water management associations and community-based watershed management, and investing in water-harvesting and small-scale spate and in soil and water management and rangeland improvement. The activity builds on the successful water harvesting and small-scale spate improvement activities undertaken by MAI over the last fifteen years.¹⁰ Pro-poor targeting is aided by the

¹⁰ For example, the IDA-financed GSCP where the water harvesting and small-scale spate component improved the land and water assets of 60,000 poor households (> 300,000 people) at a low cost.

focus on poorer communities and on the land and water resources of smallholders, tenants and sharecroppers. Overall, the activity is characterized by poverty orientation, labour intensity, community solidarity and mobilization. Implementation will be through the existing MAI Field Units, suitably strengthened and trained in a pro-poor orientation. As discussed above, selection of the activities for each poor community will be done through a joint process of identification of needs and joint planning and programming. The box below serves only to give illustrative examples of possible activities that might be requested.

1.1 Land and water management and improvement – Examples of activities to be supported

- ✓ Terrace rehabilitation, wadi bank protection and other erosion protection works: done in such a way as to maximize use of local expertise about flows etc., and done on a cash-for-work basis, i.e. as paid employment for local people, giving priority to the poorer for jobs
- ✓ Water harvesting at farm or micro-watershed level, through slowing flows, encouraging infiltration and small reservoirs where appropriate
- ✓ Small scale spate, using traditional techniques and avoiding capital-intensive ‘permanent’ structures
- ✓ Rooftop rainwater harvesting
- ✓ Community land and water management associations for local governance and management
- ✓ Extension on land and water management, and on high value crops for *qat* substitution
- ✓ Watershed management, rangeland management, and anti-desertification measures

1.2 Livestock

This activity will finance implementation, in the target areas and for the target populations, of the NASS strategic approaches of expanding livestock extension and community animal health workers. The activity builds on past successful livestock initiatives which established a public-private partnership for veterinary services and inputs, putting community animal health workers and veterinary technicians into the field. The activity will add value to a principal asset of the poor by increasing the availability of animal health services. Given the predominant role of women in animal husbandry, women will be trained as community animal health workers and veterinary technicians. The activity can be implemented by MAI suitably strengthened and trained in a pro-poor orientation, in partnership with the private veterinary association. The box below gives illustrative examples of possible activities that might be requested.

1.2 Livestock – Examples of activities to be supported

- ✓ Veterinary services available to all (surveillance, diagnosis, vaccination).
- ✓ Train community-level animal health workers and veterinary technicians (50% women), equip them and field them as micro-entrepreneurs. Training should be both technical and managerial, and qualified supervision is essential.
- ✓ Improve livestock nutrition for all, through education on good husbandry and support for nutritional supplements, particularly for poor small livestock owners.¹¹
- ✓ Improve herd management and breeding, through livestock extension, communications and capacity building.
- ✓ Support on a grant basis the poorest to invest in small ruminants, apiculture, backyard poultry, and micro-fattening units (exclusively for women).

¹¹ For ease of identification of the target households, ‘poor small livestock owners’ will be considered to be those in the highlands with a single cow, and everywhere households having under 10 small ruminants.

1.3 Rainfed agriculture, including cereals and fodder

This activity will finance implementation, in the target areas and for the target populations, of the NASS strategic approaches of: research and extension on rainfed agriculture; and giving access to farmers to obtain seed and nursery material. Building on current approaches to applied research, community-based extension and farmer field schools, the activity will introduce or expand new or improved rainfed staple and higher value crops. Similarly, building on the successful model of farmer-based seed improvement and management, this activity will support widespread adoption of locally-adapted seeds for higher-productivity cereals cultivation. Agricultural extension to women will focus on the crops women cultivate. Nutrition themes will be strengthened in agricultural extension and research, as well as having demand-side nutrition awareness work targeted to women and households to complement household gardens and other measures to diversify diets. The activity will be implemented through the existing District Agriculture Offices, suitably strengthened and trained in a pro-poor orientation. The box below gives illustrative examples of possible activities that might be requested.

1.3 Rainfed agriculture, including cereals and fodder – Examples of activities to be supported

- ✓ Research, development and extension on high value rain-fed crops, including for *qat* substitution.
- ✓ Applied research, demonstration and training on drought-tolerant crops and fodder, and on crop husbandry, linked to climate resilience.
- ✓ Community-based extension and farmer field schools.
- ✓ Multiplication and dissemination of improved land race seeds.
- ✓ Farmer-led further development of drought-resistant varieties
- ✓ Enhanced access for women to inputs and extension, and promotion of nutrition awareness and packages.
- ✓ Plant protection, with focus on IPM.

1.4 Adding value to the agriculture of the poor, including specific activities for women

This activity will finance implementation, in the target areas and for the target populations, of the NASS strategic approaches of: promoting specialty crops; promoting community cooperatives and associations; training and support on business development, horticulture marketing, livestock etc.; and community-based projects prioritizing women. The activity builds on current CDD approaches to sustainable agricultural incomes. The activity will improve the incomes of poor households by organizing producers at the community level to access public and private services and markets and by providing technical assistance and funding for specific investments to upgrade and diversify agriculture and livestock production, processing and marketing. In line with the NASS, women will receive priority as there are activities that benefit women specifically, such as: small livestock enterprise; training of females (preferably women rather than girls) as animal health workers and giving them start-up capital; technical and managerial training for micro-enterprises; and promoting women's groups for marketing. The activity will be implemented through the existing District Agricultural Offices, working with AFPPF, SFD and other agencies. Training in NASS pro-poor approaches, and inter-agency coordination and joint programming will be essential. The box below gives illustrative examples of possible activities that might be requested.

1.4 Adding value to the agriculture of the poor, including specific activities for women – Examples of activities to be supported

- ✓ Support to formation of producer associations at all levels.
- ✓ Assistance to formation of community and multi-community producer associations and marketing groups, particularly getting together small producers at district level to improve their marketing potential. This could include cold storage, transport and other equipment.

- ✓ Support to the same associations to assist development of small-scale primary processing where appropriate. Provide technical support to elementary food processing, grading and packaging.
- ✓ Training and awareness on nutrition-sensitive agriculture and linkages to community nutrition programs.
- ✓ Development of quality control.
- ✓ Support to some analysis of selected value chains for new crops.
- ✓ Training on basic marketing approaches: price data, collective sales.
- ✓ Training and initial capital for agriculture-related village level micro-enterprises e.g. wool and food processing, craft production and sales, processing of vegetable oils and herbs, rural festivals and agricultural fairs, tourism-related activities, input sales, etc., with particular emphasis on youth and women.
- ✓ Development of savings and credit organizations.

Activity 2. Strengthening key service delivery functions in the programme area

2.1 Community organization, capacity building and planning

This activity will finance implementation, in the target areas and for the target populations, of the NASS community-based approaches of: promoting community cooperatives and associations; promoting community land and water management associations; and promoting community-based investment planning, implementation and management, including for women. Building on mobilization initiatives that have been successful in a number of areas,¹² the activity will strengthen the capacity of public and private organizations, including NGOs and producer groups and community-based organizations to develop sustainable and empowered rural organizations (cooperatives, community land and water management associations etc.).

2.2 Strengthening services to improve the productivity of rainfed farming and livestock

This activity will finance strengthening and capacity building for the services that will deliver Component 1. It will include: (i) strengthening capacity for applied research, demonstration and training; (ii) developing capacity for community-based extension and farmer field schools; (iii) developing systems and capacity for multiplication and dissemination of improved land race seeds; and (iv) training and capacity building for public, NGO and private services to provide support to community-based groups.

Activity 3. Implementation support

This activity will finance coordination and support for the implementation of the NASS in the target areas and for the target populations. This will include: (i) support of the operations of a program coordination unit; (ii) deployment of (male and female) community mobilizers; (iii) monitoring and evaluation, including support to participatory M&E; (iv) technical assistance for design, appraisal, supervision and implementation; (v) local training; and (vi) specific studies needed to support program implementation and assessment, including initial targeting studies, and environmental and social assessments.

Rationale for GAFSP financing

The components target market-led sustainable increases in agricultural productivity and incomes that will improve household food security by improving market orientation, enhancing risk management, and increasing incomes and the availability of a wide range of food products. Technology innovation and transfer will enhance the capacity of farm systems and households to improve productivity and manage risk. Improvements in land and water

¹² For example, under RALP, which worked with 2,182 local community producer groups and 887 community-level sub-projects.

management will increase resilience against natural resource constraints, including climate change impacts.

The components form a major part of the NASS to which Government, Yemeni people and development partners are committed, which targets a comprehensive approach for increasing agricultural growth, enhancing food security, combating rural poverty and strengthening access for women.

The focus on institution building and investment for land and water management is designed to ensure environmental sustainability of the production and income gains of the program (see also below, on environmental sustainability). By improving natural resource management and promoting packages and investment for dry land farming, including research and development on drought-resistant agriculture, the programme will improve climate resilience, in line with the action plan in Yemen's climate change adaptation strategy (see 1.3 above).

The program forms a part of an integrated approach to a nationally developed and owned program that is ready for implementation but which lacks funding, and in which GAFSP financing would allow Yemen to capitalize on past successful experience in area-based integrated poverty reduction programmes and to launch the first phase of a long term national programme for integrated community-based delivery of investments and services.

Environmental sustainability

Given the extreme natural resources challenge to agricultural incomes and sustainability (see 1.3 above), the proposed components target environmental sustainability through: (i) strengthening institutions for local natural resource governance; (ii) supporting sustainable improvements in rainfed farming, including water harvesting, watershed management and spate diversion; and (iii) supporting sustainable collective management of rangelands. Negative impacts on the environment are not expected, and only minor provisions are likely to be required under the environmental management plan to mitigate impacts of pest management procedures, which will follow IPM best practice.

How components were selected

A participatory approach has been followed to determine which elements of the NASS should be supported under GAFSP, based on a variant of the four principal criteria used to prioritize the investment program (see Section 1.7 above):

- What would have a measurable impact on the incomes and nutritional status of the largest possible number of poor rural households?
- What activities have been shown to work in previous community-based investments and are ready for scaling up?
- What activities, geographical areas and institutional mechanisms are most likely to demonstrate the NASS community-based approach, so that the first (GAFSP-financed) investments can serve as the first phase of a programme that can be replicated nationwide in the coming five years?
- What can be implemented rapidly through existing structures?

Sustainability

The underlying guarantee of sustainability of benefits will be the development of more profitable and productive farming and of local governance structures capable of managing land and water resources sustainably, leading to sustained increases in incomes and employment. Farmers and farmer groups will own investments and will sustain the economic benefits derived from them by operating and maintaining them through their own

contributions. Regarding institutional sustainability: (i) progressive transfer to the private sector and community animal health workers will put provision of many veterinary services on a financially and institutionally sustainable footing;¹³ (ii) marketing and processing in the coop and private sector are expected to provide a sustained and profitable outlet for increased production; (iii) extension will continue to be a public charge for the time being but provision on a contract basis will improve efficiency and demand-drive; and (iv) MAI's Field Units, which support sustainable land and water management are expected ultimately to become autonomous, self-financing service providers on a competitive contract basis.

Modality of financing

The proposed program would be structured as a publicly financed investment, with co-financing by GAFSP, beneficiaries and Government.

2.3 Implementation arrangements

Institutional arrangements (public and private sector actors, including community groups)

Implementation arrangements are set out in the following table (Table 6).

Table 6: Proposed NASS activities to be financed by GAFSP: institutional requirements

MAI office	Service or function	MAI Staff	Other staff or structures
MAI headquarters	Coordination and overall reporting	GAFSP coordinating unit	Coordinating with: (1) the National Food Security Committee and Technical Secretariat; and (2) the National Water Strategy.
MAI local offices	Planning, programming, community outreach	Community mobilizers	SFD, PWP, other local initiatives and projects
	Extension service	Community-based extension workers	Community-based organizations, farmer groups etc.
	Livestock	Veterinary and animal husbandry technicians	Private veterinary association Community animal health workers
	Field Units ¹⁴	Technical staff for water harvesting	Community land and water management associations etc.
AFPPF	Finance for community projects ¹⁵	(administered through MAI local offices)	

Key features of implementation

Community organization, planning and governance. Rural communities are addressed as coherent units and seen comprehensively, with communities represented by democratically-constituted committees with sound governance, and activities programmed within a

¹³ Investment in groundwater irrigation improvement will also be transferred to the private sector, although this is outside the scope of the proposal.

¹⁴ Field Units stationed in most governorates work under MAI's National Irrigation Programme to support farmers and communities to implement projects in irrigation and water harvesting

¹⁵ Including financing for water harvesting and small-scale spate irrigation, livestock micro-projects etc.

community development planning process. Governance at district and governorate level is assured by a tripartite consultative committee (representatives of the rural community, local government and MAI and other public service providers). Agriculture and agricultural infrastructure development are harmonized with interventions conducted through other programmes, including health and nutrition, education etc.

MAI set-up for delivery. Implementation of the programme will be coordinated by a GAFSP coordination unit within MAI's Agricultural Improvement Program. The unit will work in tandem with the Supreme Council for Food Security and its Technical Secretariat, the Ministry of Water and Environment etc. In each area, the permanent MAI offices have responsibility for implementing NASS on GAFSP financing, and they will work with central units of MAI, with deconcentrated units such as the National Irrigation Programme Field Units, and with other public, NGO and private agencies. Community mobilizers reporting to local MAI office are the main interface with communities. Adequate budget and strong management and supervision (beyond technical and financial supervision) are essential, and will also comprise backup and support to ensure good staff performance. Conditional financial incentives will be provided to motivate MAI staff, with annual performance-based contracts and clear ToRs.¹⁶ Technical and managerial training will be continuous and mandatory for all at all levels.

Coordination with other agencies and programs working on agriculture, rural development, environment, food security and nutrition will be continuous, including with SFD, EOF, PWP, the PPCR and PWP, as well as with the private sector, including CAC Bank and Amal Bank

Programming and budgeting. As outlined above, the programme is demand-driven and offers a range of investments and services which will be discussed and agreed jointly with community-based organizations and formulated in a costed community-level plan. The agreed plans will be reviewed regularly and systematically, and annual work programmes will translate the plans into budgets and action. Participatory M&E will measure results against targets in plans and programmes. Community contributions (usually in kind) will be required for all income-generating investments except those that target the very poorest.

Role of other stakeholders in program implementation

This is a demand-driven program, and farmer organizations and user associations will be principal partners, building on successful experience e.g. under RALP, which works with over 2,000 local community producer groups and under agricultural land and water programs with more than 1,000 local associations. Community ownership and program accountability will be achieved through participatory, local level programming and through social accountability mechanisms such as participatory M&E. Broad participation of beneficiary groups is also a risk-mitigating factor (see 2.7 below) to ensure implementability, as has been demonstrated by other similar interventions in the last two years. Civil society will be implicated, including through NGO contracting for extension and livestock services. In addition, coops and the private sector will participate in key activities, bringing energy and entrepreneurship to, for example, provision of extension services, training and marketing. The proposed progressive privatization of the veterinary service, the autonomization and possible privatization of the FUs and (although outside the programme) the step by step transfer of implementation of the groundwater improvement activity to the private sector will further involve the private sector, improving targeting, reducing public cost and promoting sustainability.

¹⁶ As successfully tested under the IFAD-financed DPRDP and ADCRMP.

2.4 Amount of financing requested

Total cost of components including contingencies amounts to \$50.00 million (see Table 5, and Table 7 below), of which GAFSP would be requested to finance \$40 million (80%); beneficiaries \$3.50 million (7%); and the Government of Yemen \$6.50 million (13%). No other financing has been forthcoming for this priority program.

Table 7: Proposed NASS activities to be financed by GAFSP: costs and financing (US\$ million)

Activity	Total cost	Government	Beneficiaries	GAFSP
1. Poverty-reducing activities				
1.1 Land and water management and improvement	14.20	1.45	1.35	11.40
1.2 Livestock	9.45	0.95	0.90	7.60
1.3 Rainfed agriculture, including cereals and fodder	5.20	0.55	0.45	4.20
1.4 Adding value to the agriculture of the poor	7.70	0.70	0.80	6.20
<i>Sub-total 1</i>	<i>36.55</i>	<i>3.65</i>	<i>3.50</i>	<i>29.40</i>
2. Strengthening key service delivery functions in the project area				
2.1 Community organization, capacity building and planning	3.30	0.70	-	2.60
2.2 Strengthening services to improve the productivity of rainfed farming and livestock	1.85	0.35	-	1.50
<i>Sub-total 2</i>	<i>5.15</i>	<i>1.05</i>	<i>-</i>	<i>4.10</i>
3. Implementation support	3.10	0.60	-	2.50
TOTAL	44.80	5.30	3.50	36.00
TOTAL with 10% contingency	50.00	6.50	3.50	40.00

Basis for cost estimates

Cost estimates have been prepared on the basis of experience since 1993 under externally financed projects in delivering comparable activities. This includes two recent IFAD-financed area-based participatory agricultural development projects (Dhamar and al-Dalia); and three IDA-financed projects: Land and Water Conservation Project (LWCP), GSCP, and the Rainfed Agriculture and Livestock Project (RALP).

Prioritization of components

In the event of a financing shortfall, initial roll-out of the program would be reduced to three governorates, instead of four.

Absorptive capacity

As discussed above (1.4), the proposed incremental financing can be absorbed by existing implementation structures, strengthened as proposed under the program.

2.5 Preferred supervising entity

The World Bank has been selected by Government as the preferred supervising entity in view of the long and fruitful development partnership in agriculture between Yemen and the Bank, involving dialogue and investment relevant to all components of the proposed program over almost four decades. The Bank has been involved since 1973 in the agriculture, water resources and environmental sectors, and has been at the forefront of poverty analysis, and supports related activities in rural development (rural water, irrigation improvement, rural roads, community infrastructure, health and nutrition, and education). The Bank has

maintained interventions at all levels from the macro downwards and has been key in helping government to integrate sector and grassroots considerations within macro level analysis and decision-making. The Bank has also been key in supporting Yemen's dialogue with development partners and in helping to mobilize financing. The Bank has also helped government to meet harmonized fiduciary and safeguard standards, and has supported Yemen's anti-corruption action plan. Finally, the Bank has led in the diagnosis of Yemen's worsening poverty and nutrition problems, and has taken a lead in helping Yemen through the post-2011 transition. The World Bank has reviewed the NASS Update and GAFSP financing proposal and on this basis has issued a letter of readiness to act as supervising entity.

2.6 Time frame of proposed support

The implementation period for the proposed components is five years. If financing can be put in place within the next six months, design can be rapidly finalized and the program, being essentially implementation-ready, can begin within six months. The proposed start date of the program is January 1, 2014, and the closing date December 31st, 2018.

2.7 Risks and risk management

Table 8: Risk analysis and mitigation

Risk factor	Description of risk	Rating	Mitigation measures
Diffuse impact, limited sustainability	The benefits of past investments in farmer services have sometimes dissipated with the end of external support	S	<ul style="list-style-type: none"> ▪ The programme is designed as the first phase of an enduring national approach to agricultural development, and conditions for scaling up and sustainability are set out in the NASS. ▪ Demand-drive and community ownership will, under more inclusive governance arrangements, increase accountability and foster long term commitment.
Implementation capacity	In recent years, budgets and effectiveness of MAI services have diminished	S	<ul style="list-style-type: none"> ▪ The programme contains significant capacity building ▪ Transparent and participatory implementation procedures drive implementation performance. ▪ Parallel to programme implementation, MAI is to implement institutional change to increase efficiency and effectiveness
Supervision capability	Past programs have had sometimes limited accountability	M	<ul style="list-style-type: none"> ▪ Accountability at local level will be strengthened by participatory governance and M&E. ▪ Supervision by MAI and World Bank and oversight by the Supreme Council for Food Security will strengthen accountability.
Weak research and technology transfer	Except under the Rapid Impact Program (RIP), research has largely been supply driven and this may persist. Extension capacity has declined and revival may be problematic.	S	<ul style="list-style-type: none"> ▪ Demand-driven contractual research under a revived RIP. ▪ Proposed demand-driven and community-based extension
Climate change risk	Increased uncertainty, drought and floods, and possible hotter, drier climate	M	<ul style="list-style-type: none"> ▪ Climate resilience measures are built in the programme ▪ Linkages to the NAPA and PPCR.
Political risk	Risk that the political order will not stabilize, or that a new government after transition will take a different approach	S	<ul style="list-style-type: none"> ▪ Anchorage of government in democratic institutions with popular support (see 1.3 above) ▪ Design reflects strong popular demand and broad participation of beneficiary groups ▪ Selection of district will avoid politically sensitive areas ▪ Yemeni and development partner endorsement of the NASS makes radical change difficult and unlikely

Security risk	Political disaffection or insurgency may impede implementation	S	<ul style="list-style-type: none"> ▪ Demand-driven nature of the programme brings ownership and a measure of protection ▪ Participatory approaches, poverty targeting and broad participation of beneficiary groups mitigate risk ▪ Selection of districts will avoid high risk areas
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Explanation of ratings: High – Substantial – Moderate – Low

2.8 Consultation with local stakeholders and development partners

The consultation process on the NASS and the GAFSP financing proposal

The elements of the NASS that comprise the 2013 GAFSP financing proposal were developed as part of the broad consultative process on the NASS described above (Section 1.6). This consultation process was extended following the failure of the 2012 GAFSP submission and the guidance of GAFSP to strengthen the level of consultation on the proposal. As a result, the in-depth consultation process described above (Section 1.6) was launched. These extra consultations strengthened and improved program design considerably, in particular in the following areas:

- ❖ More pro-poor emphasis and elimination of support to the better-off groundwater irrigating farmers
- ❖ Mainstreaming of community-based organizations as the grassroots institutions for implementation
- ❖ Adoption of demand-driven community-level planning as the mechanism to identify needs and potential, and to match activities from a ‘menu’ to actual community requirements
- ❖ Strengthened focus on women and links to food security and nutrition
- ❖ Stakeholder participation in all stages of the cycle, from identification to post-evaluation, and at all levels (community, district, governorate, national).

Development partners. Development partners have participated throughout the preparation and approval stages of the three national strategies (*NFSS, NASS, NWSSIP*). The NASS was endorsed in 2012 by the group of development partners supporting agriculture, and the NASS Update and the GAFSP proposal were extensively discussed and strongly endorsed by the development partners at a meeting in Sana’a on May 18th, 2013. Development partners are represented in the Sector Working Group for Agriculture and Food Security chaired by the Minister of Planning (MoPIC), and the Minister has sent a letter of endorsement (attached) in his capacity as chairman of the Working Group.

Program Logical Framework [zero draft]

Hierarchy of objectives	Hierarchy of results	Results indicators (leading indicators in <i>bold italics</i>)	Assumptions and risks
<p>Overall objectives:</p> <p>1. Increase production and food security by raising productivity in both crop and livestock production, through integrated management of land and water resources, and through more efficient use of water in both rainfed and irrigated agriculture.</p> <p>2. Fight rural poverty and malnutrition by promoting employment-intensive and commercial agriculture and by encouraging community participation, the role of women, and household dietary diversity.</p>	<p>Impact: Increased productivity and sustainability improve household incomes, food security and nutritional status sustainably</p>	<ul style="list-style-type: none"> ▪ Macro, household and individual nutritional indicators ▪ Increase in per capita agricultural value added (crops and livestock) ▪ Reduction in groundwater overdraft 	
	<p>Outcome 1: Participating households in the program areas enjoy sustainable increased net incomes from farming (crops and livestock).</p>	<ul style="list-style-type: none"> ▪ Change in net household income over baseline (differentiating male and female-headed households) 	<p><u>Risk:</u> Productivity improvements lead to over-use and depletion of natural resources (water, soil, rangeland)</p> <p><u>Mitigation:</u> Sustainable technical practices extended, community-based natural resource management</p>
	<p>Outcome 2: Land and water resources in the program areas are being used efficiently and sustainably, incorporating climate resilience.</p>	<ul style="list-style-type: none"> ▪ Land and water use efficiency in the program area ▪ Change in income/m³ and/or income/ha for participating households ▪ <i>Community land and water management organizations and watershed management plans are effective in managing natural resources sustainably</i> ▪ <i>Terrace area under cultivation</i> ▪ Area of rangeland under sustainable management 	<p><u>Risk:</u> No impact on overall natural resource sustainability</p> <p><u>Mitigation:</u> Land, water and rangeland governance improvements. Community management to be a condition.</p>
	<p>Outcome 3: The poorest, women and marginalized groups improve their livelihoods and nutritional status.</p>	<ul style="list-style-type: none"> ▪ <i>Dietary diversity scores improved</i> ▪ Specific improvements to target vulnerable groups in assets, income, foods security and nutritional status 	
	<p>Outcome 4: An efficient and sustainable model and institutions for promoting sustainable increases in productivity and water use efficiency through a community-based, demand-driven model is in place.</p>	<ul style="list-style-type: none"> ▪ Community-based organizations are driving the program ▪ Participation in M&E and governance is working ▪ Community plans and annual programs are being implemented ▪ The private sector role in both service provision and processing and marketing is growing 	<p><u>Risk:</u> Public officials may be slow to adapt to the demand-driven community-based model</p> <p><u>Mitigation:</u> Capacity building, incentives, community monitoring and supervision</p> <p><u>Risk:</u> Sluggish private sector response</p> <p><u>Mitigation:</u> Proactive partnerships with the private sector</p>

Hierarchy of objectives	Hierarchy of results	Results indicators	Assumptions and risks
Activity outputs Activity 1.1: Land and water management and improvement	Output 1.1: Increased income per ha for participating households	<ul style="list-style-type: none"> ▪ Area under integrated watershed management ▪ Number of households benefitting from improved agricultural water availability ▪ Availability of improved packages for rainfed and irrigated farming systems ▪ Adoption of more profitable and diverse cropping patterns and farming systems (including more nutritious crops) ▪ Number of females directly addressed by the component ▪ Sales of improved seeds ▪ Increased market volumes of coffee, almonds and olives ▪ Production volumes of selected crops 	
Activity 1.2: Livestock	Output 1.2: Sustainable increased income for participating households	<ul style="list-style-type: none"> ▪ Increase in meat production ▪ Lower incidence of animal diseases ▪ Number of vet/para-vet consultations ▪ Rangeland area under sustainable management ▪ Number of families directly addressed by the component ▪ Increase in turnover of female-executed livestock business lines (dairy products, wool products, honey etc.) 	<u>Risk:</u> Improved health and productivity lead to overstocking <u>Mitigation:</u> Promotion of sustainable community-based rangeland management
Activity 1.3: Rainfed agriculture, including cereals and fodder	Output 1.3: Increased farm incomes for participating households	<ul style="list-style-type: none"> ▪ Areas improved under the component ▪ Population benefitting ▪ Production volumes ▪ Models for PES developed and tested 	
Activity 1.4: 1.4 Adding value to the agriculture of the poor	Output 1.4: Increased incomes and nutritional status for participating households	<ul style="list-style-type: none"> ▪ Number of active members of functioning coops ▪ Reduction in area under qat cultivation ▪ Nutrition themes integrated into agricultural extension work 	
Activity 2.1: Community organization, capacity building and planning	Output 2.1: Empowered community organizations and cooperatives	<ul style="list-style-type: none"> ▪ Number of participating communities adopting integrated watershed management planning 	
Activity 2.2: Strengthening services to improve the productivity of rainfed farming and livestock	Output 2.2: Sustainable services and a replicable model	<ul style="list-style-type: none"> ▪ Expenditures on research and extension ▪ Community-based extension and animal health workers in place ▪ Strengthening of the IAS ▪ FUs effective and program for autonomization/privatization agreed ▪ Effective support to local water management organizations 	
Activity 3: Implementation support	Output 3: Program is implemented efficiently and achieves its development objectives	<ul style="list-style-type: none"> ▪ Participatory governance set-up working ▪ Coordination unit set up ▪ Collaboration with NFSS and NWSSIP effective 	