



Enabling poor rural people
to overcome poverty

Botswana

Agricultural Services Support Project (ASSP)

Supervision report

Main report and appendices

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Contents

Abbreviations and acronyms

A.	Introduction and Background	1
B.	Overall assessment of project implementation progress	1
C.	Outputs and outcomes, by component	2
I.	Component 1: Sustainable Agricultural Production	2
	Sub-Component 1.1: Agricultural Mechanisation	2
	Sub-Component 1.2: Improved Rainfed Agricultural Practices	3
	Sub-Component 1.3: Pilot Scheme for Wastewater Irrigation	4
II.	Component 2: Enabling Environment for Smallholder Agriculture	8
	Sub-Component 2.1: Improved Delivery of Extension Services	8
	Sub-Component 2.2: Agricultural Service Centres	9
	Sub-Component 2.3: Institutional Strengthening	9
III.	Component 3: Project Management	9
D.	Financial Management	11
E.	Audit	14
F.	Conclusion	14

Appendices

Appendix 1: Project Status Report	15
Appendix 2: Agreed Action during the Implementation Support Mission of October 2012	17
Appendix 3: Sub-Component 1.2: Improved Rainfed Agricultural Practices	21
Appendix 4: Irrigation Development	29
Annex 1: Example Format for Training Modules	36
Annex 2: Schedule of Activities for Sub-Component 1.3: Palapye Irrigation Scheme	37
Appendix 5: Financial Management	45
Annex 1: Project Fiduciary Risk Assessment at Implementation	49
Annex 2: Compliance with legal covenants: Status of implementation	53

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A. Introduction and Background

1. The Agricultural Services Support Project (ASSP) financing agreement was approved by IFAD's Executive Board in December 2010 and became effective on February 21, 2012 with the signature of the Financing Agreement. This five-year USD 25.02 million project is jointly financed by the Government of Botswana (USD 19.08m) and the International Fund for Agricultural Development (USD 5.65m through a loan using non-concessional terms for USD 4.04m and a grant of USD 1.61m). The unusually long delay between IFAD Executive Board approval and the signing of the financing agreement was due to the extended parliamentary approval procedures mandated by the GoB.

2. The first joint implementation support mission transpired between October 15 and October 26, 2012.¹ Field work was conducted during the first six working days of the mission. Team members visited Palapye, Tonota and Jwaneng, met with key stakeholders including farmers, local authorities, Department of Crop Production (DCP) staff, the Water Utilities Corporation in Palapye, and authorities at the Glen Valley wastewater irrigation scheme. Logistics for the mission were ably organized by the ASSP Project Management Team (PMT), most of whom accompanied the mission during field work. A debriefing was held for MoA senior management and strategic partners during the final day of the mission. The team would like to express its sincere appreciation to the farmers, traditional authorities and the MoA and, in particular, to the DCP district staffs in the localities visited, for their time, engagement and insights shared with the team members. A special thank you is extended to MoA mission team members, Mr Kabomo, Principal Agricultural Engineer and Ms Mafhoko, DCP Gender Focal Point, for their enthusiastic participation in field work and their contributions to the aide memoire.

B. Overall assessment of project implementation progress

3. The mission focused on providing implementation support to the PMT to: i) refine the proposed annual work plan by identifying and sequencing the discrete steps needed to carry out the proposed tasks, correcting arithmetic errors in the proposed annual budget and providing additional hands-on training to the project accountant and procurement officer, verifying technical assumptions and data relevant for the implementation of the Palapye Pilot wastewater irrigation scheme and establishing agreed actions for the three project components during the coming six months.

4. Given that the ASSP had not yet fulfilled a key requirement, notably IFAD's No Objection (NO) for the Annual Work Plan and Budget (see paragraph above), which is obligatory to initiate loan and grant disbursements, ASSP activities have been limited to those initiatives which did not require IFAD loan or grant funds. This has necessarily hampered project start-up. While certain important activities have been carried out (Withdrawal Application Procedures completed, establishment of the PSC and PMT, start-up workshop held, development of the annual work plan and budget, prioritization of preliminary ASC sites, ASSP presentations to most stakeholders), several programmed activities have not been held due to outstanding issues related to the AWPB. Errors in the budget have now been corrected and, once a few minor changes have been made, IFAD will provide its No Objection

¹ The mission was composed of Geoffrey Livingston, CPM for Botswana and Team Leader (Project Management, M&E and Knowledge Management), Helle Qvist-Hoffmann, Consultant/IFAD Representative in Botswana (Extension Methodology and Agricultural Service Centres), William Oliemans, Consulting Irrigation Engineer (Pilot Wastewater Irrigation Scheme), Godfrey Wanjohi, Consulting Financial Management Specialist (Budget and Financial Management), Segokgo Kabomo, MoA Agricultural Mechanization Officer, Grace Mafhoko, MoA Apiculture Officer and DCP Gender Focal Point. Louise McDonald, IFAD CPM joined the mission for the first week and focused on targeting. The MoA Youth Officer was originally scheduled to participate but was unable to do so.

upon receipt of a completed withdrawal application.² The time elapsed between the signature of the Financing Agreement and the first project disbursements now stands at eight months. It is anticipated that disbursements will begin by mid-November. While the project will be starting full execution of the 2012-13 AWPB only with the commencement of the disbursements, it should already be starting to plan for the AWPB planning process for the 2013-14 AWPB. It is stressed that the project needs to gain momentum and pick up speed in order to make up for delays to date.

C. Outputs and outcomes, by component

I. Component 1: Sustainable Agricultural Production

Sub-Component 1.1: Agricultural Mechanisation

5. **Suitability of current MoA equipment:** ISPAAD has identical machinery at all places currently functioning as Agricultural Service Centres (ASC), the same size tractors and exactly the same implements. During the procurement process, no provision was made for variability of Agro-ecological zones (rainfall patterns, vegetation and soils across the country). For example, Chobe District in Northern Botswana has predominantly black cotton soils (Luvisols) with relatively higher soil cohesion that requires higher tractor draft power for farm operations, with relatively higher annual rainfall (of up to 650 mm). ISPAAD machinery in this area should have been designed for difficult soils. Agronomic/plant management practices should consider the soil type, rainfall pattern and vegetation.

6. On the other hand, districts in the South and extreme South West of Botswana have predominantly sandy soils with lower annual rainfall of less than 350 mm. Machinery for this agro-ecological zone should specifically encompass moisture conservation, such as chisel ploughs, zero tillage planters and ridgers as opposed to conventional ploughs (mouldboards and disc ploughs). Other localities should also have machinery designed for their specific agro-ecological zones. The type of soil tillage (and implements) has a direct influence on the dynamics of soil biology (soil carbon index, etc.) which influences plant/soil/water relationships and subsequent plant nutrient uptake and crop yields.

7. **Recommendations on improving productivity through lower cost mechanisation options, including conservation agriculture:** Training of tractor owners and operators on tractor operation, maintenance and implement setting/calibration is crucial for farm machinery efficiency in terms of their optimum availability and effective utilization. The training is essential for good seedbed preparation, leading to optimum growth and development of crops for higher crop productivity.

8. ISPAAD machinery travel logistics should be monitored to minimize travel time and distances between successive fields for maximum machinery output. Access roads should accommodate the largest implement within the ISPAAD fleet. Zero and minimum tillage options would reduce machinery operating costs significantly while increasing yields, especially during times of moisture deficiency.

9. **Testing and demonstration of improved agricultural implements:** The ISPAAD fleet of implements should be tested and adapted for Botswana conditions to reduce drudgery and poor workmanship resulting from implements. The Department of Agricultural Research (DAR), in collaboration with Rural Industries Promotion Company – Botswana (RIPCO-B), should be brought on board to test and validate all implements used for crop production. As far as is feasible, implements should be adaptable to Botswana conditions to avoid frequent breakdowns resulting from below standard soil engaging parts. Different implements have to be used for differently textured soils and thus the “one size fits all” is neither practical nor cost effective.

² The Financial Management Specialist is working with the ASSP team to prepare the withdrawal application in order to expedite fund transferal.

10. **Recommendations regarding the privatization of tractor services:** Currently, ISPAAD tractors are used to plough on farmers' fields under rain fed conditions; which means within a "natural" window of the moisture regime. This creates problems regarding procurement logistics and transport of fuel, lubricants, service spare parts and production inputs (seeds & fertilizers) simply because of the "Supplies Regulation" which restricts stockpiling of spare parts. Procuring officers are also expected to acquire five or more quotations and evaluate them for every purchase before a Government Purchase Order (GPO) can be prepared for the most "cost effective" supplier.

11. Private contractors are better placed for speedy procurement of inputs, consumables and spares without any restrictive regulations. All tractors and implements at the ASCs should be leased to qualified private contractors or sold right away to rid Government of the task of operating time bound farm operations under time consuming procurement processes and regulations.

Sub-Component 1.2: Improved Rainfed Agricultural Practices

12. Rain fed crop yields in Botswana are among the lowest in the world, with a national average of 383 kg/ha³ over a 25 years period. Among the contributing factors to these low yields are: fields not being ready for farming at the onset of the rainy season, sub-optimal ploughing services, late arrival of inputs, and limited knowledge by farmers of appropriate agronomic practices suitable for the pertinent sub-optimal agro-ecological zones in which they operate.

13. ASSP aims to address and mitigate the effects of the wide range of factors contributing to the prevailing low yields, thereby contributing to higher yields and improved national and household food security by facilitating the development and transfer of appropriate, improved agronomic technologies through establishment of links between research, extension and farmers. The project will furthermore engage in a range of adapted and targeted capacity development approaches like "Farmer Field Schools", study tours, on-farm demonstrations and yield trials, including testing of various conservation agricultural techniques⁴.

14. **Progress to date:** Consultative meetings –to create awareness and interest around ASSP-- have been conducted for MoA staff in all ten Districts and in sub-districts and extension areas that will be prioritised for the first year: Jwaneng, Parakarungu and Tonota. Consultations have taken place at MoA Directors' level to establish a "Research, Farmer & Extension Linkages Committee". Representatives to this committee have been nominated and include a wide array of agro-technological MoA officers, Botswana College of Agriculture (BCA) as well as one farmer representative. Training Needs Assessments are done routinely as part of the quarterly meetings between the MoA HQ agronomists and the extension agents in the districts. Technical training of Agricultural Demonstrators (ADs) and Subject Matter Specialists (SMSs) are planned for the 2012-2013 fiscal year.

15. **Agreed Action:** Training of farmers⁵: A country-wide 'Training Needs Assessment' (TNA) will be conducted to assess and prioritize the training needs for arable farmers. Based on the TNA, a training plan will be developed and submitted to the Head of Farmer Training in MoA HQs, who will then analyse the training needs from the field and together with a task force on training development decide on the coming year's training programme for the Training Centres. Special emphasis from the

³ National yield average between 1985 and 2010. Source: BCA Consult (PTY) LTD (2012): Consultancy for the Poverty and Social Impact Analysis of the Integrated Support Programme for Arable Agricultural Development (ISPAAD). According to figures provided by the Sub-District Crop Production Office in Tonota, the average maize yields in the Tonota area was around 78 kg/ha in the 2010/2011 cropping season; and although extremely low, this yield level is representative for the yields in the area. (The report is not yet published.).

⁴ Conservation agriculture implements that take the situation and concerns of small-scale farmers into consideration (like draught power) will be given special attention.

⁵ Before designing capacity development initiatives needs assessments will be undertaken to determine the types, contents, levels, venue, timing and target audience of training required.

PMT's side will be given to analysis of the needs to train farmers in minimum tillage and other conservation agricultural practices (like intercropping, mulching and other organic matter and moisture conservation techniques); emphasis will also be given to business development and "farming as a business". **Responsibility and deadline:** ASSP Agronomist and Project Manager to assess needs in ASSP areas, by end of November 2012. Project Manager to initiate negotiations with the Head of Farmer Training to ensure that training in conservation agriculture and business development be included in the general training programme for the Training Centres, by mid-December 2012.

16. **Agreed Action:** ToR for the "Research, Farmer & Extension Linkages Committee" will be developed to ensure that MoA-driven demonstration initiatives on farmers' fields are appropriate, client-oriented and user responsive. **Responsibility and deadline:** ASSP Agronomist, by mid-November 2012.

17. **Agreed Action:** The project will develop targeted messages on appropriate technologies to farmers. This will be done, with sensitivity to the fact that farmers are not a homogenous group, and that their needs vary depending on a number of factors, like their financial and socio-economic situation, gender, age, HIV/AIDS status. Different targeting mechanisms and extension messages may be needed for the different groups. The targeted messages will be developed in collaboration with MoA's communications division. **Responsibility and deadline:** Agronomist and Communications Officer to develop a targeted message on one topic (conservation agriculture), by end of March 2013.

18. **Agreed Action:** During the 2011-2012 fiscal year "District Demonstration Committees" were established in order to facilitate closer collaboration between various agronomic technical fields when supporting demonstration plots and yield trials on farmers' fields. The coming months, when travelling around the country to supervise the demonstration sites, the ASSP agronomist will assess the efficiency of the "District Demonstration Committees". In doing this, she will identify the challenges, discuss ways to overcome them or mitigate their effects and also analyse the value of committees and possible needs for change. **Responsibility and deadline:** Agronomist, by end of March 2013.

Sub-Component 1.3: Pilot Scheme for Wastewater Irrigation

19. **Design of the Sub-component.** The key assumptions in the Project Design Report (PDR) for the Palapye Pilot Scheme are: a) the availability of 700m³ of irrigation water per day; b) appropriate water quality for irrigation; c) viable plot size between 0.125 and 0.25 ha for individuals and 1.0 ha for groups; d) command area of 29 ha, of which 25 ha would be for individuals and 4 ha for groups. A planning and overview of the main institutions was also provided, with little detail on critical steps and implementation modalities. A management model for the scheme is not provided.

20. **Progress to date.** Since the start of the project, progress has been made on a number of issues, including: i) the design for the in-field system; ii) discharge measurement of the outflow of the Palapye WTP; iii) collection of effluent water quality data from the Water Utilities Corporation (WUC); iv) submission of the Environmental Project Brief to the Department of Environmental Affairs (DEA); v) application for a Water Right for the scheme with the Water Apportionment Board (linked to the Department of Water Affairs – DWA); vi) community consultation meetings (3) on beneficiary selection and de-stumping; vii) further detailing of the beneficiary selection criteria, and viii) meetings with stakeholders such as the Health and Environment departments at local and national levels, the WUC, the Local Enterprise Authority (LEA) and potential financiers of the beneficiary investments such as CEDA, the Youth and the Women's Funds. At an earlier stage, the 29 ha command area was secured by the MoA with the Land Board.

21. Given the fact that preparatory activities such as the assessment of water availability and water quality are on-going and require further input, and procurement of the Environmental Impact Assessment (EIA) and scheme design has not started yet, the planning targets stated in the PDR will

not be met at the current rate of implementation. Procurement of the EIA and Design of the Pilot Scheme are now urgently required. It has become clear that the design assumptions in the PDR are too optimistic and that a thorough implementation plan is needed to ensure an effective and timely execution of the sub-component.

22. The mission reviewed the technical and organisational implementation issues with the Irrigation Officer (IO) and, together with the IO, prepared a planning table and draft schedule for the coming 12 months. For the scheme to become sustainable, the following issues should be addressed: i) ensuring reliable water supply; ii) beneficiary business development; and iii) capacity building for scheme management, operation & maintenance (O&M); and iv) mitigation of health risks. Given the workload of the IO (who is engaged on a half-time basis in the Project) there is an urgent need for: a) hands-on technical support for the drafting of the Terms of Reference (ToR) of the foreseen consultancies, design and civil works procurement, including technical specifications; and b) development of an integrated approach and planning of the scheme.

23. **Preparation and Design.** The mission visited the Palapye Wastewater Treatment Plant (WTP), the selected command area downstream of the outflow point as well as the Dikabeya and Glen Valley irrigation schemes. Main conclusions are: i) The project foresees 25 ha of net irrigable area. This is less than the 29 ha foreseen in the PDR⁶; ii) The discharge (water quantity) from the Palapye WTP is presently not sufficient to irrigate the 25 ha foreseen. This is due to the delayed connection of Botswana International University of Science and Technology (BIUST) which was anticipated in the PDR. Based on a four-months measurement campaign by MoA (which should be verified and continued), less than 15 hectares can now be irrigated year-round; iii) In the next year, after BIUST is connected, the discharge is expected to increase by approximately 50%⁷. This would allow for an increase of the irrigable area by 5 to 7 hectares to a total of close to 20 hectares.

24. **It was agreed** that: a) discharge measurement would be carried out for the summer period on a daily basis by MoA irrigation field staff and checked by the IO for consistency and accuracy; b) the scheme area will be reassessed by the IO based on actual data and projections of Crop Water Requirements, with technical support from IFAD and FAO; c) a design software package, including hands-on training for the IO, will be procured by the project; d) the maximum net irrigable area will be 25 hectares rather than 29 hectares as foreseen in the PDR; e) the PMT will maintain close contact with the Palapye administration and WUC to ascertain the actual increase in connections and discharge from the WTP in the next year (2013); f) the scheme will, unless reliable discharge data indicates otherwise, be developed in two or more phases to allow for a growth in the command area after a reliable increase of discharge from the WTP; g) the main infrastructure of the scheme, including head works, reservoir and pumping system, will be developed for the total command area of 25 hectares; h) the Design Consultant will need to demonstrate a clear understanding of these issues and provide design alternatives accordingly. This will include the possibility of drilling a back-up borehole for the Palapye scheme to ensure a reliable water supply in the future; i) the IO will develop ToR for the Design Consultant before the end of November, with technical support from IFAD.

25. **EIA.** The mission met with the DEA and the Department for Waste Management and Pollution Control to discuss the need for an EIA for the Palapye scheme. As a result of the meeting, the IO directly submitted the 'Environmental Project Brief' to the DEA. The DEA will then assess the need for a full EIA, an Environmental Management Plan or recommend that no mitigating action is needed. In the AWP/B (and PDR), a full EIA is foreseen to be carried out by a consultant registered with the Botswana Environmental Assessment Professionals Association (BEPA) according to the procedures

⁶ This is partly explained by the difference between gross and net irrigable area. The gross area includes roads and other facilities.

⁷ At present, and based on personal communication with WUC staff, approximately 40% of the population of Palapye (est.: 42000) is connected to the sewage system and treatment plant. The additional connections will be in the order of 10000 inhabitants.

set out in the Environmental Affairs Act. The Act also specifies the main elements of the ToR for the EIA Consultant. It is critical that the procurement of the EIA starts as soon as possible after the assessment by DEA as the results (mitigating measures) will need to be taken up in the scheme design and demonstrated to DEA before Implementation can take place. **It was agreed** that the ToR for the EIA Consultant would be developed immediately after the DEA assessment by the IO, with technical support from IFAD.

26. **Water Quality.** In the PDR, water quality is considered safe for irrigation, including health risk mitigation measures such as gloves and boots. This seems to suggest the use of furrow irrigation. According to GoB policy (as applied in Glen Valley), only restricted irrigation is allowed. The irrigation type is restricted to drip or trickle irrigation and root crops (such as carrots and onions) may not be produced with treated wastewater. These provisions limit health risks to a minimum, both for farm workers, surrounding communities and consumers. In addition, the water quality data provided to the mission by the WUC and DWMPC suggest that pathogen levels are below the safe limit suggested by the World Health Organisation (WHO). Nevertheless, health risks remain in case the WTP faces a temporary breakdown or power cut (which will disable the secondary treatment stage) or in the day-to-day activities such as the replacement of drip lines, cleaning of filters or manual cleaning of canals or reservoirs. Awareness and health education therefore remains a key part of the project. As the risk of any disease outbreak would seriously endanger the success of the scheme, **it is agreed** that independent water quality analysis will be carried out by the project for a period of at least one year. The analysis will be contracted to a private company. **It is agreed** that the IO will develop the ToR as soon as possible, in consultation with the WUC and DWMPC, with assistance from IFAD.

27. A second aspect of water quality is related to the clogging of filters and emitters due to the level of suspended solids and organic matter. As these issues increase the operation and maintenance costs for farmers, the MoA should continue to raise this issue with the WUC. The elevated levels of nitrogen and phosphate, although they exceed BOPS 93: 2004 Wastewater Standard Requirements, are beneficial to agriculture and provide nutrients, which would otherwise be purchased. **It is agreed** that the Design should include a filter that is specifically designed for use of wastewater. The types of filters available on the market were shared with the IO.

28. **Beneficiary selection.** The PDR provides little detail on the selection criteria for the beneficiaries of the scheme. It is however a crucial activity for the sub-component. To ensure that both a core part of the envisaged target group (youth, women and vulnerable groups) is reached and that people are selected that have true potential to become successful in running their horticulture business, it is essential that the current set of criteria is made operational by the PMT as soon as possible. Minimum requirements are needed for experience in farming in kitchen gardens or rainfed agriculture and a demonstrable interest in intensive agriculture. The selected farmers should also demonstrate that they either live in the area or have the ability to provide hands-on management of their plots. In addition, there should be a provision for farmers to leave the scheme if they do not fulfil their commitments and be replaced by other beneficiaries. The PMT should also develop a clear and transparent procedure for application and selection, in close consultation with LEA and downstream financial institutions to guarantee the ability of the beneficiaries to access finance for their in-field investment and O&M of the irrigation scheme. **It is agreed** that the M&E officer, with the assistance of IFAD and the Division of Cooperatives in the Department of Agribusiness Promotion, will coordinate the development of the final set of selection criteria and selection procedures. The M&E officer will furthermore facilitate the development of a MoU between ASSP and the Division of Cooperatives

29. **Business development** is a key activity towards developing a sustainable irrigation scheme in Palapye. The small-scale horticulture businesses need to generate sufficient returns to pay for the O&M of the schemes and provide adequate returns to the beneficiaries. Due to the targeting objectives of the project, plot sizes are foreseen of 0.5 ha for individuals and 1.0 ha for groups. The

key financing agency in the small-scale horticulture sector, CEDA, however does not provide loans to farmers that have plot sizes smaller than 2 hectares. This figure is based on a recommendation from MoA and based on necessary capital investment by the applicant in de-bushing, developing a borehole and the provision of electricity and potable water. In ASSP, these investments will be borne by the project and a smaller plot size could therefore be financially viable for the individual plot owners⁸. The project will engage the services of LEA to ascertain whether the proposed plot size of 0.5 ha for individuals and 1.0 ha for groups are economically viable. This assignment will be carried out in close consultation with the Agribusiness Department and the Horticulture Division and subsequently be discussed with CEDA with the objective of relaxing the lower limit of the plot size needed to qualify for a loan. LEA will also be engaged to guide farmers through the process of business planning, hands-on horticulture development and financial management. This will include looking for economies of scale in purchasing in-field equipment and inputs and marketing of horticulture produce. The ToR should ensure that LEA engages leading farmers from the area and experienced MoA staff to guide, train and mentor the farmers. **It is agreed** that the Assistant Project Manager coordinate the development of MoUs and where applicable, ToR for engaging critical stakeholders to be involved in assuring the successful operation of the scheme. This is expected to commence immediately after beneficiary selection, towards the end of Project Year 1.

30. **Scheme Management and Water Users Association (WUA).** Based on the experience in other irrigation schemes such as Glen Valley and Dikabeya, and good management practice, the MoA will not be responsible for the operation and maintenance (O&M) of the Palapye scheme. The beneficiaries themselves will be responsible for O&M. The most appropriate model would seem to be the setting up of a WUA that is controlled by the beneficiaries. They will need to generate sufficient income from their business to pay for the irrigation services they receive. WUA tasks include i) pumping and water distribution; ii) quality control and maintenance; and supporting activities such as iii) finance & record keeping; iv) negotiations and agreements with Government departments and private suppliers; and v) group dynamics and conflict management. WUAs are not yet known in Botswana as irrigation is either managed by the Government or by private entities. The project is just starting to develop a model for WUAs, which should involve a) the definition of their legal status, internal structure and constitution; and b) a strong capacity building effort by the MoA and engaged service providers. Given the workload of the M&E Officer and IO, **it was agreed that** the IO and the Assistant Project Manager will draft the ToR for technical assistance to define and guide the set up and strengthening of the WUA in Palapye scheme.

31. **National Strategy on Reuse of Wastewater in Agriculture.** The pilot scheme in Palapye is expected to result in lessons learnt, based on which the project will support the MoA and partners – through a ‘Learning Alliance’ to develop a National Strategy on Reuse of Wastewater in Agriculture. A four months input is foreseen in PY3 (2014). The experience in the Glen Valley scheme, in operation since 2002, would also be an input to the strategy. The MoA, with support from the African Development Bank, is presently carrying out a feasibility study on the reuse of effluent water in selected sites of the country. This study will provide a much needed input to the national strategy and both efforts under the MoA should be closely aligned to achieve the best synergy. A draft outline for the development of the National Strategy was developed by the mission. **It was agreed** that, those activities that do not depend on the results of the Palapye pilot scheme, would already be developed in PY 2 (2013). These include: i) a position paper on wastewater reuse objectives, potential and constraints; and ii) the organisation of an international study visit to Mexico.

⁸ In the PDR, a plot size of 0.125 ha is considered financially viable (see WP 10).

II. Component 2: Enabling Environment for Smallholder Agriculture

Sub-Component 2.1: Improved Delivery of Extension Services

32. This sub-component aims to increase the efficiency and outreach of extension services to farmers in an environment where the extension agents are over-burdened with ISPAAD administrative duties and extension worker to farmer ratios are high (at times up to 1:1200 in Tonata East EA). Furthermore, transportation and communication means are limited, prohibiting effective communication and service delivery to farmers. In-service training⁹ and capacity development of extension agents have during the last few years been significantly affected by budgetary constraints/budget prioritization. Ploughing services are sub-optimal and inputs arrive late, again jeopardizing the production potential. In this environment, ensuring timely preparations of fields and availability of inputs could significantly increase productivity.

33. **Progress to date:** The focus of the 2012-2013 AWPB is on addressing some of the above-mentioned constraints to effective extension service delivery. This will be done through appropriate capacity development of the extension agents and through provision of transport and communication means to the Jwaneng, Parakarungu and Tonota ASC areas. At the time of the Joint Implementation Support Mission, the needs assessment (for staffing, transport, communication and staff training) is about to start in the districts. The Procurement Plan includes vehicles and computers for the three Year 1 priority areas. Procurement process is scheduled to start in November 2012.

34. **Agreed Action:** Review MoA's input procurement process to increase the probability of timely reception of seeds and fertilizers. **Responsibility and deadline:** ASSP Procurement Officer, by March 2013.

35. **Agreed Action:** Assess the training needs (such as facilitation skills and extension methodologies) of extension agents, in order for them to be able to effectively drive ASSP in the Districts. A request will be sent to the DCP Training Coordinator by the end of November 2012, in order to ensure training space at the Training Centres in 2013. **Responsibility and deadline:** ASSP agronomist and M&E/KM&L officer, by end of November 2012.

36. **Agreed Action:** Analyse the potential roles of agencies like LEA, BCA and others to provide training and assistance in capacity development of various ASSP stakeholders (MoA staff, the ASSP target group, service providers and others). **Responsibility and deadline:** Assistant Project Manager, by March 2013.

37. **Agreed Action:** Assess the possibility of hiring temporary extension staff (in lieu of the initially planned additional 50 ADs): As part of the general needs assessment (for staffing, transport, communication and staff training) that is about to start in the districts an assessment and prioritization of areas that need additional ADs will be made. Based on the assessment, a request will be made through the Ministry of Labour & Home Affairs for selection and hiring of temporary staff to support the field extension service. **Responsibility and deadline:** Project Manager; process to be initiated 1st November, request to be sent to the Ministry of Labour & Home Affairs by 1 March 2013, in order to be able to engage the temporary staff during the coming fiscal year 2013-2014.

38. **Agreed Action:** Inventory of refurbishable vehicles. Also as part of the general needs assessment, an inventory of refurbishable vehicles will be made. Based on the findings, a refurbishment plan will be discussed with the MoA Transport Office. **Responsibility and deadline:** Project Manager, by the end of March 2013.

⁹ The ADs have as a minimum requirement a certificate in general agriculture from BCA; which covers the basics of all agronomic practices, from land husbandry, to horticulture, livestock husbandry and basic facilitation skills, but has limitations with regard to more business-oriented training in "farming as a business" and small-scale business development.

Sub-Component 2.2: Agricultural Service Centres

39. The Agricultural Service Centres (ASCs) are foreseen to be crucial focal points for provision of production inputs and a wide range of services to help increase agricultural production, facilitate marketing and promote “farming as a business”. Farmers seem to have a preference for a ‘one-stop-shop’ for production-related services, including ISPAAD-supported subsidized seeds and fertilizers, farm mechanization services, access to credit, training, marketing and storage facilities. The farmers are eager (to the point of impatient, as ASCs have been planned since the start of ISPAAD in 2008) to see the ASCs constructed and established as functional service centres.

40. **Progress to date:** Consultations around the ASCs were on-going by the time of the Joint Implementation Support Mission. District authorities, kgotla meetings, farmers and other stakeholders have been addressed in the Parakarungu, Tonota and Jwaneng ASC areas.

41. **Agreed Actions:** The on-going consultative process that has been initiated in the Parakarungu, Tonota and Jwaneng ASC areas will be continued and broadened to further analyse the needs of the farmers and their vision for the ASCs, and will include discussions of additional management arrangements other than the three suggested management options in the Design Document. (For instance, a Farmer Group might be interested and, with some capacity development, capable of managing an ASC). **Responsibility and deadline:** Project Manager; process on-going.

42. An ASC workshop with all relevant stakeholders¹⁰ will be conducted in Tonota as a pilot in the first year. The following main steps are foreseen as important steps in preparations for the workshop: i) an inventory of existing services, their profiles and capacities; ii) separate meetings with women’s groups, the youth and marginalised groups, in order to discuss their needs and priorities, analyse constraints and opportunities to benefit from the ASCs and help them prepare to present their views at the workshop; iii) separate meetings with private agro-dealers, tractor owners, and other private sector service providers, to inform and discuss the ASCs and to assess their level of interest in being involved in providing services through the ASCs. **Responsibility and deadline:** Project Manager to discuss with the District staff their capacity to be in-charge of the ASC workshop preparations, including conducting the above-mentioned inventory and meetings with various groups before the workshop. Discussions with the District staff to take place by the end of October 2012. ASC Workshop to be conducted by the end of February/early March 2013.

Sub-Component 2.3: Institutional Strengthening

Activities under this component are discussed in other sections of the report.

III. Component 3: Project Management

43. **Project staffing:** The challenges facing the ASSP must not be underestimated. To provide some perspective, the GoB has spent hundreds of millions of BWP over the last two decades to increase smallholder productivity but has had little impact on augmenting yields of cereal crops. Approximately 55% of the MoA budget is devoted to the purchase of inputs and tractor services, accounting for almost 85% of the budget for the Department of Crop Production.

44. The central purpose of the ASSP is to help the GoB translate its very considerable investment in the promotion of arable agriculture into increased yields and thus greater returns on monies allocated through the ISPAAD subsidy programme. To accomplish what has to date been unattainable requires adequate resourcing of the PMT.

¹⁰ Involvement of all relevant stakeholders, from kgotla leadership, VDCs, farmer committees, youth groups, women’s groups, private sector and government-based service providers, community-based organizations, etc. is important in order to create understanding, support and active involvement in viable services centres that can provide optimal services to the farming community.

45. Two technical areas are of particular concern for the mission: technical backstopping for the Palapye Pilot Wastewater Irrigation Scheme and expertise required to pilot the critical agricultural mechanization component. At present, the half-time ASSP Irrigation Officer has been allocated the task of piloting these key sub-components as well as being responsible for other irrigation schemes within the MoA. Based on an enumeration and subsequent analysis of tasks required for the Palapye scheme design and start-up (please refer to the technical annex which will be attached to the final version of the mission report), it is the opinion of the mission that the PMT Irrigation Officer will be required on a full-time basis until the scheme is up and running and inevitable start-up technical issues have been addressed. Clearly, he will not have adequate time to also pilot any additional sub-components.

46. Regarding the agricultural mechanisation sub-component, the mission believes that the improved availability of adequately equipped mechanization services (both motorized and animal traction) may present the greatest pay-off in terms of increased yields, given that the timely availability of mechanization services impacts on planting dates, the use of row planting and eligibility for fertilizer subsidies. Given the critical importance of this sub-component, the mission urges senior management to consider appointing the MoA section head for agricultural mechanization to the PMT on a half-time basis as his participation in ASSP activities will be of critical importance to the success of the sub-component and the achievement of overall ASSP objectives.

47. To partially mitigate staffing shortfalls, the mission encourages the MoA/PMT to: i) expand the use of interns in ASSP; ii) create a programme for “Junior Consultants” who have distinguished themselves during their internships; iii) develop a strategy to maximize the use of sub-contractors such as NGOs and consultants for specific tasks limited in time; iv) appoint district and sub-district ASSP focal points. The ASSP has substantially benefitted from services of the current agricultural mechanization intern. This initiative should be expanded as it provides a win-win situation for both parties; the intern develops an invaluable first professional experience and the project benefits from cost-effective services. The establishment of a “Junior Consultants” programme would be a logical extension of an expanded internship programme as it would reward exceptional internship performance, provide an entry level salary for internship graduates and help build qualifications of young professionals. The robust use of sub-contractors has been anticipated in the ASSP design document and can relieve both the PMT and district-level staff of certain tasks to permit them to focus on core functions. The establishment of district and sub-district ASSP focal points should facilitate and improve coordination between Gaborone and the districts.

48. **Project staff reporting lines:** There is a fundamental contraction between the hierarchical reporting lines envisaged in the Project Design Document and current actual practice. As per the Terms of Reference for project staff contained in Working Paper 7, “Project Implementation Manual”, it was envisaged that PMT staff would report to the ASSP Project Manager (PM). However, currently, with the exception of the Assistant Project Manager, all other staff report to their line supervisors and are not administratively answerable to the ASSP PM. The PM is not involved in the development of staff performance plans nor does she have any role in the quarterly assessment of staff performance. This has several negative impacts. ASSP planning is compromised as staff allocated to the project on a half-time basis have frequently been unavailable to participate in key project activities (such as the development of the Annual Work Plan and Budget). PMT staff performance is not evaluated. Good performance on ASSP will not be recognized or rewarded and poor performance will not be sanctioned. Finally, the inexistence of reporting lines between project staff and the project manager undercuts the manager’s authority. The mission strongly recommends that reporting lines be revised to reflect the status of the team member. For team members assigned to ASSP on a half-time basis, the ASSP Manager should be an equal partner with the line supervisor for the elaboration of performance objectives and the assessment of quarterly and annual reviews. This is essential to

improve planning, project execution and provide the manager with the requisite authority to carry out her duties.

49. **Monitoring and Evaluation:** Some initial progress was registered for M&E activities. An Expression of Interest for the Results Impact Management (RIMS) survey has been elaborated and published and three consultants have expressed interest. Terms of Reference for the RIMS survey have been finalized and ToRs have been prepared for the ASSP Survey Reference Committee. This is a promising start. During the coming five months, the RIMS baseline survey should be launched, a set of appropriate First Level RIMS indicators should be identified from the menu included in the RIMS handbook, additional indicators should be established which will figure in the general baseline survey and planning for this general survey should be well advanced. The pertinence of establishing yield plots should also be discussed and decided on in conjunction with the ASSP agronomist.

50. **Knowledge Management and Communications:** Since the signature of the Financing Agreement in late February, a Communications Officer has joined the PMT on a half-time basis. The ASSP has used a variety of media to create awareness among project stakeholders. A leaflet explaining project objectives has been developed in English and is now being translated into Setswana. The Project Manager was interviewed in the Agri-News monthly publication and several large informational meetings have been held in the capital and in districts to inform stakeholders about ASSP objectives. Before 30 March, 2013, **it was agreed that** the project will draft a communications programme which will specify communications objectives and define initiatives to communicate key project messages to the target audiences.

D. Financial Management

51. **Systems and Internal Controls:** The mission reviewed the Project Implementation Manual and notes that the requisite financial management systems are substantially included. The framework of procedures includes financial planning (through Annual Work Planning and Budgeting process (AWPBs), financial data capturing and accounting system, financial cash flow management, monitoring and reporting, and procurement and auditing. These now require being refined into clear result oriented processes. In particular, the PMT should identify and install a dedicated financial data capturing and accounting software, formulation of appropriate chart of accounts, which facilitate the financial accounting by components and expenditure categories. Other processes to be put in place are the procedures for capturing expenditure incurred on account of the approved AWPB activities through the GoB systems, templates for financial statements for physical and financial progress reports as well as financial statements for Audit. The other procedures to be defined and developed are the templates for reporting the expenditures incurred in the project districts against the approved AWPB provisions. **It was agreed that** the revision and improvement will be carried out by 31 January 2013.

52. **Financial management capacity, performance and financial reporting:** The financial management team is made up of the Finance Manager. The one person team is not adequate, and besides the holder is not fully dedicated to the project's financial management. The project level of financial transactions requires a qualified two-person team which is dedicated fully to the project's financial management with no other responsibilities, as specified in the design document. In addition, each of the project districts will have a specific focal accountant formally defined and sensitized on the accounting and reporting Statements of Expenditure (SoE) requirements. The other level of financial management capacity building will be at the level of the Project Manager and the Departmental Director. The two officers must review the quarterly financial management reports and give clear and result oriented directions on emerging issues that negatively affect smooth implementation and recommend improvements. In order to facilitate results-oriented financial management, oversight and monitoring, the following financial statements will be submitted every quarter:

- a) Monthly update of books of accounts and ledgers and full reconciliation with the bank accounts.
- b) The reconciliation of the Designated Account should be prepared at the end of each month for use as a management tool for checking the accuracy of the cash flow and expenditure accounting records, as well as tracking the levels of the expenditure that are pending Withdrawal Application preparation and submission as soon as the 20% prescribed threshold is achieved.
- c) Quarterly resources and expenditure statements should be prepared. The expenditures should be presented by components as well as by expenditure categories. The resulting surplus or deficit must be reconciled with the cash and Bank Balances.
- d) The job descriptions of the Finance Manager and the Finance Officer should be defined to make them results-oriented with clearly defined performance indicators in terms of deliverables and their timelines.
- e) The financial management team should be exposed to the IFAD loan administration and financial management training.

53. **Review of the Designated Accounts:** The two designated accounts have been opened in the Bank of Botswana. The loan has not had any cash inflow yet. The Grant account has had an inflow of USD 22,500 for financing the ASSP Start-Up Workshop. Out of this inflow USD 20,284 has been spent on the Start-Up Workshop and service providers for this workshop as well as for the RIMs workshop. The Initial deposits in this account have yet to be fully accessed due to the delayed 2012/13 AWPB approvals. The mission is pleased to note that the NO objection for the AWPB will be provided by 31 October 2012.

54. **Review of the 2012/2013 AWPB:** The mission reviewed the 2012/13 AWPB and assisted the PMT to reconcile the arithmetic problems previously encountered. The total budget is BWP 10.31 million or USD 1.38 million. The details by component and financier are herewith presented:

Table1: Consolidated 2012/13 AWPB by components and Financiers

Component /subcomponents		Financiers					
		GOB			IFAD LOAN	IFAD GRANT	TOTALS
		Financing	Taxes	Total			
1	Sustainable Agricultural Production						
a	Agricultural Mechanization	482	75	557	113	27	697
b	Improved Rainfed Agricultural Practices	27	60	86	381	89	556
c	Pilot Scheme for Small holder Waste water Irrigation	80	138	218	81	989	1 288
	Sub Total	589	272	861	575	1 105	2 541
2	Enabling Environment for Smallholder Agriculture						
a	Improved Delivery of Extension Services	882	384	1 266	177	30	1 473
b	Agricultural Service Centers	-	-	-	49	11	60
c	Institutional Strengthening	211	109	320	642	55	1 018
	Sub Total	1 093	493	1 586	868	96	2 551
3	Project Management	2 956	509	3 466	1 505	248	5 219
	TOTALS in BWP'000	4 638	1 275	5 913	2 948	1 449	10 310
	TOTALS in USD'000 @ BWP 7.5 for USD 1	618	170	788	393	193	1 375

Table 2: Consolidated 2012/13 AWPB by expenditure categories and Financiers

Category	Financiers						GoBTax Financing	Grand Total
	IFAD Loan	%age	IFAD Grant	%age	GoB Financing	Total Financing		
I. Vehicles, Equipments and Materials	281	15%	42	2%	1 579	1 902	617	2 519
II. Civil Work for the Irrigation Pilot Scheme	-	0%	200	77%	60	260	31	291
III. Technical Support, On-Farm Research and Studies: (a) Pilot Scheme for Smallholder Wastewater Irrigation	-	0%	770	100%	-	770	92	862
b) All Other components	998	75%	46	3%	279	1 323	162	1 484
IV. Improvement of Extension Outreach	1 669	69%	391	16%	363	2 423	280	2 703
V. a) Salaries	-	0%	-	0%	1 560	1 560	-	1 560
V.b) RecurrentCosts	-	0%	-	0%	799	799	92	891
Totals in BWP'000	2 948	33%	1 449	16%	4 639	9 036	1 274	10 310
Totals in USD'000 @BWP 7.5 @USD 1	393	33%	193	16%	618	1 205	170	1 375

55. **GoB counterpart contribution:** The GoB contribution through the financing of the approved AWPB activities amounts to BWP 873,794, or USD 116,500 as at 30 September 2012. These amounts include salaries for the personnel allocated to the Project. This compares with the BWP 5.9 million GoB contribution to the 2012-2013 budget and represents 14.3% of the GoB share of the 2012/13 AWPB. **The mission commends the GoB for the strong commitment to the Project demonstrated by this contribution.**

56. **Procurement:** The mission reviewed the procurement plan and confirms that the document is well done and the process and steps include the requisite milestones. The procurement process has not begun yet, reportedly waiting for the IFAD funds to flow into Project accounts. The mission notes that specifications and requisite bidding documents as well as ToRs for the consultancies have not been commissioned. As no procurement process can start without these preliminary preparations, the mission recommends that all the required ToRs and bidding documents be produced as a matter of urgency. The PMT should spearhead this process and ensure completion by 31st December 2012.

57. **Compliance with Loan Covenants:** Apart from slow take off of the project activities, the mission has not noted any contravention of the Loan covenants.

E. Audit

58. **Statutory Audit:** The Loan Financing Agreement requires that the audit be carried out and submitted to GoB and IFAD four months after the end of the Financial year falling under audit. The financial year for 2012/2013 has six months remaining and no significant expenditure has been incurred so far. The PMT should make arrangements for the audit to be carried out in accordance with provisions of the Financing Agreement.

59. **Internal Audit:** The PIM requires that the internal audit systems of the MoA be mainstreamed as part of the internal and oversight controls of the Project financial transactions. The mission recommends that sensitization of the Internal audit department of the Ministry be carried out culminating with the MoU between the Department and ASSP. The MoU should include specific tasks that are consistent with the GoB programme and timelines for reporting and the deliverables.

F. Conclusion

60. **Next steps:** The second implementation support mission is scheduled for the first half of April 2013. Exact dates and team composition will be specified prior to the beginning of the new year.

61. IFAD and the Government of Botswana endorse the findings of the supervision mission.

Appendix 1: Project Status Report

Basic Facts

Country	Botswana			Project ID	1546	Loan/DSF Grant No.	818
Project	Agricultural Services Support Project					Supp. Loan/DSF Grant	
Date of Update	04-Dec-2012					Financing terms	O
Supervising Inst.	IFAD/IFAD						
No. of Supervisions	1	No. of Implementation Support/Follow-up missions	0				
Last Supervision	26-Oct-2012	Last Implementation Support/Follow-up mission					

				USD million Disb. rate %		
Approval	05-Dec-2010			Total costs	25.02	
Agreement	21-Feb-2012	Effectiveness lag	14.8	IFAD Total	5.65	
Effectiveness	21-Feb-2012	PAR value	-----	IFAD loan	4.04	0
MTR				DSF grant		
Current completion	31-Mar-2017	Last Amendment		IFAD grant	1.61	1
Current closing	30-Sep-2017	Last Audit		Domestic Total	19.37	
No. of extensions	0			Beneficiaries	0.29	0
				Government (National)	19.08	0
				Cofinancing Total		

Project Performance Ratings

B.1 Fiduciary Aspects			Last	Current	B.2 Project implementation progress			Last	Current
1. Quality of financial management	3	3			1. Quality of project management	2	2		
2. Acceptable disbursement rate	3	3			2. Performance of M&E	4	4		
3. Counterpart funds	4	4			3. Coherence between AWPB & implementation	4	4		
4. Compliance with loan covenants	4	4			4. Gender focus	4	4		
5. Compliance with procurement	4	4			5. Poverty focus	4	4		
6. Quality and timeliness of audits	4	4			6. Effectiveness of targeting approach	4	4		
					7. Innovation and learning	4	4		
B.3 Outputs and outcomes			Last	Current	B.4 Sustainability			Last	Current
1. Sustainable Agricultural Production	4	4			1. Institution building (organizations, etc.)	4	4		
2. Enabling Environment for Smallholder Agriculture	4	4			2. Empowerment	4	4		
3. Project Management	4	4			3. Quality of beneficiary participation	4	4		
					4. Responsiveness of service providers	4	4		
					5. Exit strategy (readiness and quality)				
					6. Potential for scaling up and replication	4	4		

B.5 Justification of ratings

The project has been in force for nine months and no disbursements have been made as of yet. The "4" ratings above are essentially default ratings given that there is insufficient activity to rate. Even though the project has not yet disbursed, the elaboration of the AWPB was significantly hampered by difficulties in developing an arithmetically correct budget thus the "3" given for financial management. Project management has been weak and this has had an impact on both forward progress and team morale.

Overall Assessment and Risk Profile

		Last	Current
C.1	Physical/financial assets	4	4
C.2	Food security	4	4
C.3	Overall implementation progress (Sections B1 and B2)	3	3
Rationale for implementation progress rating Ratings for C1 and C2 are default ratings. The "3" rating for overall implementation progress speaks to the delays caused by the late submission of the AWPB. This is not totally the fault of the PMT as the ministry has given insufficient support to the PMT.			
C.4	Likelihood of achieving the development objectives (section B3 and B4)	3	3
Rationale for development objectives rating Given the present situation, the chance of the project meeting its development objectives is slim to nil. The level of engagement of the MoA must be ramped up for this challenging project to have any chance of generating meaningful results.			
C.5	Risks Short description of major risks for each section and their impact on achievement of development objectives and sustainability		
	Fiduciary aspects	Although the GoB has the best record for governance in SSA, the financial management team is understaffed and is also part-time. In addition, they have weak Excel skills and are unfamiliar with managing donor financed projects. These issues pose real risks for the ASSP financial management.	
	Project implementation progress	The project is understaffed with most of the team members serving on a half-time basis. Also, the project management is weak and shows no leadership. If the project is not better resourced, there is a real possibility that little progress will be made as most team members have several other duties unrelated to the specific ASSP activities.	
	Outputs and outcomes	As a consequence of the above, there is a risk that few outputs and outcomes will be generated.	
	Sustainability	See above	

Proposed Follow-up

Issue / Problem	Recommended Action	Timing	Status
Lack of engagement by Senior MoA staff	Visit by ESA Director.	Mid-January	
Assistance in AWPB preparation	Financial management expert and Gabs-based consultant to provide support.	Mid-January	
Require guidance for ASC establishment	Recruit a consultant in support of the Agricultural Service Centre establishment.	Mid-January	
Fast track tractor privatization	Recruit a procurement specialist to privatize tractors.	Mid-January	

Additional observations

There is an opportunity to have a concrete impact on smallholder farmers but a much greater level of engagement is required by the MoA if this project is to succeed.

Appendix 2: Agreed Action during the Implementation Support Mission of October 2012

Agreed Action (October 2012) with Responsibility and Deadline	Status Update by PMT, 2012.	Agreed Action (2012.) with Responsibility and Deadline
1. Sustainable Agricultural Production		
1.1 Agricultural Mechanisation		
1.2 Improved Rainfed Irrigation Practices		
Training Needs Assessment (TNA) to assess and prioritize training needs for arable farmers' needs. (Agronomist and Project Manager, November 2012)		
Training plan to be developed and submitted to the Head of Farmer Training in MoA HQs for training programme(s) to be developed and space reserved for farmers at the MoA Training Centres during 2013. (Agronomist and Project Manager, November 2012)		
Discussions with head of Farmer Training to influence and broaden training to include topics like CA and business development. (Project Manager, mid-December 2012)		
ToR for the "Research, Farmer & Extension Linkages Committee" will be developed to ensure that MoA-driven demonstration initiatives on farmers' fields are appropriate, client-oriented and user responsive. (Agronomist, mid-November 2013)		
Develop targeted message on conservation agriculture. (Agronomist and Communications Officer, by end of March 2013)		
Assessment of the efficiency of the "District Demonstration Committees" established in 2011. (Agronomist, by end of March 2013)		
1.3 Pilot Scheme for Wastewater Irrigation		
Discharge measurement during the summer period on a daily basis by MoA irrigation field staff and checked by the IO (October 2012 to March 2013)		
Reassess scheme area based on actual data and projections of Crop Water Requirements (IO, with technical support from IFAD and FAO, February 2013)		
Procure a design software package for drip irrigation systems (PO, November 2012)		

Agreed Action (October 2012) with Responsibility and Deadline	Status Update by PMT, 2012.	Agreed Action (2012.) with Responsibility and Deadline
Develop ToR for the Design Consultant including preparation of design alternatives for changing water availability in Palapye and need for reliable water supply. (IO, with technical support from IFAD, end November 2012)		
Develop the ToR for the EIA Consultant (IO, with technical support from IFAD immediately after DEA assessment)		
Develop the ToR for water quality analysis of the Palapye WTP effluent (IO, middle of November, in consultation with the WUC and DWMPC, with technical support from IFAD)		
Develop selection criteria and selection procedure in consultation with LEA and financing institutions before launching of the selection process and in close coordination with the IO to ascertain the actual area and plots in the scheme (M&E Officer, December 2012)		
Develop ToR or LEA as service provider for business development and enterprise models for the Palapye scheme (M&E officer, January 2013)		
Draft agreements between MoA-ASSP and the Government Departments (M&E officer and IO, by March 2013)		
2. Enabling Environment for Smallholder Agriculture		
2.1 Improved Delivery of Extension Services		
Review of MoA's procurement process for procurement of inputs (like seeds and fertilizers). (Procurement Officer, March 2013)		
TNA of the training needs (like facilitation skills and extension methodologies) of the extension agents for them to be able to drive ASSP in the districts. Training plan to be developed and submitted to the DCP Training Coordinator To reserve space for extension agents in the MoA Training Centres during 2013. (Agronomist and M&E/KM&L officers, by end of November 2012)		
Assessment of the potential role of agencies like LEA, CBA and others in providing training and assistance in capacity development (Project Manager, March 2013)		

Agreed Action (October 2012) with Responsibility and Deadline	Status Update by PMT, 2012.	Agreed Action (2012.) with Responsibility and Deadline
Assessment and prioritization of extension staffing needs. (Project Manager to initiate needs assessment, by 1 st Nov 2012)		
Request to Ministry of Labour & Home Affairs (Project Manager, by end of March 2013)		
Inventory of refurbish able vehicles. (Project Manager, by end of March 2013)		
2.2 Agricultural Service Centres		
Continued support to on-going consultative process in the Parakarungu, Tonota and Jwaneng ASC areas. (Project Manager, process on-going)		
ASC Workshop to be conducted in Tonota Important preparatory steps before the w'shop: <ul style="list-style-type: none"> • Inventory of existing services • Separate meetings with women, youth, marginalised groups • Separate meetings with private agro-dealers, tractor owners and other private sector service providers (Project Manager to discuss with the District staff their capacity to be in-charge of the ASC workshop preparations, incl. conducting inventory and separate meetings. Discussions and a decision regarding responsibilities for preparations of workshop, by end of October 2012).		
2.3 Institutional Strengthening		
3. Project Management		

Appendix 3: Sub-Component 1.2: Improved Rainfed Agricultural Practices

1. Rainfed crop yields in Botswana are among the lowest in the world, with a national average of 383 kg/ha¹¹ over a 25 years period. Among the contributing factors to these low yields are: poor agro-ecological conditions for rainfed farming, fields not being ready for farming at the onset of the rainy season, sub-optimal ploughing services, late arrival of inputs, destruction of crops by livestock, pests and weed, limited access to extension advice and limited knowledge by farmers of appropriate agronomic practices suitable for the pertinent sub-optimal agro-ecological zones in which they operate.

2. ASSP aims to address and mitigate the effects of the wide range of factors contributing to the prevailing low yields, thereby contributing to higher yields and improved national and household food security by facilitating the development and transfer of appropriate, improved agronomic technologies through establishment of links between research, extension and farmers. The project will furthermore engage in a range of adapted and targeted capacity development approaches like “Farmer Field Schools”, study tours, on-farm demonstrations and yield trials, including testing of various conservation agricultural techniques¹².

3. **Progress to date:** Consultative meetings –to create awareness and interest around ASSP-- have been conducted for MoA staff in all ten Districts and in the sub-districts and extension areas that will be prioritised for the first year: Jwaneng, Parakarungu and Tonota. Consultations have taken place at MoA Directors’ level to establish a “Research, Farmer & Extension Linkages Committee”. Representatives to this committee have been nominated and include a wide array of agro-technological MoA officers, Botswana College of Agriculture (BCA) as well as one farmer representative. Training Needs Assessments are done routinely as part of the quarterly meetings between the MoA HQ agronomists and the extension agents in the districts. Technical training of Agricultural Demonstrators (ADs) and Subject Matter Specialists (SMSs) are planned for the 2012-2013 fiscal year.

Observations and recommendations

4. At least *reasonable productivity* is a prerequisite for profitable “farming as a business”. Significant increases in yields are needed, in order for rainfed farming to be profitable in some areas of Botswana. ASSP’s efforts to increase productivity should be seen in the light of the present farming environment, including the prevailing (sub-optimal) agro-ecological conditions and the present system of providing subsidies to encourage farming. ASSP’s strategy to increase productivity needs to centre around a holistic view to farming, and address both agronomic practices and the market environment in which ASSP functions.

5. Farmers are not a homogenous group, and their needs vary depending on a number of factors, like their financial and socio-economic situation, gender, age, HIV/AIDs status, etc. **Different targeting mechanisms, extension strategies and messages** are needed for the different groups. For instance, some emerging innovative commercial small-scale farmers may already be thinking of “farming as a business” (and could, possibly with some capacity development be used as demonstration or lead farmers), while others may be subsistence farmers that have never received

¹¹ National yield average between 1985 and 2010. Source: BCA Consult (PTY) LTD (2012): Consultancy for the Poverty and Social Impact Analysis of the Integrated Support Programme for Arable Agricultural Development (ISPAAD). -According to figures provided by the Sub-District Crop Production Office in Tonota, the average maize yields in the Tonota area was around 78 kg/ha in the 2010/2011 cropping season; and although extremely low, this yield level is representative for the yields in the area. (The report is not yet published.)

¹² Conservation agriculture implements that take the situation and concerns of small-scale farmers into consideration (like draught power) will be given special attention.

any training and do not think of “farming as a business”. This sensitivity and attention to the fact that the ASSP target group includes a wide range of categories of farmers, each with their own needs, opportunities, challenges and risks, should be an integral part of how capacity development and other extension efforts are planned in the project.

6. To increase the likelihood of sustained impact of the training and capacity development efforts, **action planning** (with concrete actions, based on reflections from the learning of the actual capacity development effort, and constraints and opportunities faced by the individual receiving the training) should be part of each training and capacity development effort.

7. To measure the **impact** of the various capacity development efforts initiated by the project, ‘beneficiary satisfaction interviews’, assessment of adoption rates and other follow-up impact tracking measures (like questionnaires asking for beneficiaries’ opinions about the efficiency of the capacity development efforts, and ways to improve them) should be put in place, as part of the project’s KM&L system.

Farmers’ Field Schools (FFS)

8. The project plans to initiate **Farmers’ Field Schools (FFSs) on Conservation Agriculture (CA)**. In preparation of this initiative a study tour to observe operations of other Farmers’ Field Schools in the region is planned for the last quarter of the 2012-2013 work plan, but will most likely be postponed to project year 2. Significant preparation has to go into the establishment of a successful FFS, which is based on significantly different methodologies than traditional extension approaches where farmers often are (passive) recipients of advice, and which requires rather different skills of the FFS facilitator (than traditional extension approaches). –While the FFS is an effective learning methodology it is also more resource demanding than approaches where extension messages are developed elsewhere and then demonstrated to farmers by field extension agents. The FFS is a long term learning process where farmers are gradually presented with new technologies, new ideas, new situations, and new ways of responding to problems. The knowledge acquired during the learning process builds on existing knowledge, allowing farmers to investigate for themselves the costs and benefits of alternative management practices for improving farm productivity, enabling them to adapt existing technologies to become more productive, more profitable, and more responsive to changing conditions, or enabling them to make informed decisions regarding adoption of new technologies. The majority of professional extensionists have been trained in traditional extension approaches, fundamentally different to the participatory approaches applied in the FFS. Consequently, the facilitators of FFSs need training to prepare them for organizing and conducting FFSs.

Preparations for setting up FFSs for CA:

- Conduct a Training Needs Assessment to assess the level and nature of training required to successfully equip the FFS facilitators with the necessary facilitation skills to successfully facilitate a FFS.
- Organize the necessary training of FFS facilitators.

9. Also preceding the FFS itself are preparatory meetings to present the FFS to farmers/potential participants, to assess their level of interest, discuss and determine needs and develop learning agreements. It is important that the participants are made aware that participation in FFS involves a considerable cost in terms of time and effort.

Agreed Actions for the coming six months

10. **Agreed Action:** Training of farmers¹³: A country-wide 'Training Needs Assessment' (TNA) will be conducted to assess and prioritize the training needs for arable farmers. Based on the TNA, a training plan will be developed and submitted to the Head of Farmer Training in MoA HQs, who will then analyse the training needs from the field and together with a task force on training development decide on the coming year's training programme for the Training Centres. Special emphasis from the PMT's side will be given to analysis of the needs to train farmers in minimum tillage and other conservation agricultural practices (like intercropping, mulching and other organic matter and moisture conservation techniques); emphasis will also be given to business development and "farming as a business". **Responsibility and deadline:** ASSP Agronomist and Project Manager to assess needs in ASSP areas, by end of November 2012. Project Manager to initiate negotiations with the Head of Farmer Training to ensure that training in conservation agriculture and business development be included in the general training programme for the Training Centres, by mid-December 2012.

11. **Agreed Action:** ToR for the "Research, Farmer & Extension Linkages Committee" will be developed to ensure that MoA-driven demonstration initiatives on farmers' fields are appropriate, client-oriented and user responsive. **Responsibility and deadline:** ASSP Agronomist, by mid-November 2012.

12. **Agreed Action:** The project will develop targeted messages on appropriate technologies to farmers. This will be done, with sensitivity to the fact that different targeting mechanisms and extension messages may be needed for the different categories of farmers. The targeted messages will be developed in collaboration with MoA's communications division. **Responsibility and deadline:** Agronomist and Communications Officer to develop a targeted message on one topic (conservation agriculture), by end of March 2013.

13. **Agreed Action:** During the 2011-2012 fiscal year "District Demonstration Committees" were established in order to facilitate closer collaboration between various agronomic technical fields when supporting demonstration plots and yield trials on farmers' fields. The coming months, when travelling around the country to supervise the demonstration sites, the ASSP agronomist will assess the efficiency of the "District Demonstration Committees". In doing this, she will identify the challenges, discuss ways to overcome them or mitigate their effects and also analyse the value of committees and possible needs for change. **Responsibility and deadline:** Agronomist, by end of March 2013.

Component 2: Enabling Environment for Smallholder Agriculture

Sub-Component 2.1: Improved Delivery of Extension Services

14. This sub-component aims to increase the efficiency and outreach of extension services to farmers in an environment where the extension agents are over-burdened with ISPAAD administrative duties and extension worker to farmer ratios are high.¹⁴ Furthermore, transportation and communication means are limited, prohibiting effective communication and service delivery to farmers. In-service training and capacity development of extension agents have during the last few years been significantly affected by budgetary constraints/budget prioritization. Ploughing services are sub-optimal and inputs arrive late, again jeopardizing the production potential. In this environment, ensuring timely preparations of fields and availability of inputs could significantly increase productivity.

¹³ Before designing capacity development initiatives needs assessments will be undertaken to determine the types, contents, levels, venue, timing and target audience of training required.

¹⁴ During the Mission several ADs (in Tonata East Extension Area) mentioned to the Team that extension agent : farmer ratio at times is as high as 1:1200.

15. **Progress to date:** The focus of the 2012-2013 AWPB is on addressing some of the above-mentioned constraints to effective extension service delivery. This will be done through appropriate capacity development of the extension agents and through provision of transport and communication means to the Jwaneng, Parakarungu and Tonota ASC areas. At the time of the Joint Implementation Support Mission, the needs assessment (for staffing, transport, communication and staff training) is about to start in the districts. The Procurement Plan includes vehicles and computers for the three Year 1 priority areas. Procurement process is scheduled to start in November 2012.

Observations and recommendations

16. An important **role of the PMT** should be to keep an overview of project implementation and to provide leadership and technical guidance to the Districts on how best to implement the project as a whole. The PMT's role should include ensuring that learning is taking place, that implementation progress and impact are being monitored, and not least that the project reaches its goal. In order to successfully do that the PMT members need to see their roles as guides and facilitators of the ASSP processes, not as 'doers'. This may need some additional capacity development also for the PMT members in facilitation skills. (Could be part of the PMT's Capacity Development Plan).

17. Any ASSP-related activity in the field is presently (at the time of the Joint Implementation Support Mission) largely reliant on the PMT. –Considering that the Agricultural Demonstrators (ADs) will be the **frontline facilitators**, responsible for most of the communication and interaction with the ASSP target group, it is of paramount importance for implementation to progress that the District staff, and especially the ADs and other extension staff, are brought on board and become fully conversant with the ASSP scope and approach. The PMT had planned District Start-Up Workshops but these were delayed due to the AWPB not yet being approved. With the anticipated approval of the AWPB and the associated release of funds, the District Start-Up Workshops should be held a.s.a.p. in order to secure full buy-in and understanding around ASSP among the actors that will be playing a major role in the implementation.

18. ASSP's objective is *"to achieve a viable and sustainable smallholder agricultural sector based on "farming as a business", and not reliant on subsidies or welfare measures"*. The ADs have as a minimum requirement a certificate in general agriculture from BCA; which covers the basics of all agronomic practices, from land husbandry, to horticulture, livestock husbandry and basic facilitation skills, but has limitations with regard to more business-oriented training in "farming as a business", small-scale business development, gender, etc. The PMT has planned to organise technical training for the ADs, but there may, most likely, be a need also for **training and capacity development of these frontline extension agents** in small-scale business development, facilitation skills, etc. - Depending on the present level of facilitation skills the extension agents most likely will have to undergo significant training in order to be able to change role *from 'demonstrators'* of improved practices *to facilitators* of learning processes. These training needs should be analysed and dealt with as a matter of priority by the project. (Should be part of the planned Needs Assessment in the Districts that is scheduled to commence in November 2012).

19. The ADs are presently conducting monthly review and planning meetings. These meetings could be an important 'learning ground' where the ADs share their challenges and possible ways to overcome these; where PMT staff occasionally meet the ADs and discuss with them various aspects of the project, provide feedback and guidance on how to take the implementation of ASSP further.

20. With over-burdened extension agents¹⁵, high extension worker: farmer ratio and limited transport facilities available it is almost impossible for the extension worker to meet on a regular and

¹⁵ Virtually all extension agents interviewed in the field (Palapye, Tonota and Jwaneng) spend almost 100% of their time on ISPAAD

individual basis with farmers in his/her area. Some extension agents met during the mission mentioned that the lack of transport has the effect that it is the more well off farmers (who can send a vehicle to pick up the extension officer) that receive most frequent extension advice. In order to cope with the large number of farmers in their extension areas some ADs have developed different strategies to reach the farmers with extension advice. They organize regular (mostly monthly) Farmers' Committee meetings where they meet and discuss pertinent issues and provide information and extension advice. Also the use demonstration farmers, or lead farmers, seem to be a common strategy to extend extension advice to the farmers. -Other measures like **Interest Groups** (formed around commodity and business related issues that are of specific interest to farmers with similar businesses) could provide an opportunity to conduct focused training and facilitation of group discussions where critical issues of the selected business in analysed and experiences are shared.

21. **The "household approach"** is an approach tested in IFAD and other donor-supported projects in Zambia and Uganda. What signifies the "household (HH) approach" is that it engages all members of a household in working with a common purpose and contributing to a shared vision of the household's future. It has proved to be an effective tool to engage all HH members to take an active role in identifying priorities and available resources, thereby empowering the whole household, and promoting gender and equity issues. Active involvement of the whole household is also a risk minimization measure through involvement of youth as it serves as a vehicle for transferring knowledge to younger generations. This is especially important given the HIV/AIDS context, where young household members may be left responsible of managing farming and household resources. The approach has potential to create great impact, and was recommended by the Gender & Youth Study Team¹⁶ to be tried out at least on a pilot level in ASSP. However, the approach requires (at least initially) intensive interaction between the HH and the extension agent, and with the prevailing high extension worker:farmer ratio in Botswana, the HH approach may not be appropriate or feasible in the Botswana government extension system, at least not till project implementation progresses further.

Agreed Actions for the coming six months

22. **Agreed Action:** Review MoA's input procurement process to increase the probability of timely reception of seeds and fertilizers. **Responsibility and deadline:** ASSP Procurement Officer, by March 2013.

23. **Agreed Action:** Assess the training needs (such as facilitation skills and extension methodologies) of extension agents, in order for them to be able to effectively drive ASSP in the Districts. A request will be sent to the DCP Training Coordinator by the end of November 2012, in order to ensure training space at the Training Centres in 2013. **Responsibility and deadline:** ASSP agronomist and M&E/KM&L officer, by end of November 2012.

24. **Agreed Action:** Analyse the potential roles of agencies like LEA, BCA and others to provide training and assistance in capacity development of various ASSP stakeholders (MoA staff, the ASSP target group, service providers and others). **Responsibility and deadline:** Assistant Project Manager, by March 2013.

25. **Agreed Action:** Assess the possibility of hiring temporary extension staff (in lieu of the initially planned additional 50 ADs): As part of the general needs assessment (for staffing, transport, communication and staff training) that is about to start in the districts an assessment and prioritization of areas that need additional ADs will be made. Based on the assessment, a request will be made through the Ministry of Labour & Home Affairs for selection and hiring of temporary staff to support the

¹⁶ A Gender and Youth Study was commissioned in April/May 2011 before the start-up of ASSP in order to ensure that gender and youth issues are effectively taken into consideration in the targeting and implementation of the project.

field extension service. **Responsibility and deadline:** Project Manager; process to be initiated 1st November, request to be sent to the Ministry of Labour & Home Affairs by 1 March 2013, in order to be able to engage the temporary staff during the coming fiscal year 2013-2014.

26. **Agreed Action:** Inventory of refurbishable vehicles. Also as part of the general needs assessment, an inventory of refurbishable vehicles will be made. Based on the findings, a refurbishment plan will be discussed with the MoA Transport Office. **Responsibility and deadline:** Project Manager, by the end of March 2013.

Sub-Component 2.2: Agricultural Service Centres

27. The Agricultural Service Centres (ASCs) are foreseen to be crucial focal points for provision of production inputs and a wide range of services to help increase agricultural production, facilitate marketing and promote “farming as a business”. Farmers seem to have a preference for a ‘one-stop-shop’ for production-related services, including ISPAAD-supported subsidized seeds and fertilizers, farm mechanization services, access to credit, training, marketing and storage facilities. The farmers are eager (to the point of impatient, as ASCs have been planned since the start of ISPAAD in 2008) to see the ASCs constructed and established as functional service centres.

28. **Progress to date:** Consultations around the ASCs were on-going by the time of the Joint Implementation Support Mission. District authorities, kgotla meetings, farmers and other stakeholders have been addressed in the Parakarungu, Tonota and Jwaneng ASC areas.

Observations and recommendations

29. During the mission, individual farmers, farmers groups and kgotla meeting participants were asked for their opinions with regard to their views and visions for the ASCs. There seem to be widespread perception (among the farming community and in MoA) that different locations need different ASC structures, etc. Also, the design and management should be guided by the local context and farmers needs.

30. Views on ASC management arrangements varied. Despite that most welcomed the idea of ASC privatization, concerns were raised that fees and prices may rise, thereby preventing smallholders and the more marginalized to access services. For this reason most seemed to welcome a role for MoA, at least initially, in the management and oversight of the ASCs, though options should be open for gradual privatization and other management options, like cooperatives or private entrepreneurs managing the ASCs.¹⁷

Agreed Actions for the coming six months

31. **Agreed Actions:** The on-going consultative process that has been initiated in the Parakarungu, Tonota and Jwaneng ASC areas will be continued and broadened to further analyse the needs of the farmers and their vision for the ASCs, and will include discussions of additional management arrangements other than the three suggested management options in the Design Document. (For instance, a Farmer Group might be interested and, with some capacity development, capable of managing an ASC). **Responsibility and deadline:** Project Manager; process on-going.

32. An **ASC workshop** with all relevant stakeholders¹⁸ will be conducted in Tonota as a pilot in the first year. The objective of the ASC workshop is to create understanding, support and active

¹⁷ In fact, during the mission de-briefing at MoA, the Dep. PS, Mr. Wothe informed the meeting that it was never the intention of the Ministry to manage the ASCs; this option came up in the early design discussions around the ASCs under ISPAAD pressured by circumstances, since there was very little interest from the private sector to be involved in the ASCs.

¹⁸ Involvement of all relevant stakeholders, from kgotla leadership, VDCs, farmer committees, youth groups, women's groups, private sector and government-based service providers, community-based organizations, etc is important in order to create

involvement in viable services centres that can provide optimal services to the farming community. The vision for the ASC, the management and roles and responsibilities of the different stakeholders will be main topics during the workshop. The following main steps are foreseen as important steps in preparations for the workshop: i) an inventory of existing services, their profiles and capacities; ii) separate meetings with women's groups, the youth and marginalised groups, in order to discuss their needs and priorities, analyse constraints and opportunities to benefit from the ASCs and help them prepare to present their views at the workshop; iii) separate meetings with private agro-dealers, tractor owners, and other private sector service providers, to inform and discuss the ASCs and to assess their level of interest in being involved in providing services through the ASCs. **Responsibility and deadline:** Project Manager to discuss with the Tonota District staff their capacity to be in-charge of the ASC workshop preparations, including conducting the above-mentioned inventory and meetings with various groups before the workshop. Discussions with the Tonota District staff to take place by the end of October 2012. ASC Workshop to be conducted by the end of February/early March 2013. **Alternatively**, the planning for the ASC workshop and the facilitation of the workshop could be outsourced to an organisation experienced in community-based participatory planning, with involvement of the Tonota District staff and oversight by the Project Manager.

33. **Post-script:** at the last day of the Mission some PMT members and members of the Mission Team met with MoA staff from the Department of Agribusiness Promotion. The Dep. of Agribusiness Promotion has experience and capacity in processes around group formation and cooperatives, conflict management and other issues relevant for management of the ASCs. They are experienced and eager to support the consultative process around the ASCs and even have staff placed in Serowe (in Central District), who also covers Tonota. Collaboration with this group should be initiated a.s.a.p.

Appendix 4: Irrigation Development

A. Introduction

1. The irrigation expert¹⁹ of the implementation support mission worked in-country from 15 to 27 October 2012 and visited Palapye, Dikabeya, Serowe and Glen Valley areas. In carrying out his task, the expert worked in close cooperation with the Ministry of Agriculture (MoA) at National and District level. At District level, the mission met with stakeholders and officials from the District Health, Environment and Youth Departments, the Water Utilities Corporation (WUC), the Director and District official for Women's Affairs, Citizen Entrepreneurship Development Authority (CEDA), the Local Enterprise Authority (LEA) in Serowe, community representatives and farmers from Palapye and from Dikabeya scheme. The mission also visited Glen Valley wastewater irrigation scheme and the WUC water quality laboratory at Mmamashia. At National level, the mission met with the Department for Environmental Affairs (DEA), the Department for Waste Management and Pollution Control (DWMP), and the MoA Agribusiness and Horticulture Department, Cooperatives Division and Agriculture Hub of MoA. The mission prepared an Aide Mémoire (AM) highlighting its findings and recommendations.

2. This Technical Annex provides more details on irrigation development activities under sub-component 1.3 of the project. In the Annex, details are provided on i) implementation status; ii) water availability; iii) water quality; and iv) Water Users Associations (WUAs). An appendix is provided with detailed planning tables for use by the PMT. A draft planning for the Irrigation sub-component was also prepared in MS Project which has been sent as separate file.

B. Implementation Status

3. Since the start of the project, progress has been made on a number of issues, including: i) the design for the in-field system; ii) discharge measurement of the outflow of the Palapye WTP; iii) collection of effluent water quality data from the WUC; iv) submission of the Environmental Project Brief to DEA; v) application for a Water Right for the scheme with the Water Apportionment Board (linked to the Department of Water Affairs – DWA); vi) community consultation meetings (3) on beneficiary selection and destumping; vii) further detailing of the beneficiary selection criteria, and viii) meetings with stakeholders such as the Health and Environment departments at local and national level, the WUC, LEA and potential financiers of the beneficiary investments such as CEDA, the Youth and the Women's Funds. 29 ha command area has been secured by the Ministry of Agriculture (MoA) with the Land Board downstream of the outlet of the Palapye WTP. According to the first AWP/B, procurement of the case study on the Dikabeya scheme (lessons learnt) and Design should have started by the third quarter. As these have not started yet, planning is behind schedule as per the AWP/B 2012 – 2013.

C. Water Availability

4. The pilot project technical design presently foresees in 25 ha of net irrigable area. This is less than the 29 ha foreseen in the PDR²⁰. PDR assumptions are based on i) the connection of Botswana International University of Science and Technology (BIUST)²¹; and ii) the inflow-outflow ratio of the original WTP design. The PDR assumes an outflow of 700m³ per day. This is equivalent to 29 (=700/24) m³ per hour. The actual situation is different, however. From March 2012 to June 2012,

¹⁹ William Oliemans, IFAD Irrigation Consultant, working in close cooperation with Mr. Mokwadi Mapitse, Irrigation Officer of the Ministry of Agriculture and member of the PMT.

²⁰ This is partly explained by the difference between gross and net irrigable area. The gross area includes roads and other facilities.

²¹ At present, and based on personal communication with WUC staff, approximately 40% of the population of Palapye (est.: 42000) is connected to the sewage system and treatment plant. The additional connections will be in the order of 10000 population equivalents.

MoA carried out discharge measurement at the outflow point of the WTP at Palapye²². Although measurements and calculations need to be verified, the average discharge at the outflow point would seem to be approximately 40% of the design values quoted in the PDR. If the delayed connection of BIUST is taken into account, the discharge, based on the data provided, is still notably lower than foreseen in the PDR. To avoid the loss of income and disappointment amongst the future beneficiaries of the Palapye scheme, the project should now carefully assess current water availability, independent of PDR estimates or assumptions.

5. If the weir installed at site does not provide accurate readings then a V-notch should be installed and measurements taken. In addition, the crop water requirements (using FAO Cropwat²³ or an equivalent program) should be calculated and matched with the water available. The mission shared the FAO Irrigation Manual, Module 4: "Crop Water requirements and Irrigation Scheduling" with the IO in which, on pages 67 to 78, the Irrigation requirements for a 10 ha horticulture irrigation scheme in Mahalapye are presented as an example. Unless more accurate data is available, e.g. through the Department of Agribusiness Promotion, the calculations provided should be used as a basis for the design. Moreover, the Design Consultant should, as part of the ToR, verify the information as basis for the design of the scheme.

6. The scheme will, unless reliable discharge data indicates otherwise, be developed in two phases to allow for a growth in the command area after a reliable increase of discharge from the WTP. The main infrastructure of the scheme, including head works, reservoir and pumping system, will be developed at a capacity to supply 25 hectares, whilst the in-field connections will initially be developed for an area of approximately 15 ha²⁴²⁵. The Design Consultant needs to demonstrate a clear understanding of these issues and provide design alternatives accordingly. This will include the possibility of drilling a back-up borehole for the Palapye scheme to ensure a reliable water supply in the future. To support this process and build the technical capacity of the IO, a design software package, including hands-on training, will be procured by the project as soon as possible.

D. Water Quality

7. In the PDR, water quality is considered safe for irrigation, including the proposing of health risk mitigation measures such as using gloves and boots. This seems to suggest the use of furrow irrigation. According to GoB policy (as applied in Glen Valley), only restricted irrigation is allowed. The irrigation method is restricted to drip or trickle irrigation and root crops (such as carrots and onions) may not be produced with treated wastewater. These provisions limit health risks to a minimum, both for farm workers, surrounding communities and consumers. Given the above GoB restrictions, the water quality data provided to the mission by DWMPC²⁶ suggest that faecal coliform levels are acceptable, as per limits suggested by the World Health Organisation (WHO)²⁷.

²² A sharp crested weir has been installed at the outflow point of the WTP. A data logger is available but does not function. Raw data of the measurements carried out are available with the MoA and could not be assessed for accuracy by the mission. The length of the weir should be verified before applying the 'Q-h' conversion formula.

²³ FAO Cropwat can be downloaded free of charge from the FAO Land and Water website.

²⁴ Based on the example for Mahalapye provided in "FAO Irrigation Manual, Module 4: Crop Water requirements and Irrigation Scheduling" (Savva et al, FAO Sub-Regional Office for East and Southern Africa, 2002)

²⁵ A simple spread sheet to convert CWR into scheme irrigation requirements was shared by the mission. This spread sheet should always be used in conjunction with field data (ET_o) and/or results from models such as FAO Cropwat.

²⁶ WUC also provided effluent data to the mission for the months of July, August and September. This does however not include faecal coliform. The effluent is not analysed for Helminth eggs which, does not appear to present a health risk in Botswana (personal communication with WUC, DWMPC and Department of Health).

²⁷ Please see the 'WHO Guidelines for the safe use of Wastewater, Excreta and Greywater, Volume II Wastewater use in Agriculture'. Chapter 3: 'Assessment of Health Risk' and Chapter 4: 'Health Based targets' provide the necessary background information (WHO, 2006).

Table 1: Effluent Palapye WTP (DWMPC)

Table 11: Palapye WWTP (DWHM 3)

Sample ID.	33/2012	Sample Collection date	28/05/2012
Sample Name/Location	PALAPYE WWTP	Sample Reception date	28/05/2012
Sample Type	EFFLUENT	Sample Analysis date	29/05/2012

	Parameter	Symbol	Concentration	CL @ 95%	MCL	Unit	Comment
Physical Constituents							
1.	pH @25°C	pH	7.19	0.05	6.0-9.0	pH units	Ok
2.	Conductivity	EC	89.1	1.3		mS/m	-
3.	Total Dissolved Solids	TDS	436	6.6	2000	mg/L	Ok
4.	Turbidity		75.8	5.5	30	NTU	High
5.	Chemical Oxygen Demand	COD	96.4		150(unfiltered)	mg/L	Ok
6.	Total Suspended Solids	TSS	162	5.3	25	mg/L	High
7.	Feecal cauliforms		2500		1000	Counts/100ml	High
Anions							
8.	Flouride	F ⁻	0.22		1.5	mg/L	Ok
9.	Nitrite as Nitrogen	NO ₂ ⁻ N	<dl		-	mg/L	-
10.	Sulphates	SO ₄ ²⁻	37.7		400	mg/L	Ok
11.	Nitrates as Nitrogen	NO ₃ ⁻ N	<dl		22	mg/L	Ok

8. Nevertheless, health risks remain in case the WTP faces a temporary breakdown or power cut (which will disable the secondary treatment stage) or in the day-to-day activities such as the replacement of drip lines, cleaning of filters or manual cleaning of reservoirs. Awareness and health education therefore remains a key part of the project. As the risk of any disease outbreak would seriously endanger the success of the scheme, independent water quality analysis will be carried out by the project for a period of at least 1 year. In addition, MoA will develop an Memorandum of Understanding (MoU) with WUC to ensure immediate information sharing on any change in the water quality or quantity due to unforeseen breakdowns.

9. A second aspect of water quality is related to the clogging of filters and emitters due to physical (suspended solids) and biological (algae, bacteria) factors. These factors increases the need for regular filter cleaning and more frequent replacement of drip irrigation lines. As can be seen from table 1, Total Suspended Solids (TSS) amount to 163 mg/l²⁸. A value of >50 mg/l is generally considered problematic, whilst values of >100 mg/l are considered highly problematic²⁹. MoA should address this issue with the WUC. Lowering these levels will also improve overall water quality. The elevated levels of Nitrogen and Phosphate, which have been recorded by WUC (see note 8), although they exceed BOPS 93: 2004 Wastewater Standard Requirements, are beneficial to agriculture and provide nutrients which would otherwise need to be purchased. The design of the irrigation system should include a filter equipped for use with wastewater irrigation³⁰.

²⁸ These values are 60, 135, 242 and 135 mg/l for the July – September 2012 readings for Palapye provided by WUC.

²⁹ See: 'Irrigation System Design, an Engineering Approach', (Cuenca, Oregon State University, 1989, p339) and 'Emitter and filter tests for wastewater reuse by drip irrigation' (A. Capra, B. Scicolone; Reggio Calabria Mediterranean University, Italy, 2004) - Agricultural Water Management 68 (2004) 135–149.

³⁰ See e.g. www.aimad.com. There are many more suppliers on the market.

E. Water Users Associations

10. Based on the experience in other irrigation schemes such as Glenn Valley or Dikabeya, and good management practice, MoA has decided that it will not assume responsibility for the operation and maintenance (O&M) of the Palapye scheme. The revenues from the scheme to the beneficiaries will therefore need to generate not only sufficient returns to support their own business but also to pay for irrigation services received, as discussed in the Aide Memoire. The most appropriate management model would seem to be the setting up of a WUA that is controlled and managed by the beneficiaries. This enables them to operate their scheme according to their own requirements (e.g. timing, frequency) rather than depend on government rules and budgets.

11. WUAs manage (complex) irrigation and drainage systems in many countries. There are numerous examples of successes and failures and many lessons have been learnt on capacity building, training, legal framework and group dynamics. If WUAs are properly trained and guided and the incentive structure is well thought out, WUAs provide a viable and long term alternative to government management of irrigation systems³¹. WUAs are not yet known in Botswana as irrigation is either managed by Government (Glen Valley, Dikabeya and others), by private companies or individual farmers. The project therefore has a very important task of piloting the set-up, development and guidance of WUAs in Botswana.

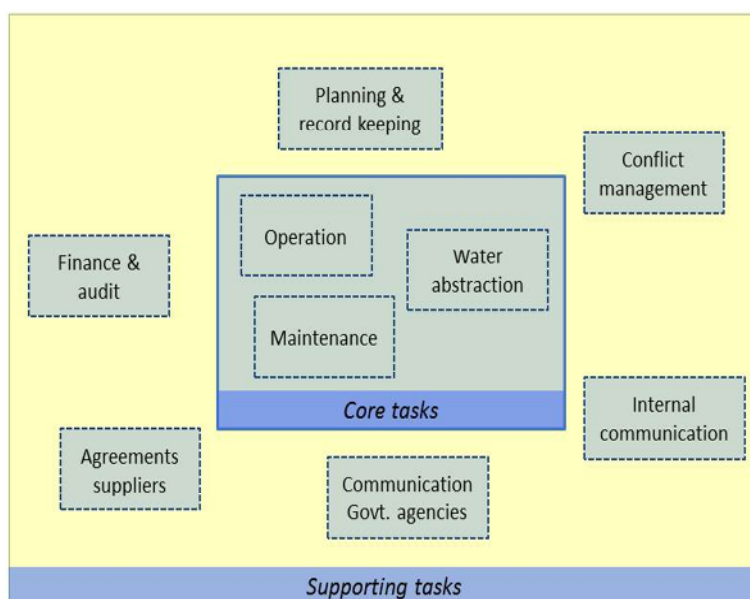
12. The project is just starting to develop a model for WUAs, which should involve a) the definition of their legal status, internal structure and constitution; and b) a strong WUA training - capacity building effort by MoA, partners and engaged service providers. The legal status should allow the newly established WUA to open a bank account, develop and amend their own constitution, sanction members, hire staff and engage in contracts.

13. WUA 'core' tasks include i) water abstraction and fulfilling requirements associated with having a water right; ii) pumping and water distribution, iii) quality control and maintenance, and iv) repair and replacement.

14. To carry out these day-to-day tasks, supporting activities include: a) finance & audit; b) planning & record keeping; c) negotiations and agreements with Government departments & private suppliers; and d) communication & group dynamics.

15. Given the set-up of the irrigation system (involving pumping equipment) and the need for a reliable irrigation supply (especially during critical periods such as seedling transplantation), it is recommended that the WUA: i) engage a professional technician to operate and maintain their irrigation system; and ii) set up an emergency fund to carry out immediate repairs. Alternatively, a service agreement with a supplier may be negotiated beyond the normal warranty period to cover these aspects. This aspect should receive careful attention during the design stage and be part of the WUA training – capacity building effort.

Figure 1: Core and Supporting Tasks of the WUA



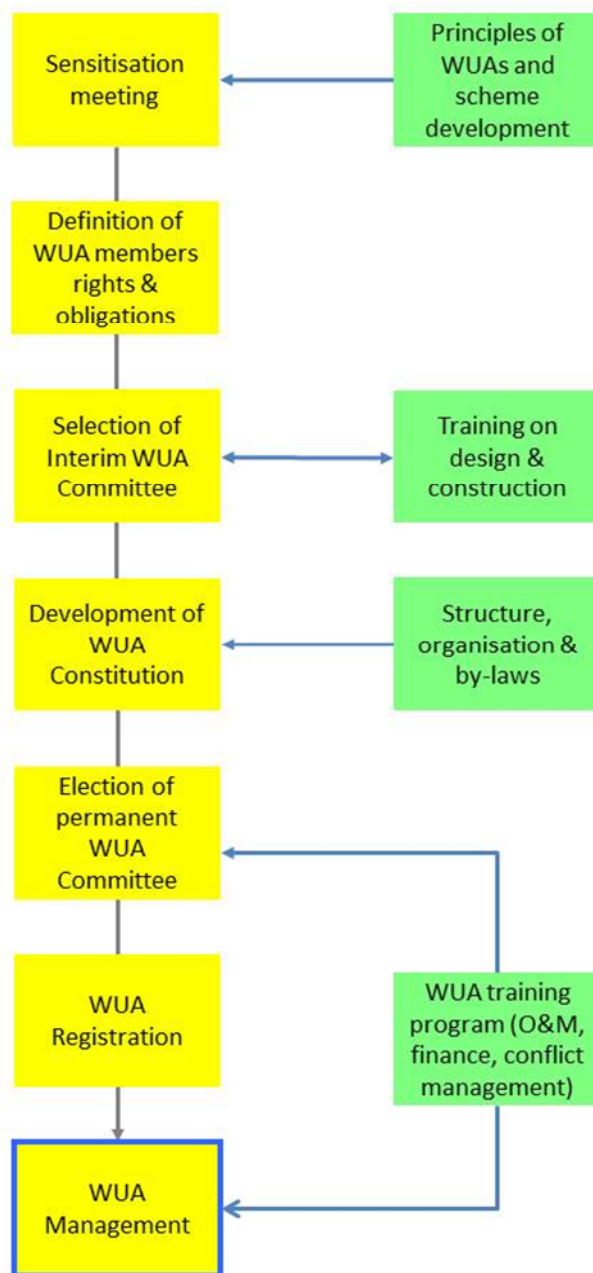
³¹ See also: 'Legislation for Sustainable Water Users Associations', FAO legal Papers Online #69 (Hodgson, 2007)

16. As discussed in the AM, **business development** is key to the sustainability of the Palapye irrigation pilot. The smallholder horticulture businesses need to generate sufficient return on their investment to improve and expand their business

Figure 2: Standardised WUA Development Steps

and pay for the operation and maintenance (O&M) of the scheme. The PMT of ASSP does not have the capacity to set up a business or WUA support program. It will bring on board other departments such as the Cooperative Division and the Agribusiness and Horticulture Department³² to organise this activity and engage the services of service providers such as LEA. LEA will be engaged to guide farmers through the process of business planning and financial management. This will include providing advice on economies of scale in purchasing in-field equipment and inputs and marketing of horticulture produce. LEA will act as an advisor to the beneficiaries who will make their own decisions on managing their smallholder enterprise. The ToR should ensure that LEA engages leading farmers from the area and experienced MoA staff to guide, train and mentor the beneficiary farmers.

17. A first step is developing a viable financial model for the smallholder business. As discussed in the AM, ASSP will provide most of the capital cost of scheme development. A smaller plot size than currently maintained as minimum eligible for financing by CEDA (which is 2 ha) is therefore justifiable. The Agriculture Hub of MoA, with support from the Agribusiness and Horticulture Department, is presently analysing the financial viability of horticulture businesses taking into account plot sizes, water price³³, crop choice and lending conditions³⁴. ASSP should coordinate with the Agribusiness Department and the Agriculture Hub to ensure that smallholder businesses of 0.5 and 1.0 ha, as foreseen under ASSP, are eligible for financing by CEDA and to ensure that the finally decided upon plot sizes are indeed financially viable. It is extremely important to make sure that all potential beneficiaries of the scheme fully understand the requirements and conditions attached to the scheme (with regard to investments, maintenance and operation and others), so that they can make an informed decision about whether or not to participate.



³² A fruitful first meeting was held with these departments after the AM was discussed. It was agreed to schedule a follow-up meeting as soon as possible to make practical arrangements for cooperation between ASSP and the Agribusiness and Horticulture Department and Cooperative Division.

³³ In the opinion of the mission, the water price for treated wastewater should not be the same as the fresh water price, assuming that the fresh water price already includes the cost of treatment (according to the 'polluter pays principle'). If so, the cost of treated wastewater should be related to the additional cost of supplying treated wastewater to the clients.

³⁴ Personal communication N. Fitt, Agriculture Hub Coordinator.

WUA establishment and capacity building

18. The objective of training and capacity building is to equip the WUA to perform its main tasks. These can be categorised as follows³⁵:

- (i) **Structure** (organs, membership, regulations, decision-making, linkages)
- (ii) **General management** (participation, meetings, accountability, linkages, conflict management)
- (iii) **Finance and audit** (fees, recovery rate, audit)
- (iv) **Operation and water management** (planning, scheduling, allocation)
- (v) **Maintenance and repair** (maintenance, costing, quality control)

19. A vital step to enhancing the quality and efficiency of WUA establishment is defining a standardised WUA development process. This can be divided into a **WUA establishment** and a **WUA management phase**. The **establishment phase** starts with beneficiary sensitisation, definition of the rights & obligations of WUA membership, interim establishment of the WUA and executive committee and working committees (e.g. for audit), drafting of the constitution or by-laws and ends with election of the 'final' executive committee, formal registration and opening of a bank account. The **management phase** focuses on the actual operation & maintenance of the scheme, including financing, group dynamics & conflict management, internal and external communication. Once this process is well defined, training and participation in scheme development can be inserted in the appropriate sequence. These steps are visualised in figure 2. Note that the design & construction activities are also used to train the future WUA on O&M. This will greatly benefit the WUA in a later stage when repairs have to be carried out, negotiations with suppliers are called for or warranty issues arise. In the management phase, WUA monitoring should also take place³⁶.

20. **Training tools and methods** depend on the subject, the target group and the skill level. Typically, the focus would be on practical and on-the-job training, real-life case studies, exposure visits (in this case regional, as there is little experience with WUAs in Botswana) and inter-WUA workshops. Lectures, presentations and study notes have a role to play in introducing a subject but are generally not conducive to active learning. Training is a tool to start the process of knowledge development and innovation, which should be complemented by the rapid establishment of the WUA and real responsibilities at an early stage in fee collection and handling, quality control and maintenance. Above all, training materials should be visual and make use of pictures, drawings, paintings and the like³⁷.

21. Key training topics should include (a) the functions of the WUA, executive committee, audit committee and staff (structure, constitution, contracts); (b) operation and maintenance (pump, filter, reservoir); and (c) financial management (calculation of fees, budgeting, record keeping, drawing up a balance sheet, internal audit). The basic set-up of the WUA training program is provided in table 2.

³⁵ See also 'Planning the Management, Operation and Maintenance of Irrigation and Drainage Systems', World Bank Technical Paper 389 (International Commission on Irrigation and Drainage – ICID).

³⁶ See 'Irrigation Management Principles and Practices' by M. Burton for a useful WUA performance checklist.

³⁷ See Appendix 1 of this Technical Annex for a standard format for training modules.

Table 2: Set-up WUA training program

WUA functions and tasks	Training module (name and topics)³⁸	Target group (Whole WUA, Ex. Committee, Working Committees)	Training goals (knowledge, skills)	Methods (case study, study visit, workshop, lecture, presentation,)
(vi) Structure				
(vii) General management				
(viii) Finance and audit				
(ix) Operation and water management				
(x) Maintenance and repair				
WUA training during design & construction				
(xi) Scheme design and lay-out				
(xii) Construction and quality control				

³⁸ See Appendix 2 of this Technical Annex (section 5. WUA Development) for a list of proposed WUA training modules and key WUA development milestones.

Annex 1: Example Format for Training Modules

Standard Format for Training Modules *(adapted from the Water Boards Project in Egypt)*

1. Name of the Training

2. Main Objective(s)

Specifying the expected outcome of the training and how that outcome contributes to WUA Development Objectives

- Between 1 and 2 paragraphs -

3. Learning Objectives

Specifying the 'lower order' objectives of each of the specific elements of the training program in relation to the main objective

- Between 2 and 5 points -

4. Indicators

Each sub-objective would be accompanied by a number of Indicators (measurable, realistic) related to the impact of the training on:

- Specific skills
- Procedures and work processes
- The use of training materials and tools

- 1 to 3 indicators per sub-objective -

5. Target Group

Indicating:

- Whether the participants are 'Trainers' or 'End-users'
- Which position or function the training is geared to
- What education and experience background is expected of the trainees

- ½ page -

6. Detailed Program and Methodology

Detailing:

- Each part of the training and the methodology used
- Relation to learning objectives
- Responsible individual and assistant
- Materials and Tools to be used in each part

- 2 to 5 pages -

7. Training Contents and Techniques

This section covers the bulk of the Module as it contains the:

- Actual content of the training; text, drawings, tables, diagrams
- Methodology: 'interactive, lecture, ...'
- Working methods: case studies, working groups, question & answer sessions, exchange visits, role plays, lectures, presentations, assignments, field visits, interviews
- Role of trainer and participant
- Method of evaluation of the training

- Depending on the type of training; 2 to 10 pages -

8. Training Tools and Venue

- Tools used during the training: flip chart, pin board, posters, drawings, cards
- Audio-visual aids: video, scale models, slide shows
- Venue requirements

Annex 2: Schedule of Activities for Sub-Component 1.3: Palapye Irrigation Scheme

(partially filled in as example, to be filled in by PMT and revised as project gains experience)

1. DESIGN PREPARATION AND EIA

No	TASK	WHEN	LEAD	SUPPORT	NOTES
1.1	Water quality analysis WTP outflow		IO		
	Procurement water quality analysis services		PO	IO	
	ToR water quality analysis services		IO	TA	Depending on results from DWMPC
	Tender announcement		PO		
	Receipt offers		PO		
	Tender evaluation		PO	IO, WUC (?)	
	Awarding contract water quality analysis				
	WQ analysis				
	During preparatory phase				
	During implementation and operation				
1.2	Discharge measurement WTP outflow				
	During preparatory phase				
	During operation				
1.3	Obtain water right				
1.4	Dikabeya & Glen Valley case study (lessons learnt)				
	Procurement Dikabeya & Glen Valley case study				
	ToR case study				
	Tender announcement				
	Receipt offers				
	Tender evaluation				
	Awarding case study contract				
	Draft case study report				
	Final case study report				
1.5	Environmental Impact Assessment (EIA)				
	Environmental project brief	25-10-2012	IO		
	Decision on EIA or EMP		DEA		Follow-up by IO
	Procurement EIA contract		PO	IO	
	ToR EIA		IO		
	Approval DEA		DEA		

	Tender announcement		PO		
	Receipt offers		PO		
	Tender evaluation		PO	IO, DEA (?)	Depending on procedures EA Act
	Awarding contract EIA		PO		
	EIA report				
	Mobilisation		Contractor		
	Draft EIA report		Contractor		
	Approval EIA report		DEA, IO		
1.6	Procure design software				
	ToR design software				
	Quotations				
	Purchase				
1.7	Pre-design & cost estimate Palapye				

2. DESIGN

No	TASK	WHEN	LEAD	SUPPORT	NOTES
2.1	ToR design contractor				
	Drafting ToR				
	No objection IFAD				
2.2	Procurement design contract				
	Tender announcement				
	Receipt offers				
	Tender evaluation				
	No objection IFAD				
	Awarding contract				
2.3	Design contract				
	Mobilisation				
	Topographical survey				
	Presentation design options				
	Selection final design option				
2.4	Final design, including ToR construction contract				
	Calculations, drawings, plans & Bill of Quantities				
	Tender documents construction contracts				
	Construction contract supervision				

IMPLEMENTATION

No	TASK	WHEN	LEAD	SUPPORT	NOTES
3.1	Clearing and destumping				
	Renting GoB equipment				
	Clearing and destumping				
3.2	Procurement construction contract				
	No objection IFAD				
	Tender announcement				
	Receipt offers				
	Tender evaluation				
	No objection IFAD				
	Awarding contract				
3.3	Construction contract				
	Mobilisation				
	Lay-out and pegging				
	Irrigation infrastructure				
	Trial run				
	Training to Water Users Association (WUA)				
	1-year warranty period and O&M support				
3.4	Fencing through direct procurement MoA				
3.5	Roads through agreement with other GoB agency				
	Specifications				
	Agreement MoA with GoB supplier road equipment				
	Grading				
3.6	Electricity connection contract				
	Specifications				
	Agreement MoA – BPC				
	Installation and testing				
	1-year warranty period				
3.7	Potable water supply contract				
	Specifications				
	Agreement MoA – WUC				
	Installation and testing				
	1-year warranty period				

3. SELECTION OF BENEFICIARIES

No	TASK	WHEN	LEAD	SUPPORT	NOTES
4.1	Selection criteria				
	Finalise selection criteria				
	Draw up selection procedure				
4.2	Application and selection				
	Publishing selection procedure				
	First screening				
	Detailed screening				
	Final selection				
4.3	Agreement MoA – beneficiary				

4. WATER USERS ASSOCIATION DEVELOPMENT

No	TASK	WHEN	LEAD	SUPPORT	NOTES
5.1	WUA legal framework				
	Selection legal entity				
	Drawing up sample by-laws/constitution				
5.2	Procurement WUA service provider				
	ToR WUA service provider				
	Tender announcement				
	Receipt offers				
	Tender evaluation				
	Awarding contract				
5.3	WUA training - capacity building contract				
	Module 1: Tasks & structure of the WUA, incl. exposure visit				
	Module 2: Drawing up the constitution				
	Module 3: O&M of the irrigation system				
	Module 4: Finance & administration				
	Module 5: Leadership & conflict resolution				
	Module 6: WUA follow-up coaching				
	Key WUA milestones				
	WUA executive committee election				
	WUA bank account				

	WUA registration					
	WUA monitoring					

5. BUSINESS DEVELOPMENT

No	TASK	WHEN	LEAD	SUPPORT	NOTES
6.1	<i>Procurement Business Development Services</i>				
	ToR LEA/service provider				
	Screening LEA/service provider				
	Application LEA/service provider				
	Development business plan				
	Opening bank account				
	Application for financing instalments				
	Receipt financing instalments				
6.2	<i>Beneficiary procurement</i>				
	Procurement irrigation equipment through WUA				
	Procurement inputs as individual/group/WUA				
6.3	<i>Training & capacity building</i>				
	Technical training				
	Business training				
	Mentoring				
	Business monitoring				

6. MONITORING

No	TASK	WHEN	LEAD	SUPPORT	NOTES
	Water quality				
	Discharge (water quantity)				
	Health				
	Product quality				
	WUA and business monitoring under respective sections				

7. SUB-PROJECT COORDINATION

No	TASK	WHEN	LEAD	SUPPORT	NOTES
8.1	AWP/B Preparation				
	Draft AWP/B				
	Annual AWP/B workshop				
8.2	Information and communication				
	Start-up workshop Palapye				
	Develop information package wastewater reuse				
	Send information package to partners				
8.3	Agreement MoA – partners				
	MoA – BPC				
	MoA – DWA				
	MoA – Health				
	MoA – WUC				
	MoA – LEA				
	MoA – beneficiary financiers				
	MoA – WUA				

8. NATIONAL WASTEWATER RE-USE STRATEGY

No	TASK	WHEN	LEAD	SUPPORT	NOTES
9.1	Wastewater Reuse Position paper				
	Institutional framework				
	Current experience Botswana				
	Resources, potential and risks				
	Costs and benefits				
	Policy objectives				
	Study visit to Mexico and the USA				
	Hold international workshop on wastewater reuse				
9.2	Evaluation Palapye & other schemes Botswana				
	Procurement scheme review				
	ToR scheme review				
	Scheme review report				
9.3	National Strategy for Wastewater Reuse				
	Define objectives and priorities				
	Carry out gap analysis current situation vs policy objectives				
	Draft a road map for the national strategy				
	Identify investment requirements and prioritise reuse projects				
	Develop & enact legislation				
	Establish a health & hygiene program				
	Develop a communication & information program				
	Define a national training program				
	Ensure operation & maintenance arrangements				
	Put in place monitoring				
	Publish a draft national strategy				
	Hold stakeholder consultation meetings				
	Publish the final national strategy				

Appendix 5: Financial Management

I. Introduction

1. The Agricultural Services Support Project (ASSP) is a 5 year, Project, financed by the Government of the Botswana (GoB), and the International Fund for Agricultural Development (IFAD). The project was approved by IFAD in December 2010, and the Financing Agreement signed on on February 22, 2012, when the Loan and Grant became effective.

2. **The total cost of the Project, as planned at design** is USD 25.2 million. The amount as provided for in the Financing Agreement is SDR 3.625 million or USD 5.65 million equivalents, made up of the Loan, SDR 2.6 million, and Grant SDR 1.025 million. The other cost contributions include USD 19.082 million by the GoB and USD 289,000 by the project beneficiary Communities.

II. The objectives and conduct of the mission.

3. During this first joint implementation support mission, the Financial Management Specialist will focus the assignment efforts on continuing the financial training which was begun by the IFAD finance officer in April, just prior to the ASSP start-up workshop. The Consultant will assess the level of understanding of IFAD procedures by the PMT and concentrate on those areas where gaps are the widest. In addition the following tasks will be carried out:-

- Review of the general preparedness for timely and accurate financial accounting and reporting as envisaged in the PIM;
- Together with relevant financial team members review and amend the “Financial Management and Accounting” section of the PIM;
- Review the extent to which the PMT and the Financial management team have installed the GoB Accounting system within the PMT and make recommendations if required;
- Work with relevant financial team members to develop a plan, as required, to roll out the ASSP reporting system to the district level;
- Support the Financial Management team of the PMT in adopting the best methodologies consistent with GoB Accounting regulations and systems under which the financial management of the programme is expected to be carried out.
- Review the formulation of the chart of Accounts and the specific arrangements of the books of account relative to the accommodation of the Programme special/dedicated account, and other operational bank accounts.
- Review the arrangements put in place for the timely implementation of the first 18 months procurement plan, the establishment of the contract and asset registers;
- Draft the section of the aide memoire treating financial management.

4. In the course of carrying out the assignments, the mission engaged with the officers of the ASSP- PMT management, and other staff. The mission takes this opportunity to gratefully thank all these officials and staff for their time, support, cooperation and collaboration.

III. Detailed Work Done, findings Recommendations and Way forward.

A. Financial management.

5. **Systems and Internal Controls:** The mission reviewed the Programme Implementation Manual and notes that the requisite financial management systems are substantially included. The framework of procedures includes financial planning (through Annual Work Planning and Budgeting process (AWPBs)), financial data capturing and accounting system, financial cash flow management, monitoring and reporting, and procurement and auditing. These are in broad framework, and now require being refined into clear result oriented processes. In particular, the PMT require identifying and installing a dedicated financial data capturing and accounting software, formulation of appropriate chart of accounts which facilitate the financial accounting and reporting by components and

expenditure categories. Other processes to be put in place are the procedures for capturing expenditure incurred on account of the approved AWPB activities through the GoB systems, templates for financial statements for physical and financial progress reports as well as financial statements for Audit. The other procedures to be defined and developed are the reporting templates for reporting the expenditures incurred in the project districts against the approved AWPB provisions. **It was agreed that the revision and improvement will be carried out by 31 January 2013.**

6. The financial management Capacity, performance and financial reporting: The financial management team is made up of the Finance Manager. The one person team is not adequate, and in any event the holder is not fully dedicated to the project's financial management. The project level of financial transactions requires a qualified two person team which is dedicated fully to the project's financial management with no other responsibilities. In addition also, each of the project's district will have a specific focal accountant formally defined and sensitized on the requirements of the accounting and reporting Statements of expenditure. The other level of financial management capacity building will be at the level of Project manager and the director of Crop Department, under which the Project is anchored within the ministry. The two officers must review the quarterly financial management reports and give clear and result oriented directions on emerging issues that negatively affect smooth implementation. In order to facilitate result oriented financial management, accounting and reporting, oversight and monitoring, the following activities will be carried out:-

- f) Monthly update of books of accounts and ledgers and full reconciliation with the bank accounts.
- g) The reconciliation of the designated Account should be prepared at the end of each month for use as a management tool, and for checking the accuracy of the cash flow and expenditure accounting records, as well as tracking the levels of the expenditure that are pending Withdrawal Application preparation and submission as soon as the prescribed threshold are achieved.
- h) Quarterly resources and expenditure statements should be prepared. The expenditures should be presented by components as well as by expenditure categories. The resulting surplus or deficit must be reconciled with the cash and Bank Balances.
- i) The job descriptions of the Finance manager and the Finance Officer should be defined to make them result oriented with clearly defined performance indicators in terms of deliverables and their timelines.
- j) The financial management team should be exposed to the IFAD Loan administration and financial management training.

7. Review of the Designated Accounts; The two designated accounts have been opened in the Bank of Botswana. The loan has not had any cash inflow yet. The Grant account has had an inflow of USD 22,500 for financing the Startup workshop. Out of this inflow USD 20,284 has been spent on the Startup workshop and service providers for the workshop as well as for the RIMs workshop. The Initial deposits for those account have yet to be fully accessed due to the delayed 2012/13 AWPB approvals. The mission is pleased to note that the NO objection for the AWPB will be provided by 31 October 2012.

8. Review of the 2012/2013 AWPB: The mission reviewed the 2012/13 AWPB and assisted the PMT to reconcile the arithmetic problems previously encountered. The total budget is BWP 10.3 million or USD.1.4 million equivalents. The consolidated summary tables are herewith presented:

Table1: Consolidated 2012/13 AWPB by components and Financiers.

Component /subcomponents		Financiers					
		GOB			IFAD LOAN	IFAD GRANT	TOTALS
		Financing	Taxes	Total			
1	Sustainable Agricultural Production						
a	Agricultural Mechanization	482	75	557	113	27	697
b	Improved Rainfed Agricultural Practices	27	60	86	381	89	556
c	Pilot Scheme for Small holder Waste water Irrigation	80	138	218	81	989	1 288
	Sub Total	589	272	861	575	1 105	2 541
2	Enabling Environment for Smallholder Agriculture						
a	Improved Delivery of Extension Services	882	384	1 266	177	30	1 473
b	Agricultural Service Centers	-	-	-	49	11	60
c	Institutional Strengthening	211	109	320	642	55	1 018
	Sub Total	1 093	493	1 586	868	96	2 551
3	Project Management	2 956	509	3 466	1 505	248	5 219
	TOTALS in BWP'000	4 638	1 275	5 913	2 948	1 449	10 310
	TOTALS in USD'000 @ BWP 7.5 for USD 1	618	170	788	393	193	1 375

Table 2: Consolidated 2012/13 AWPB by expenditure categories and Financiers:

Category	Financiers						GoB Tax Financing	Grand Total
	IFAD Loan	%age	IFAD Grant	%age	GoB Financing	Total Financing		
I. Vehicles, Equipments and Materials	281	15%	42	2%	1 579	1 902	617	2 519
II. Civil Work for the Irrigation Pilot Scheme	-	0%	200	77%	60	260	31	291
III. Technical Support, On-Farm Research and Studies: (a) Pilot Scheme for Smallholder Wastewater Irrigation	-	0%	770	100%	-	770	92	862
b) All Other components	998	75%	46	3%	279	1 323	162	1 484
IV. Improvement of Extension Outreach	1 669	69%	391	16%	363	2 423	280	2 703
V. a) Salaries	-	0%	-	0%	1 560	1 560	-	1 560
V.b) Recurrent Costs	-	0%	-	0%	799	799	92	891
Totals in BWP'000	2 948	33%	1 449	16%	4 639	9 036	1 274	10 310
Totals in USD'000 @ BWP 7.5 @ USD 1	393	33%	193	16%	618	1 205	170	1 375

Table3: Consolidated 2012/13 AWPB by Components and by Categories.

Expenditure Categories	Sustainable Agricultural Production				Enabling Environment for Smallholder Agriculture				Project Management	Grand Total
	Agricultural Mechanization	Improved Rainfed Agricultural Practices	Pilot Scheme for Small holder Waste water Irrigation	Sub-Total	Improved Delivery of Extension Services	Agricultural Service Centers	Institutional Strengthening	sub-total		
	P	P	P	P	P	P	P	P	P	P
I. Vehicles, Equipments and Materials	-	-	-	-	952	-	255	1,207	695	1,902
II. Civil Work for the Irrigation Pilot Scheme	-	-	260	260	-	-	-	-	-	260
III. Technical Support, On-Farm Research and Studies: (a) Pilot Scheme for Smallholder Wastewater Irrigation	-	-	770	770	-	-	-	-	-	770
b) All Other components	179	10	-	189	-	-	624	624	610	1,423
IV. Improvement of Extension Outreach	444	487	120	1,050	45	60	30	135	1,058	2,243
GoB (a) Salaries	-	-	-	-	-	-	-	-	1,560	1,560
GoB (b) Recurrent Costs	-	-	-	-	92	-	-	92	787	879
GoB (c) Taxes	75	60	138	272	384	-	109	493	509	1,274
Totals in BWP'000	697	556	1,288	2,541	1,473	60	1,018	2,551	5,219	10,310
Totals in USD'000	93	74	172	339	196	8	136	340	696	1,375

9. **GoB counterpart contribution:** The GoB contribution through financing approved AWPB activities amounts to BWP 873,794, or USD 116,500 as at 30 September 2012. These amounts include salaries for the personnel allocated to the Project. This compares with the budget of BWP 4.64 million, representing 19% of the 2012/13 AWPB. **The mission commends the GoB for the strong commitment to the Project demonstrated by this contribution.**

10. **Procurement:** The mission reviewed the procurement plan and confirms that the document is well prepared and the proposed processes and steps include the requisite milestones. The procurement process has not begun yet, reportedly waiting for the IFAD funds to flow into Project accounts. The mission notes that specifications and requisite bidding documents as well as Terms of references for the consultancies have not been commissioned. **As no procurement process can start without these preliminary preparations, the mission recommends that all the required Terms of Reference, bidding documents be produced as a matter of urgency. The PMT should spearhead this process and ensure completion by 31 December 2012.**

11. **Compliance with Loan Covenants:** Apart from slow take off of the programme activities the mission has not noted any contravention of the Loan covenants.

12. Audit

- a) **Statutory Audit:** The Loan Financing Agreement require that the audit is carried out and submitted to GoB and IFAD four months after the end of the Financial year falling under audit. The financial year for 2012/2013 has 5 months remaining and no significant expenditure has been incurred so far. An independent auditor acceptable to IFAD requires to be appointed. The TORs for selecting the auditor must be ready for submission to IFAD by 31 December, 2012 and appointment process completed by 31 March 2012.
- b) **Internal Audit.** The PIM requires that the internal audit systems of the Ministry of Agriculture be mainstreamed as part of the internal and oversight controls of the Project financial transactions. The mission recommends that sensitization of the Internal audit department of the Ministry be carried out culminating with the MoU between the Department and ASSP. The MoU should include specific tasks that are consistent with the GoB, and the milestones for and timelines for reporting and the reporting deliverables.

Annex 1: Project Fiduciary Risk Assessment at Implementation

Fiduciary Risk Assessment – Data Sheet³⁹

Country: Republic of Botswana		Loan Number: IFAD Loan 818-BW and I C Grant 818 BW.	
Project Name		Agricultural Services Support Project.	
Executing Agency: Ministry of Agriculture		CPM: Geoffrey Livingston	
Reviewing Finance Officer:		Date of This Review: 28 10 2012	
Date of the last PSR prior to this rating: N/A First year of implementation	FM rating in the last PSR: N/A	Date of the previous FM supervision and rating: N/A	

Topic	Rating H/M/L	Issues / Comments / Recommendations
A. Inherent Risks		
B. Control Risks		
1. Organization and Staffing		
a. Adequacy of organizational structure to meet functional needs of the project	H	The team is not adequately made up. It is only one person who is not even fully dedicated to the programme activities. The Financial management team for the project should be two person qualified team to guarantee result oriented financial accounting and reporting including accuracy, timeliness, and prescribed deliverables.
b. Availability of clear job description for key project positions, including fiduciary positions.	H	Job descriptions require clarity and revision so as to respond to (a) above.
c. Adequacy of project financial management staff (numbers and skill) matching functional needs of project.	M	Not adequate. See comment in (a) above
d. Segregation/ independence of functions for accounting, payments, procurement.	M	The appointed Financial require an assistant to facilitate internal controls and checks.
e. Availability and adequacy of operating manuals and guidelines for staff	M	PIM exists but requires revision to facilitate the processes for Chart of accounts, financial statements templates, and withdrawal applications.
2. Budgeting		
a. Timely preparation and approval of project budget, issue of budget	M	

³⁹Include relevant findings of project supervision and progress reports, field visits, and audit report findings.

	execution warrants.		
b.	Adequacy of Budget (including loan disbursement categories - schedule 1), including financing plan for all sources, both donors and Govt., both loans and grants.	L	Not yet spent.
c.	Availability of detailed activity plans, procurement plans, cost estimates and assumptions to support budget requests.	M	
d.	Availability of physical progress indicators where applicable.	M	
3. Fund flows and Disbursements / Withdrawals			
a.	Timeliness of Funds disbursed by different sources, including counterpart (set benchmarks and test sample)	L	
b.	Efficiency of the funding channels. E.g. confirmation of funds reaching intended beneficiaries.	L	
c.	Management of project bank accounts other than Special Accounts, if any- reconciliations, idle funds	M	
d.	Banking arrangement and controls (reconciliation of bank statements with financial accounts)	M	
e.	Adequacy of controls and authorization process for use of funds (payments, transfers, Cash/Bank balance management).	L	
f.	Special Account(s)/Dedicated Account(s) Management, Disbursements	L	
	- size of the authorized allocation and adequacy thereof to ensure a smooth flow of funds to project accounts	L	
	- Method and adequacy of disbursement used	L	
	- Timely preparation and accuracy of Withdrawal Applications	H	Lack of experience may delay submission of WAs.
	- Status on expenditures withdrawn from Special Account but not yet claimed for replenishment, including age analysis	L	No significant expenditure has taken place yet.
	- Regularity of Special Account(s) Monitoring and monthly reconciliations (assess the reconciliations)	L	
	- Disbursements profile - actual vs plans, systemic reasons for differences	L	Expenditure not yet began.
	- Recovery of SA balances by loan closure.	L	Not yet due
	- Adequacy of documentary support for SOE disbursements, reimbursements, direct payments and Special Commitments	L	Not yet due
	- Eligibility of expenditure under Legal Agreements	L	Not yet due
4. Internal Controls - Expenditure, Assets, Liabilities			
a.	Adherence to Project Management manuals- clarity and adequacy of decision processes and sequence of events for control functions in project implementation.	M	
b.	Effectiveness and efficiency of internal controls for revenue/inflows management (review audit reports)	M	
c.	Commitment tracking and control including comparison against allocated amounts by loan disbursement category	M	Currently under the Director Crop and the Ministry of Finance officials.
d.	Effectiveness and efficiency of IC for expenditures (full cycle from commitment, payment, receipt of good and services, approval of payments, classification, etc.) (also read SAI and other reports)	M	
e.	Effectiveness and efficiency of IC for assets/liabilities management and maintenance	M	
f.	Reliability of documentary evidence of outputs realized in project. Linkages between outputs realized and financial reports.	M	

g.	Physical controls over cash, documents and records.	M	
h.	Timely payment to suppliers and consultants (benchmark and test sample)	L	No major expenditures incurred yet.
i.	Eligibility of expenditures for Bank funds with respect to PDR, Loan agreements	M	
j.	Legality/eligibility of advances from project funds	M	
k.	Compliance with Financing agreements – both loans and grants	L	
l.	Adequacy of record keeping for fixed assets and inventories		
5. Accounting Systems, Policies and Procedures			
a.	Adequacy of Accounting standards and practices (as designed/Agreed)	M	
b.	Recordkeeping (including documentation and filing/archiving)	L	GoB system systematic and reliable.
c.	Fixed Assets Records maintained and reconciled (sample and physical check)	M	FA register not yet formulated
d.	Adequate documentation and controls for Information Systems, integration of all sub-systems	M	
e.	Adequacy of chart of accounts for project accounting purposes	M	Not yet formulated
f.	Timeliness of recording transactions, controls on erroneous recordings	M	
6. Reporting & Monitoring			
a.	Completeness, accuracy, usefulness, and timeliness	M	Templates not yet formulated
b.	Interim FM reports (FMRs, PMRs as relevant) or progress reports - timely preparation, submission	M	Not yet formulated.
c.	Follow up of previous aid-memoirs, FMR/PMR or progress reports	N/A	This was the first Supervision mission.
7. Internal Audit			
a.	Is project activity or implementing unit subject to internal audit?	M	The IA not yet involved in the internal controls and audit. PMT advised in the Aide Memoire.
b.	Adequacy of internal audit organization - staff capacity	M	
c.	Adequacy of internal audit scope of work and quality of reports	M	
d.	Assessment of matters raised in audit reports	N/A	No audit has been carried out.
8. External Audit			
a.	Scope of 2012 audit.	M	Appointment process to start soon.
b.	Audit report timeliness.	N/A	
c.	Quality of audit.	N/A	

Project Fiduciary Risk Assessment at Supervision

Risk Analysis Summary Table: _Project #_ ASSP_____

Implementing Agency : _____Ministry of Agriculture

	Risk Assessment H/M/L	Proposed Mitigation
Inherent Risk	L	The 2011 CPI rate was 6.1 and the country was 32 out of 183 countries.
Control Risks	M	
1. Budgeting	M	
2. . Accounting Policies and Procedures and Staffing	H	The mission considers the FM team as incomplete.
3 Reporting and Monitoring Information Systems	M	
4. Internal Control/Internal Audit	M	
5. Funds flow/disbursement arrangements.	M	
6. External Audit	M	
Overall Project Fiduciary Risk	M	
H=High, M=Medium, L= Low		

Comments: The Project Monitoring unit has just been set up. Implementation has just started..

Annex 2: Compliance with legal covenants: Status of implementation

Section	Covenant	Target/Action Due Date	Compliance Status/Date	Remarks
Section 4.01	Loan and Grant Accounts: Upon the entry into force of a Financing Agreement, the Fund shall open a Loan Account and/or a Grant Account in the name of the Borrower/Recipient and credit the principal amounts of the Loan and the Grant respectively thereto.	Accounts operational	Complied	
Section 4.02	Withdrawals from the Loan and Grant Accounts: (a) Between the date of entry into force of the Agreement and the Financing Closing Date, the Borrower/Recipient may request withdrawals from the Loan Account and/or Grant Account of amounts paid or to be paid for Eligible Expenditures. The Fund shall notify the Borrower/Recipient of the minimum amount for withdrawals. (b) No withdrawal shall be made from the Loan and/or Grant Accounts until the first AWPB has been approved by the Fund and the Fund has determined that all other conditions specified in the Financing Agreement as additional general conditions precedent to withdrawal have been fulfilled. The Financing Agreement may also establish additional specific conditions precedent to withdrawal applicable to particular categories or activities. Withdrawals to meet the costs of starting up the Project may be made from the date of entry into force of the Agreement, subject to any limits established in the Financing Agreement.	Withdrawals have commenced	Complied Complied	
SECTION 7.01. Project Implementation.	(a) The Borrower and each of the Project Parties shall carry out the Project: (i) with due diligence and efficiency; (ii) in conformity with appropriate administrative, engineering, financial, economic, operational, environmental and agricultural development practices (including rural development practices) and good governance; (iii) in accordance with plans, design standards, specifications, procurement and work schedules and construction methods agreed by the Borrower/Recipient and the Fund; (iv) in accordance with the provisions of the relevant Agreement, the AWPBs, and the Procurement Plan; (v) in accordance with the policies, criteria and regulations relating to agricultural development financing laid down from time to time	Project implementation has just started and the PMT appear to be carrying out the tasks accordingly.		

Section	Covenant	Target/Action Due Date	Compliance Status/Date	Remarks
	<p>by the Governing Council and Executive Board of the Fund; and (vi) so as to ensure the sustainability of its achievements over time.</p> <p>(b) (i) Projects shall be implemented on the basis of an Annual Workplan and Budget (AWPB). The Lead Project Agency shall prepare a draft Project AWPB for each Project based, to the extent appropriate, on the draft AWPBs prepared by the various Project Parties. Each draft Project AWPB shall include, among other things, a detailed description of planned Project activities during the coming Project Year, a Procurement Plan, and the sources and uses of funds.</p> <p>(ii) Before each Project Year, the Lead Project Agency shall, if required, submit the draft Project AWPB to the oversight body designated by the Borrower/Recipient for its review. When so reviewed, the Lead Project Agency shall submit the draft Project AWPB to the Fund for comments no later than sixty (60) days before the beginning of the relevant Project Year. If the Fund does not comment on the draft Project AWPB within thirty (30) days of receipt, the AWPB shall be deemed acceptable to the Fund.</p> <p>(iii) The Lead Project Agency shall adopt the Project AWPB in the form accepted by the Fund.</p> <p>(iv) The Lead Project Agency may propose adjustments in the Project AWPB during the relevant Project Year, which shall become effective after acceptance by the Fund.</p>			
SECTION 7.03.	<p>Availability of Additional Resources (a) In addition to the proceeds of the Financing, the Borrower/Recipient shall make available to the Project Parties such funds, facilities, services and other resources as may be required to carry out the Project in accordance with Section 7.01.</p> <p>(b) In addition to the proceeds of the Financing, the Financing Agreement may provide that the Borrower/Recipient shall make available to the Project Parties during the Project Implementation Period counterpart funds from its own resources in accordance with its customary national procedures for development assistance.</p>	The GoB is injecting resources as required so far.		
SECTION 7.05. Procurement	(a) Procurement of goods, works and services financed by the Financing shall be carried out in accordance with the provisions of the Borrower/Recipient's procurement regulations, to the extent such are consistent with the IFAD Procurement Guidelines. Each Procurement Plan shall identify procedures which must be implemented by the Borrower/Recipient in order to ensure consistency with the IFAD Procurement Guidelines.	The process of procurement is starting and no departure of the procedures is not noted.		

Section	Covenant	Target/Action Due Date	Compliance Status/Date	Remarks
SECTION 7.08. Insurance.	<p>(a) The Borrower/Recipient or the Lead Project Agency shall insure all goods and buildings used in the Project against such risks and in such amounts as shall be consistent with sound commercial practice.</p> <p>(b) The Borrower/Recipient or the Lead Project Agency shall insure the goods imported for the Project which are financed by the Financing against hazards incident to the acquisition, transportation and delivery thereof to the place of use or installation in accordance with sound commercial practice.</p>	Complied		
SECTION 8.02. Monitoring of Project Implementation	<p>The Lead Project Agency shall:</p> <p>(a) establish and thereafter maintain an appropriate information management system in accordance with the Fund's <i>Guide for Project Monitoring and Evaluation</i> with which it shall continuously monitor the Project;</p> <p>(b) during the Project Implementation Period, gather all data and other relevant information (including any and all information requested by the Fund) necessary to monitor the progress of the implementation of the Project and the achievement of its objectives; and</p> <p>(c) during the Project Implementation Period and for at least ten (10) years thereafter, adequately store such information, and, promptly upon request, make such information available to the Fund and its representatives and agents.</p>		The system is under design.	
SECTION 8.03. Progress Report and Mid-Term Reviews.	<p>(a) The Lead Project Agency, or other party so designated in the relevant Agreement, shall furnish to the Fund periodic progress reports on the Project, in such form and substance as the Fund shall reasonably request. At a minimum, such reports shall address (i) quantitative and qualitative progress made in implementing the Project and achieving its objectives, (ii) problems encountered during the reporting period, (iii) steps taken or proposed to be taken to remedy these problems, and (iv) the proposed programme of activities and the progress expected during the following reporting period. 13</p> <p>(b) If specified in an Agreement, the Lead Project Agency and the Fund shall jointly carry out a review of Project implementation no later than the midpoint of the Project Implementation Period (the "Mid-Term Review") based on terms of reference prepared by the Lead Project Agency and approved by the Fund. Among other things, the Mid-Term Review shall consider the achievement of Project objectives and the constraints thereon, and recommend such reorientation as may be required to achieve such objectives and remove such constraints.</p> <p>(c) The Borrower/Recipient shall ensure that the</p>		Activities not yet started.	

Section	Covenant	Target/Action Due Date	Compliance Status/Date	Remarks
	recommendations resulting from the Mid-Term Review are implemented within the specified time thereafter and to the satisfaction of the Fund. Such recommendations may result in modifications to the Agreement or cancellation of the Financing.			
SECTION 8.04. Completion Report.	As promptly as possible after the Project Completion Date but in any event no later than the Financing Closing Date, the Borrower/Recipient shall furnish to the Fund a report on the overall implementation of the Project, in such form and substance as may be specified in the Financing Agreement or as the Fund shall reasonably request. At a minimum, such report shall address (i) the costs and benefits of the Project, (ii) the achievement of its objectives, (iii) the performance by the Borrower/Recipient, the Project Parties, the Fund of their respective obligations under the Agreement and (iv) lessons learned from the foregoing.		Not yet due	
SECTION 9.01. Financial Records.	The Project Parties shall maintain separate accounts and records in accordance with consistently maintained appropriate accounting practices adequate to reflect the operations, resources and expenditures related to the Project until the Financing Closing Date, and shall retain such accounts and records for at least ten (10) years thereafter.		Accounting system under design.	
SECTION 9.02. Financial Statements.	The Borrower/Recipient shall deliver to the Fund detailed financial statements of the operations, resources and expenditures related to the Project for each Fiscal Year prepared in accordance with standards and procedures acceptable to the Fund and deliver such financial statements to the Fund within four (4) months of the end of each Fiscal Year.		Not yet due.	
SECTION 9.03. Audit of Accounts.	The Borrower/Recipient shall: (a) each Fiscal Year, have the accounts relating to the Project audited in accordance with auditing standards acceptable to the Fund and the Fund's <i>Guidelines on Project Audits (for Borrowers' Use)</i> by independent auditors acceptable to the Fund; (b) within six (6) months of the end of each Fiscal Year, furnish to the Fund a certified copy of the audit report. The Borrower/Recipient shall submit to the Fund the reply to the management letter of the auditors within one month of receipt thereof; (c) if the Borrower/Recipient does not timely furnish any required audit report in satisfactory form and the Fund determines that the Borrower/Recipient is unlikely to do so within a reasonable period, the Fund may engage independent auditors of its choice to audit the accounts relating to the Project. The Fund may finance the cost of such audit by withdrawal from the Loan and/or Grant		Not yet due	

Section	Covenant	Target/Action Due Date	Compliance Status/Date	Remarks
ARTICLE XI - TAXATION SECTION 11.01. Taxation.	<p>Accounts.</p> <p>(a) The Financing and all Loan Service Payments shall be exempt from all Taxes, and all Loan Service Payments shall be made free and clear of Taxes.</p> <p>(b) The Agreement shall be exempt from any Taxes on signature, delivery or registration.</p> <p>(c) The use of any proceeds of the Financing to pay for Taxes is subject to the Fund's policy of requiring economy and efficiency in the use of its Financing. Therefore, if the Fund at any time determines that the amount of any such Tax is excessive, discriminatory or otherwise unreasonable, the Fund may, by notice to the Borrower/Recipient, reduce the percentages of Eligible Expenditures to be financed by the Financing which are specified in the Financing Agreement.</p>		Not yet due. The PMT is aware.	

