



Agricultural Productivity Programme for Southern Africa (APPSA)

FIRST PROGRESS REPORT

01 July 2013 - 31 December 2014

**CCARDESA Secretariat
Private Bag 00357
Gaborone
Botswana
www.ccardesa.org**

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LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|----------|---|
| APPSA | Agricultural Productivity Program for Southern Africa |
| BSc | Bachelor of Science |
| CA | Conservation Agriculture |
| CAADP | Comprehensive African Agricultural Development Programme |
| CAAS | Chinese Academy of Agricultural Sciences |
| CARS | Chitedze Agricultural Research Station |
| CCARDESA | Centre for Coordination of Agricultural Research and Development in Southern Africa |
| CGIAR | Consultative Group for International Agricultural Research |
| Co-PI | Co-Principle Investigator |
| DAES | Department of Agriculture Extension Services |
| DARS | Department of Agriculture Research Services |
| EIA | Environmental Impact Assessment |
| IARC | International Agricultural Research Centre |
| IDA | International Development Association |
| IIAM | Instituto de Investigação Agrária de Moçambique (Agricultural Research Institute of Mozambique) |
| ISTA | International Seed Testing Association |
| MAL | Ministry of Agriculture and Livestock (Zambia) |
| M&E | Monitoring and Evaluation |
| MoAI&WD | Ministry of Agriculture Irrigation and Water Development |
| MoU | Memorandum of Understanding |
| MSc | Master of Science |
| MVAC | Malawi Vulnerability Assessment Committee |
| NAIS | National Agricultural Information Services |
| NARS | National Agriculture Research Institutions |
| NERICA | New Rice for Africa |
| OPV | Open pollinated varieties |
| PDO | Project Development Objective |
| PI | Principle Investigator |
| QPM | Quality protein maize |
| RCoL | Regional Centre of Leadership |
| R&D | Research and Development |
| SADC | Southern Africa Development Community |
| ToT | Training of Trainers |
| TTL | Task Team Leader |
| UEM | Universidade Eduardo Mondlane – Maputo (Eduardo Mondlane University) |
| UNZA | University of Zambia |
| MU | Mulungushi Unirvesity |
| WB | World Bank |
| WIKWIO | Weed Identification and Knowledge in Western Indian Ocean |
| ZARI | Zambia Agriculture Research Institute |

EXECUTIVE SUMMARY

APPSA is implementing actions that will lead to an increase in the availability of improved agricultural technologies in participating countries in the SADC region over a period of six years (2013 – 2019). The project was approved by the World Bank Board on 14th March 2013, and all four financing agreements (Malawi, Mozambique, Zambia and CCARDESA) were signed. The project is envisaged to reach 6.1 million beneficiaries in the participating countries.

This is the first technical progress report for the project and it covers the period from 1 July 2013 to 31 December 2014. The report is intended to provide an abridged update on key deliverables during the reporting period. Sequential reports will follow the agreed reporting cycle, i.e. semi-annual reports covering the activities of each semester (Jan to June and July to December).

The project efforts of note focused on defining the operating procedures, forming partnerships, articulating the objectives of this project; facilitating the implementation of planned project activities under the three components, strengthening the project management units in the implementing countries. Critical work that was undertaken at project inception at CCARDESA includes the development of project work plans, budget and the procurement plans for 2013/14; procurement of a financial management system and appointment of an audit firm; conducting an inception workshop and several meetings with R&D practitioners; setting up of peer review database and facilitating peer review and approval of research project proposals for implementation with effect from the 2013/14 cropping season; recruitment of the project coordinator in September 2013. The program also facilitated the launch of the programme in all three participating countries and conducting a workshop to iron out outstanding implementation issues. A Monitoring and Evaluation framework to guide APPSA operations as indicated in the APPSA Results Framework was also drafted and shared with the countries.

Under component 1 of the project – *‘Technology Generation and Dissemination’*, the research and development (R&D) cycle began with national consultations to develop national agendas where R&D issues were prioritised. Following the consultative meetings, the three countries developed concept notes which were reviewed at regional level, after which twenty five (25) full proposals [9 on maize, 5 on rice and 11 on legumes] were developed, and recommended for support in 2013. An additional 24 projects [7 on maize, 4 on rice, 8 on legumes and 5 on conservation agriculture] were recommended for support after the regional peer review process in September 2014, bringing the total number of R&D projects to 49 projects.

Successful implementation of Component 2- *‘Strengthening Regional Centres of Leadership’* activities is expected to result in strengthened capacity for RCoLs to coordinate agricultural research and development. Zambia rehabilitated offices at Mt Makulu Central Research Station, upgraded the 3-km service road, procured nineteen project vehicles, and facilitated long term training for 41 staff as follows: PhD=2 (males); MSc= 13 (5 females; 8 males); BSc=23 (14 females; 9 males); Diploma=4 (1 female; 4 males). In Malawi, the process of procurement of vehicles had commenced, and scholarships were awarded as follows: 5 PhD - (2 females); 4 M.Sc. – (1 female) and 4

B.Sc. - (1 female). Similarly for Mozambique, the process of procurement of vehicles had commenced, and the training programs were being finalised. CCARDESA developed a regional M&E framework document to guide the monitoring activities in the project, and also facilitated the formation of the regional APPSA M&E working group, whose mandate is to strengthen the capacity of implementing institutions to manage projects results through improved data collection and management, and facilitating harmonized M&E skills, tools and systems.

Component 3 activities focus on coordination and facilitation. In an effort to build alliances, APPSA undertook action to sensitize stakeholders to come to a common understanding of the program concept at the beginning of project implementation. CCARDESA and the World Bank facilitated the launching of the project in late October /early November 2013 in each of the three countries. The launching ceremonies were well attended by key stakeholders in the R&D sector, including participants from the public and private sectors, and Civil Society. These launching ceremonies facilitated some buy-in and program ownership, and gave the project the required visibility in the participating countries. Two joint Government/CCARDESA/World Bank Implementation Support Missions were undertaken in March and in October 2014 to assess progress in implementation of planned activities at RCoL level. Implementation of the project activities was rated moderately satisfactory in both occasions. Through a consultative needs assessment of technical training or knowledge support required by scientists implementing R&D projects, a list of high priority training needs in 30 thematic areas was drawn. Training in proposal writing and in results-based monitoring and evaluation, which were highly prioritised, was undertaken. The Subsidiary Agreement that describes the roles and responsibilities, activities, and reporting modalities of CCARDESA in facilitating APPSA implementation was finalized and signed between Zambia and CCARDESA. A study tour to the Chinese Academy of Agricultural Science from 4 to 14 June 2014 was undertaken by seven RCoL staff, plus the regional APPSA Coordinator. This was a joint tour for the three Agricultural Productivity Programs in Eastern, Western and Southern Africa regions (APPSA, EAAPP and WAAPP). Following this successful visit, key areas that were identified for strengthening collaboration between APPSA and CAAS included collaborative research /linkages between research institutions, capacity building, acquisition of germplasm or agricultural equipment, further exchange visits targeting participation by policy makers, private enterprises and farmers.

Progress towards achieving the project development objective (PDO) of increasing the availability of improved agricultural technologies in participating countries in the SADC region is shown in Annex 1.

1. BACKGROUND

The Agricultural Productivity Program for Southern Africa (APPSA) is a regional programme supported by the World Bank to promote a regional approach to agricultural technology generation and dissemination. The six-year project was approved by the World Bank Board in March, 2013 with US\$ 90 million in IDA financing, and was launched with the participation of three countries in October 2013. The project aims to improve technology generation and dissemination among participating countries in southern Africa by building capacity within national R&D systems and enhancing regional collaboration. The project's development objective of increasing the availability of improved agricultural technologies in participating countries in the SADC region will be achieved through: (i) establishing Regional Centres of Leadership (RCoLs) on commodities of regional importance; (ii) supporting regional collaboration in agricultural research, technology dissemination, and training; and (iii) facilitating increased sharing of agricultural information, knowledge, and technology among participating countries. In its implementation, the project relies on combined expertise of a wide range of stakeholders pursuing the program development objective. APPSA currently has three participating countries: Malawi which is focusing on maize-based farming systems, Mozambique on rice-based farming systems, and Zambia on food legumes-based farming systems (involving beans, cowpeas, groundnuts, pigeon peas, and soybeans). Additional countries within the SADC region are expected to join as APPSA evolves and expands.

2. PROGRESS ACHIEVED

The major achievements during the reporting period under each component are detailed below.

2.1 Component 1: Technology Generation and Dissemination

The research and development (R&D) cycle began with national consultations to develop national agendas where R&D issues were prioritised. Following the consultative meetings, the three countries developed concept notes which were reviewed at regional level, after which twenty five (25) full proposals [9 on maize, 5 on rice and 11 on legumes] were developed, and recommended for support after the regional peer review process in September 2013.

In all three countries, implementation of the twenty five R&D projects that were commissioned in 2013 commenced late in the 2013/14 cropping season due mainly to late availability of funds: as a result 60% of the projects were not implemented at full scale. However, during the off-season, the R&D projects also undertook some activities such as basic baseline surveys (where required), post-harvest activities, irrigated crop and seed production. The major baseline studies planned for selected R&D projects were

deferred to next year as there were delays in drafting ToRs for the baseline study and the tools to be used.

In preparation for the second round of R&D projects, all three RCoLs advertised a call for research concept notes in early 2014 using the streamlined concept note prepared by CCARDESA. In order to facilitate the identification of potential collaborators, a database that includes all stakeholders (public, private sector and civil society) was constructed (based on information provided by individual countries) and shared with the countries. Each of the countries organized a review of the concept notes and their endorsement at national level, after which the concept notes were reviewed and endorsed at a regional concept note endorsement workshop that was held in July. Thirty one concept notes were endorsed for development into full proposals that were evaluated by a panel of regional reviewers in mid-September.

Following the regional peer review process, twenty four projects were recommended for support. This brought to forty nine (49) the total number of R&D projects under APPSA. The full list is given in (Annex 2). The projects are covering key regional R&D priority areas that include (i) soil fertility & plant nutrient management, (ii) plant breeding/ crop variety development, (iii) conservation

| | Total # Projects | Estimated Budget (US\$) |
|--------------------|-------------------------|--------------------------------|
| MAIZE | 16 | 6,060,846.31 |
| RICE | 9 | 4,430,463.00 |
| LEGUMES | 19 | 9,424,330.30 |
| CONSERVATION AGRIC | 5 | 2,558,822.80 |
| TOTAL | 49 | 22,474,462.41 |

agriculture (CA), (iv) Post-harvest crop management, (v) crop pests & diseases, (vi) food safety & value addition, (vii) conservation of plant genetic resources (viii) marketing/ trade of crop produce - linking farmers to markets, (ix) agro-processing procedures, (x) promotion of water harvesting technologies, (xi) improving seed supply and quality. Key regional R&D priority areas that are not adequately covered by the projects include (i) use of biotechnology to enhance and accelerate varietal development, (ii) appropriate storage structures and (iii) agricultural mechanization including development of farm implements (tools for pre & post-harvest operations; labour-saving devices).

Out of the 49 projects, Malawi is leading in 14 (maize=7; legumes=4; rice=2; CA=1) and collaborating in 31 projects. Mozambique is leading in 15 R&D Projects (maize=5; legumes=3; rice=6; CA=1) and collaborating in 26 projects. Zambia is leading in 20 R&D Projects (maize=4; legumes=12; rice = 1; CA=3) and collaborating in 27 projects. There is an additional project on sorghum dissemination being implemented in Zambia alone for now. The other projects on dissemination are focusing on improved varieties of legumes, rice and maize; improved agronomic practices, enhancing agro-processing and market access, improving seed delivery systems. Under the dissemination projects, the key activities included conducting of sensitization meetings with extension staff to enable them understand the objectives and expected outcomes of the APPSA Project; start-up activities required as well as understand their roles in project implementation. Establishment of on-farm and on-station crop demonstrations were undertaken, and lead farmers trained in the various technologies being demonstrated, including agro-processing activities. Agro-dealers were also trained in input provision issues. Field days were conducted to provide farmers with a learning platform and knowledge exchange.

The screening for safeguard compliance was undertaken for the R&D projects. The screening process identified the following potential negative environmental and social impacts: exposure to agrochemical pollutants, general health hazard to workers and communities, soil erosion, soil degradation, gender imbalance, conflicts over use of local water resources, siltation of water courses, reduced water quality. Development of environmental and social management plans for the individual R&D projects was thus undertaken to guide the R&D scientists in the mitigation of any negative impacts of the projects. The general mitigation measures proposed include promoting use of soil and water conservation measures; training in proper use and disposal of chemical sprays; promoting integrated pest and disease management, promoting use of biodegradable chemicals; providing protective clothing to field workers; adopting conservation agriculture principles; mainstreaming gender and HIV and AIDS.

Maize RCoL - Malawi:

Notwithstanding the delay in accessing project funds during the 2013/14 cropping season, the RCoL managed to undertake some field activities, particularly for the seven R&D projects that it leads. Most of the 14 projects where Malawi is a co-participant were not initiated. The key activities undertaken by the projects included stakeholder sensitization meetings; regional planning meetings between PIs and co-PIs to ensure standardisation of implementation procedures; site selection and identification of lead farmers; training of extension workers and farmers etc. Field activities undertaken include germplasm collection, multiplication of breeder/foundation seed, breeding trials and field experiments for irrigated crops. Extension officers were trained in legume seed production, and demonstration plots for improved legume varieties were established. At the beginning of the 2014/15 cropping season, the R&D projects that were approved for support during the second cycle were also initiated. In this cycle, Malawi is leading in 7 R&D Projects and collaborating in 17 projects. By December 2014, establishment of field trials was in progress, and all the projects were expected to be implemented at full scale by the end of the 2014/15 cropping season.

Screening of projects for safeguard compliance was completed for most projects approved in the first cycle, and initiated for projects approved in the second cycle. The screening process was conducted by staff from Environmental Affairs Department, Land Resources Conservation Department, Department of Agricultural Extension, Department of Planning and Department of Agricultural Research Services as well as district staff (for on-farm trials). Very few sites for on farm trials were screened by December 2014 due to inadequate resources.



Evaluation of commercial varieties & accessions for water use efficiency at Kasinthula



Farmer training on good agricultural practices by DARS staff at Nazolo Irrigation Scheme



Farmer's field on soybean seed multiplication at Chulu EPA in Kasungu

Screening for *striga* tolerance in maize

Rice RCoL –Mozambique:

Out of the 49 research projects approved for implementation during the first and second cycles, Mozambique is implementing 41 (15 as lead, and 26 as co-participant). Just like for Malawi, late disbursement of funds in the 2013/14 cropping season was a key constraint to R&D project implementation. Consequently, seven out of the 8 R&D projects where the RCoL is in the lead were implemented, while minimal activities were undertaken for the 12 out of the 16 projects where it is a co-participant. It was mainly the projects on germplasm collection, breeding and on-farm demonstrations that were initiated. Trainings of farmers, extension as well as agro-dealers was also undertaken.

Implementation of field activities for most projects commenced at the beginning of the 2014/15 cropping season. By the end of the reporting period, establishment of field trials was in progress. Field assessments for environmental and social safeguards were initiated, but not completed. The RCoL still requires support from the World Bank regarding training in safeguards issues.



Legume drought tolerance nurseries at Chokwe



QPM seed multiplication nursery at Umbeluzi



Participatory evaluation of rice varieties



Training of agro-dealers in seed business & input provision

Food Legumes RCoL – Zambia:

Zambia is leading in implementation of 20 R&D projects (maize=4; legumes=12; rice = 1; CA=3) and collaborating in 27 projects. In the 2013/14 cropping season, the RCoL managed to implement all the ten R&D Projects from the first cycle where it is PI, and eleven of the fifteen projects where it is co-PI. At the beginning of the 2014/15 cropping season, the R&D projects that were approved for support during the second cycle were also initiated. By December 2014, establishment of field trials was in progress, and all the projects were expected to be implemented at full scale by the end of the 2014/15 cropping season.

During the reporting period, the breeding projects managed to conduct a significant proportion of breeding activities - collection of accessions, establishment of crossing blocks, establishment of screening nurseries, selection, conducting national variety trials. Dissemination projects undertook sensitization workshops, selected lead farmers and demonstration sites, conducted farmer trainings, established demonstration sites, monitored crop demonstrations and conducted field days.

Field assessments for environmental and social safeguards were completed for all projects and environmental management plans developed.



Advancing of more than 65 F3s families during the off season at Misamfu Research Station



Maize germplasm planted in unreplicated plots at Mt Makulu

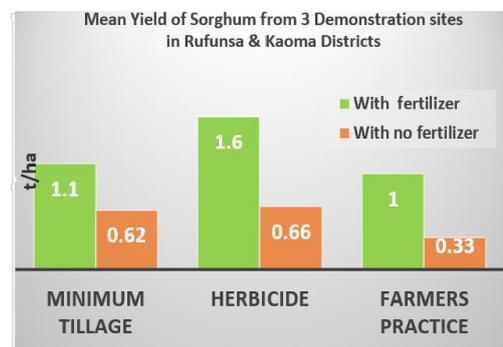


Demonstration on maize-cowpea rotation in Kangomba-Kabwe



Farmer training in legume seed production at Likumbi Mukonchi, Central Province

The project on promoting the adoption of improved management practices for increased sorghum production in Zambia was also successfully implemented. Four improved agronomic practices (use of fertilizer, minimum tillage, herbicide and crop rotation) and two improved varieties (ZSV 36 R, and Kuyuma) were promoted through 3 demonstrations in Rufunsa and Kabwe. Although the yields were generally low, the demonstrations showed that using fertilizer and controlling weeds through use of herbicides has the greatest potential of improving sorghum yields. Thirty three farmers (20 male; 13 female) attended field days where the sorghum production guide was also distributed. Farmers appreciated the use of herbicides in reducing labour for weeding. Sorghum was also exhibited at four fairs



2.2 Component 2: Strengthening Regional Centres of Leadership

Activities under this component are expected to result in strengthened capacity for RCoLs to coordinate agricultural research and development. The RCoLs have selected activities to be financed, such as upgrading of research infrastructure, improving administration and performance management systems, developing human capital (including identifying training needs at undergraduate and post-graduate levels), strengthening seed production capacity, seed regulatory functions etc.

A regional M&E Framework document was developed and endorsed by all three countries. Other M&E work that was initiated includes the development of an M&E manual, development of individual log frames and results frameworks for R&D projects. CCARDESA facilitated the formation of the regional APPSA M&E working group, comprising M&E focal points and APPSA project coordinators. The mandate for this working group is to strengthen the capacity of implementing institutions to manage projects results through improved data collection and management, and facilitating harmonized M&E skills, tools and systems.

In May 2014 the RCoLs were invited to participate in the first CCARDESA General Assembly where they had an opportunity to showcase their projects and products through exhibitions. They also participated in the APPSA regional wrap-up meeting that was held at the end of the General Assembly. CCARDESA developed a list of skills and short term training needs which it circulated to the RCoLs for prioritization. A consolidated list of high priority training needs was drawn during the regional wrap-up meeting (Annex 3). It was agreed that the most immediate needs were training on scientific and proposal writing, and M&E, and CCARDESA would identify the prospective service providers on the two trainings. Because of the high quotations by the service providers, capacity building for preparation of full proposals was done by independent reviewers at national level. In September 2014, CCARDESA organized a training of trainers (ToT) in Results Based Monitoring & Evaluation for 15 Research and Development (R&D) staff (14 males and 1 female) from the APPSA countries. The training was conducted by Impact Training Development Institute of South Africa at Birchwood Hotel in Johannesburg. The purpose of the training workshop was to equip participants with proper guidelines and tools to effectively implement M&E systems for the Centre's Research and Development (R&D) interventions. The first day of the workshop focused on the introduction to fundamental M&E concepts and the project cycle, while the second day was spent on deriving the Logical Framework Matrix and participatory methodologies. The third day focussed on the Theory of Change and the Reporting and Communication of M&E results.



Figure 1 Group photo: APPSA M&E training workshop at Birchwood Hotel, Johannesburg, Sep 2014

Overall, the RCoLs have made some notable progress in implementation of activities under this component.

Maize RCoL - Malawi:

- Work on improving the laboratory facilities at Chitedze Research Station commenced.
- An office block which houses the APPSA Secretariat was refurbished and furnished.
- The RCoL procured the services of the various service providers/consultancies (infrastructure needs assessment; supply of office equipment; supply of 10 project vehicles; review of seed policy and preparation of national seed strategy; agricultural research and development strategy). The infrastructure development activities, including the required improvements to research equipment, will be guided by the outcome of the infrastructure assessment.
- In an endeavour to strengthen the management and performance systems, the RCoL has facilitated staff training in project management, financial management and monitoring and evaluation. The Finance Management specialist also participated in the training in financial management that was organized by the World Bank in May 2014 in Nairobi, Kenya.
- Technical working groups (M&E; Communication; seed regulatory issues) were formed to provide technical backstopping to the project.

- The RCoL has held several meetings to address issues on strengthening seed systems and regulatory services. Reviewing of the seed policy and development of the seed strategy will commence once a consultant has been engaged.
- Thirteen staff (8 males and 5 females) were identified for human capacity development as follows: BSc (4 male); MSc (4: 2 male; 2 female); PhD (5: 3 male; 2 female). Only four are already in training (MSc=1; BSc=3)

Rice RCoL - Mozambique

- Mozambique engaged a consultant to assist in the preparation of the design of the Namacurra Research Station. Requests for consultancy services were launched for (a) full design and supervision of construction of field infrastructures at the RCoL in Namacurra and (b) full design and supervision of rehabilitation / construction of field infrastructures at Umbelúzi, Chókwe, Nampula/Nametil, Maganja da Costa experimental plots.
- A tender for the supply of vehicles, agricultural tractors and implements was launched. Bids were received and the evaluation process commenced late in the year.
- The RCoL identified some priorities for human capital development, and work is in progress to complete the training plan. Selected short-term training courses are scheduled for staff in the different zonal centres at 5 locations (Maputo, Chókwe, Sussundenga, Nampula, and Lichinga). Identification of staff for training in Research Farm Management and for long-term training at MSc and PhD levels is ongoing.
- IIAM undertook an assessment on rehabilitation of small irrigation schemes in other stations and detailed technical proposals will be compiled in due course.

Food Legumes RCoL Zambia

- The project received nineteen 4 x 4 Double Cab vehicles that were procured through UNOPS.
- The RCoL administration blocks were refurbished. Rehabilitation of the 3 km road at Mt. Makulu was completed, and commissioning of the road and the vehicles was done in September during a function attended by the World Bank Country Director and the Honorable Deputy Minister of Agriculture.



Figure 2 Part of the rehabilitated road at Mt. Makulu

- The project advertised for the posts of Project Accountant, Procurement Officer and Team Assistant to beef up the project implementing team. The positions were expected to be filled before the end of 2014.
- The M&E working group and the Communication working group were formed to provide technical backstopping to the project.
- The RCoL facilitated staff training in project management, financial management and monitoring and evaluation.
- Ninety four staff (59 males and 35 females) were identified for human capacity development as follows: diploma/short courses (31); BSc (24); MSc (27); PhD (12). Thirty seven are already in training (PhD=2; MSc=13; BSc=18; diploma/short courses =4)

2.3 Component 3: Coordination and Facilitation

In an effort to build alliances, APPSA undertook action to sensitize stakeholders to come to a common understanding of the program concept at the beginning of project implementation in each country. CCARDESA and the World Bank facilitated the launching of the project in late October 2013/early November 2013 in each of the three countries. The programme was first launched in Malawi on 28 October, where more than 80 participants were in attendance. Zambia launched the programme on 4 November, with more than 100 people in attendance while the launch in Mozambique was on 12 November, and was attended by approximately 50 people. The launching ceremonies were well attended by key stakeholders in the R&D sector, including participants from the public and private sectors, and Civil Society. These processes facilitated some buy-in and program ownership, and gave the project the required visibility in the participating countries.

Two joint implementation support missions involving the national Governments of the three participating countries, CCARDESA and the World Bank were undertaken in March and in October 2014. The general objective of the missions was to review the project implementation status and assess whether activities were proceeding in a satisfactory manner. During the missions, it was noted that the required documentation for R&D projects (log frames, budgets, safeguards, work plans, signed partnership agreements) was still not finalised; RCoLs were urged to facilitate face-to-face meetings between PIs and co-PIs to finalise the documentation and strengthen coordination. Commodity technical meetings were thus held in early November to review existing R&D project implementation, plan for future R&D project proposals, and to re-assess R&D priorities as needed. During the missions, it was also noted that greater strategic focus is needed to ensure R&D activities are relevant and facilitate high quality science and innovation. Pertaining to monitoring and evaluation, the key issues discussed and agreed on were (i) a regional M&E Framework document endorsed by all countries (ii) approaches to baseline data collection (iii) APPSA reporting formats and timelines (iv) description of core indicators and common indicator definitions (v) capacity strengthening needs (vi) mapping of beneficiaries.

During the regional wrap up meeting of the implementation support mission in March, CCARDESA was urged to develop an APPSA specific portal and to facilitate document exchange and storage options for the APPSA countries. An APPSA webpage was created on the CCARDESA website. There was broad agreement within the project team on the need for APPSA to strengthen partnerships with CGIAR and Universities. There are a number of areas in which RCoLs can deepen partnerships with CGIAR, such as, capacity building; conservation, characterization, distribution, and stewardship of genetic resources; Promoting knowledge sharing and joint learning, ensuring quality of science in R&D Projects (CGIAR involvement in peer reviews of R&D proposals; participation in field monitoring visits; CGIAR membership in National Steering Committees/Technical Committees; mentoring of young scientists etc). With respect to Universities, APPSA could identify training institutions with comparative advantage in the region as centers of excellence to provide capacity building of skills required by the RCoLs.

A study visit to the Chinese Academy of Agricultural Sciences (CAAS) was undertaken from June 4 to June 14. The study tour was designed to be an experience sharing initiative between CAAS and the three Regional Agricultural Productivity Programs (APPs) in Africa, and was facilitated by the World Bank. Forty two participants from the three sub regional programs (8 from APPSA), and staff from the World Bank teams for the 3 Regions participated in the study tour which comprised a series of lectures on agriculture in China followed by field visits to research and production centres, farmers' fields and agricultural mechanization R&D centres. The team members were divided into three groups to visit (i) the dry land agriculture/conservation tillage systems (ii) the vegetable production systems and (iii) the rice production systems. The groups identified the following key areas of collaboration; (a) Capacity building/training by CAAS (b) Acquisition of germplasm or equipment for testing/demonstration (c) further exchange visits targeting participation by policy makers, private enterprises, farmers and (d) Collaborative research/linkages between research institutions. A memorandum of understanding between CCARDESA and CAAS was drafted, and will be signed by both parties in early 2015.

China visit in pictures



Use of biodegradable plastic mulch +IPM in cotton



Participants from the 3 APPs in Africa



View of Agricultural Industrial Park of Shouguang group



Rice Transplanting



Germplasm storage of maize and wheat seeds in vacuum jars



Vegetable Demonstration Garden at Shouguang



Rice experiment at CNRRI Hangzhou



Automated green house (temperature, nutrients, harvesting) at Agricultural Industrial Park



Subsidiary Agreements that describe the roles and responsibilities, activities, and reporting modalities of CCARDESA in facilitating APPSA implementation were expected to be finalised and signed during the reporting period. However, only the Subsidiary Agreement between Zambia and CCARDESA was finalized and signed. The other two countries were urged to finalise their respective agreements.

The national coordination units at all 3 RCoLs were completely staffed in 2014 (M&E, Finance, Procurement staff, and national project coordinators in Mozambique and Zambia). Recruitment of the Project Coordinator in Malawi is in progress. National APPSA M&E Systems were established. Staff assigned with M&E responsibilities formed national M&E working groups to facilitate implementation of M&E activities and provide progress reports in implementation of activities during Project Steering Committee meetings. The project implementation unit staff had regular briefings with Chitedze, IIAM and ZARI Management on project progress. Environmental and social safeguard recommendations with respect to rehabilitation of infrastructure are being followed.

Across the RCoLs, the major procurement activities were on purchase of inputs for R&D projects, office and laboratory equipment, project vehicles, tractors and agriculture implements; activities related to rehabilitation of infrastructures at research stations. In general, procurement levels across RCoLs were low, but efforts were made to address the delays in procurement. The RCoLs also made progress in addressing financial management issues relating to accounting, internal controls, reporting and use of the countries' financial management systems.

3. KEY CONSTRAINTS

- The delays in opening of project accounts, and subsequent delays in disbursements of project funds negatively impacted on timely implementation of project activities.
- The retirements of advances by the scientists were very slow, resulting in very low disbursements for the majority of R&D projects (<10%). This negatively impacted on the pace of implementation of R&D activities.
- Information flow between the scientists within and across countries has been generally poor. The poor communication and collaboration between scientists across the implementing countries negatively impacted on finalisation of project protocols and proper planning for project activities. The scope and quality of the project activities was also negatively affected.
- There were capacity gaps among some scientists in how to carry out proposed research activities. This affected the quality of the research being conducted. Malawi should be commended for trying to address this challenge by engaging a team of seasoned scientists to mentor the young scientists.
- Some R&D projects faced mobility challenges due to unavailability of adequate transport. In addition, some of the essential inputs (seed, field equipment) was unavailable due to procurement issues.
- Despite having signed partnership agreements, some PIs and co-PIs were unclear of their roles and responsibilities, which led to weak partnerships.

- R&D scientists have not been submitting the semi-annual reports at the specified and agreed times. Reports for the first semester were submitted as late as four/five months after the expiry of the reporting period. Furthermore, the reports did not follow the agreed formats; the information required by the report format was not provided.
- The CCARDESA Secretariat did not receive regular updates from the RCoLs, and this negatively impacted on timely reporting or action to take. This also resulted in lack of clarity on the status of activities being undertaken in the countries.

4. LESSONS LEARNED

The important lessons learnt are given below.

- Working with multiple partners needs a good understanding of their attitudes and habits, and requires a great deal of sensitization and conviction in order to ensure that activities on the ground are done according to planned objectives. The high level of diversity of the partners is a challenge that the project needs to overcome in the overall coordination of project activities. All these important stakeholders must understand the project development objectives in order to make meaningful contributions to their achievement.
- A significant amount of technical backstopping is still required to assist the R&D scientists with the necessary skills and knowledge they need in terms of planning, monitoring & evaluation, ensuring the quality of science as well as accountability of resources.
- Physical visits to project sites by senior project staff and seasoned scientists help to improve the understanding among all project stakeholders. The project management staff is thus encouraged to pay frequent visits to the project partners to provide the required technical backstopping to field staff.
- In order to successfully increase the availability of improved technologies to farmers, concerted efforts to focus strongly on dissemination activities right at the beginning of the R&D projects are required. And there is need to include the relevant stakeholders, particularly extension/advisory service providers, private sector and farmers to ensure that the promising technologies reach end users.
- Frequent field monitoring and technical backstopping visits will help ensure quality and adherence to scientific principles in implementing R&D activities.
- The programme will greatly benefit from wider collaboration and partnerships with key stakeholders within the region and beyond.

5. RECOMMENDATIONS

- Information sharing between RCoLs needs to be improved. The CCARDESA Secretariat should look at alternative ways to ensure active interaction of scientist through the established commodity-specific D-groups.
- The level of institutionalization of M & E is quite variable across the three countries, and so are the levels of monitoring capacity among implementing partners. There is therefore a need for CCARDESA and the RCoLs to undertake some capacity building initiatives to improve capability in M & E.
- It is important to motivate the R&D project staff in order to ensure their

commitment to the project objectives.

- Given the potential for spill-over effects of the project outputs, there is major scope to increase awareness of the project to other member countries in the region to facilitate scaling out.

6. PROJECT HIGHLIGHTS

6.1. Technology Generation and Dissemination

- Implementation of the 49 R&D projects that were commissioned in the first and second cycles was initiated.
- Demonstration plots were successfully established to demonstrate the various technologies available (improved varieties of maize, food legumes and rice; improved agronomic practices [legume- maize rotations; good agronomic practices, nutrient management, water management])
- Beside demonstration plots, dissemination of technologies also took place through trainings, field days, information communication materials (brochures/fliers, leaflets, fact sheets, posters), electronic and print media, radio broadcasts.
- In an effort to strengthen seed delivery services, more than 400 farmers were trained in seed production. Farmers were contracted to produce certified seed. Some extension staff was trained and licensed, in an effort to decentralize seed quality control services. Agro-dealers were also trained in agribusiness skills and input management.

6.2. Regional Centre of Leadership Strengthening

- Thirty areas of high priority training needs for the RCoL scientists were identified, and it was agreed the most immediate needs were training on scientific and proposal writing, and M&E. The two trainings were conducted.
- A study visit to the Chinese Academy of Agricultural Sciences (CAAS) was undertaken by 7 APPSA staff. Following this successful visit, countries identified areas for strengthening collaboration with CAAS. An MoU with CAAS is scheduled to be signed in early 2015.
- A Regional Monitoring and Evaluation framework to guide APPSA operations was developed and shared with the implementing countries. An M&E manual and individual log frames for R&D projects have also been developed.
- A forum for networking and exchanges among scientists [commodity-specific D-groups] was created for maize and rice groups on a pilot basis.

6.3. Coordination and Facilitation

- CCARDESA identified a service provider (Impact Training Development Institute) to carry out training of trainers (ToT) in Results Based Monitoring & Evaluation for 15 Research and Development (R&D) staff from the APPSA countries. Fifteen participants (14 males and 1 female) took part in the training which aimed at

equipping participants with proper guidelines and tools to effectively implement M&E systems for the RCoLs Research and Development (R&D) interventions.

- The APPSA M&E working group was established, comprising the M&E focal points, coordinators and other staff appointed by the country authorities. The M&E WG has the following objectives: (i) serve as an internal forum for regional technical exchange and to advise on planning and harmonizing M&E approaches within APPSA (ii) act as a regional program mechanism for technical oversight and guidance on M&E matters during APPSA program implementation and (iii) serve as focal point for catalysing lessons learnt and to promote continuous adaptation of the APPSA M&E System
- Two implementation support missions to assess progress in implementation of planned activities at RCoL level were undertaken. So far, implementation of the project activities was rated medium satisfactory, and there are indications that progress is being made towards the project objective of increasing the availability of improved agricultural technologies in participating countries in the SADC region.
- Major procurement activities were undertaken on purchase of inputs for R&D projects, office and laboratory equipment, project vehicles, tractors and agriculture implements; activities related to rehabilitation of infrastructures at research stations.

ANNEXES

Annex1: Aggregate PDO Level Achievements as at 31 December 2014

| PDO Level Results Indicators | Unit of Measurement | Baseline Original Project Start (2013) | Target Values Y1 (2014) | | | | Actual Values Y1 (2014) | | | | Comment |
|--|---------------------|--|-------------------------|-----|-----|-------|-------------------------|-----|-----|---|--|
| | | | Mal | Moz | Zam | Total | Mal | Moz | Zam | Total | |
| 1. No. of technologies being made available to farmers & other end users | No. | 0 | 7 | 6 | 7 | 20 | 33 | 8 | 9 | <p>Some of the key technologies being disseminated are:</p> <ul style="list-style-type: none"> a) improved seed varieties (maize [including Pro vitamin A], rice, legumes [cowpeas, sugar beans, soybeans, pigeon peas], sorghum) b) Legume- maize rotations c) agronomic practices for legume seed production (isolation, spacing, fertilization) d) Nutrient management (different fertilizer regimes & combinations) e) Weed management f) Crop residue management g) Legume flour (bambarra nut; soybean) h) Good Soybean milk i) Rice post-harvest (storage) – stacked bags or bulk containers (wood, metal or cement) | |
| 2. % of lead farmers in targeted areas who are aware of an improved technology promoted by the Project | % | 0 | 60 | 60 | 60 | 60 | ND | ND | ND | ND | Indicator not quantified. Data on this indicator to be collected via surveys(periodic/special surveys) |

| PDO Level Results Indicators | Unit of Measurement | Baseline Original Project Start (2013) | Target Values Y1 (2014) | | | | Actual Values Y1 (2014) | | | | Comment |
|---|---------------------|--|-------------------------|------|------|-------|-------------------------|-----|-----|-------|--|
| | | | Mal | Moz | Zam | Total | Mal | Moz | Zam | Total | |
| 3. No. of technologies generated or promoted by the Project in one country that are released in another country | No. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | The project in Zambia is disseminating the Kilombero rice variety, a product of Malawi. |
| Beneficiaries 4. Direct Program beneficiaries ('000) | No. | 0 | 201 | 203 | 201 | 605 | 5.06 | ND | ND | 5.06 | This number of beneficiaries includes those individuals who were the direct recipients of technical cooperation aimed at strengthening their capacity to undertake development tasks that are directed at them. The numbers of beneficiaries reached by the project through field days, other project visibility materials such as pamphlets and fact sheets or through radio broadcasts were not quantified. Despite this, Malawi exceeded the target # of beneficiaries for the reporting period. Total number of beneficiaries was not quantified in Mozambique and Zambia. |
| <i>of which LFs ('000)</i> | | 0 | 1.68 | 1.64 | 1.68 | 5 | 2.96 | ND | ND | | The lead farmers were engaged to participate in the field demonstrations, as well as in activities such as seed production. Data on number of lead farmers was not captured in Mozambique and Zambia. |
| <i>of which other farmers ('000)</i> | | 0 | 200 | 200 | 200 | 600 | 210 | ND | ND | | The Mozambique and Zambia RCoL reports did not capture this information. |
| <i>of which female (%)</i> | % | 0 | >30 | >30 | >30 | >30 | 34 | ND | ND | | The Mozambique and Zambia RCoL reports did not capture this information. |

| PDO Level Results Indicators | Unit of Measurement | Baseline Original Project Start (2013) | Target Values Y1 (2014) | | | | Actual Values Y1 (2014) | | | | Comment |
|---|---------------------|--|-------------------------|-----|-----|-------|-------------------------|-----|-----|-------|--|
| | | | Mal | Moz | Zam | Total | Mal | Moz | Zam | Total | |
| Intermediate Result 1: Collaborative technology generation and dissemination around priority farming systems | | | | | | | | | | | |
| 5. # of collaborative research or extension projects under implementation | No. | 0 | 2 | 3 | 2 | 20 | 7 | 8 | 11 | | A total of 25 projects commissioned in 2013 were under implementation. To avoid double counting, each country indicated the status of implementation of only the projects they were leading. The eleventh project in Zambia is on sorghum, which only Zambia is implementing. |
| 6. % of collaborative research or extension projects completed | No. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | No projects were expected to be completed during the first year of implementation. |
| 7. # of technologies generated | % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | No new technologies were expected to be completed during the first year of implementation. |
| Intermediate Result 2: Improved technical capacity to lead national and regional research and dissemination agenda | | | | | | | | | | | |
| 8. # of RCoL staff trained (disaggregated by gender & type of training) | No. | 0 | 700 | 700 | 700 | 2,100 | 105 | ND | 320 | | In Malawi, staff underwent training for a total of 107 technical training days (28 male; 77 female). The trainings were in financial management, administration, M&E, procurement and safeguards. In Mozambique, the information was not provided. In Zambia, 5 staff(1female) attended a short term training in M & E, 58 staff (18 female) attended a training in proposal writing, 1 female attended a training in computer application packages, 1 male staff attended training in financial management. |

| PDO Level Results Indicators | Unit of Measurement | Baseline Original Project Start (2013) | Target Values Y1 (2014) | | | | Actual Values Y1 (2014) | | | | Comment | |
|--|---------------------|--|-------------------------|-----|-----|-------|-------------------------|-----|-----|-------|---|---|
| | | | Mal | Moz | Zam | Total | Mal | Moz | Zam | Total | | |
| 9. # of research centers rehabilitated or equipped | No. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | In Malawi, a contract was drawn for hiring a consultant to conduct an architectural assessment of infrastructure. In Mozambique, bills of quantities and technical specifications for the rehabilitation of infrastructures and other premises at several IIAM research stations were completed. In Zambia, offices at the Mt. Makulu Research Station were re-painted, and the 3-km service road upgraded. | |
| Intermediate Result 3: Effective structures and systems for regional collaboration and R&D management | | | | | | | | | | | | |
| 10. Common M&E system being used by APPSA participating institutions | Yes/No | N/A | Y | Y | Y | Y | Y | Y | Y | Y | Y | All three countries endorsed the regional APPSA M&E framework which contains the Results Frame and core indicators for the three components of APPSA. This guides the implementation of M&E activities under APPSA. Templates for semi-annual reporting by the R&D Projects, and by the RCoLs were designed, and are used for standardised reporting. Comprehensive definition of indicators in the regional APPSA M&E framework was initiated, and is work in progress. The process involves precise definition of each core regional indicator, description of its unit of measure, data source, frequency of data collection (including data analysis and reporting) and responsible party. Formation of the APPSA M&E working group has also facilitated collective commitment towards a transparent and effective results monitoring and evaluation process for APPSA. |

| PDO Level Results Indicators | Unit of Measurement | Baseline Original Project Start (2013) | Target Values Y1 (2014) | | | | Actual Values Y1 (2014) | | | | Comment |
|--|---------------------|--|-------------------------|---|---|---|-------------------------|---|---|---|---|
| | | | | | | | | | | | |
| Intermediate Result 3: Effective structures and systems for regional collaboration and R&D management | | | | | | | | | | | |
| 11. No. of APPSA AWP drafted discussed & agreed on time | No. | 0 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 4 | The annual work plans for the RCOLs were drafted and approved by the respective national project steering committees/technical committees. The regional workplan was also drafted by CCARDESA and endorsed by the countries. |
| 12. No. of countries with redrafted revised seed policy in compliance with SADC harmonization framework | No. | TBD | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | Seed reform activities are taking place, and the countries are involved in a process of legal reform needed to domesticate the regional provisions in their respective national legislation. Work on revised seed policy commenced in Malawi where a consultant (Mr Richard Kachule) was hired to review the national seed policy and prepare the national seed strategy. A draft report on the assignment was availed to the Institution. In Mozambique, a workshop had been scheduled to take place before the end of the year 2014 to discuss basic and certified seed production issues. However, the workshop failed to materialise. |

Annex 2: List of R&D Projects

Round 1 (2013)

| Project code | Project Title | Principal Investigator/Institution |
|--------------------|---|---|
| MAIZE (MZ) | | |
| MZ-P01-2013 | Improving nutritional quality in maize in Mozambique, Zambia and Malawi | <i>Pedro Fato</i> – IIAM -Mozambique |
| MZ-P02-2013 | Disseminating improved maize varieties and agronomic practices among smallholder farmers | <i>Elizabeth M. C. Chuma</i> - DoA -Zambia |
| MZ-P03-2013 | Development and improvement of inbred lines tolerant to major storage pests | <i>Kabamba Mwansa</i> – ZARI -Zambia |
| MZ-P04-2013 | Improvement of integrated maize / dairy production systems | <i>Daniel Chiumia</i> - LUANAR -Malawi |
| MZ-P05-2013 | Improvement of post-harvest management practices in maize | <i>Charles Singano</i> – DARS - Malawi |
| MZ-P06-2013 | Development of maize varieties resistant to major diseases in Mozambique, Malawi and Zambia | <i>Egas Nhamucho</i> – IIAM -Mozambique |
| MZ-P07-2013 | Screening and promotion of striga tolerant maize varieties in Malawi, Mozambique and Zambia | <i>Cyprian Mwale</i> – DARS - Malawi |
| MZ-P08-2013 | Maize germplasm collection and characterization for climate change adaptation | <i>Nolipher Mponya</i> - DARS - Malawi |
| MZ-P09-2013 | Improving water use efficiency in maize production | <i>Isaac R Fandika</i> – DARS - Malawi |
| RICE (RC) | | |
| RC-P01-2013 | Rice germplasm collection and characterization | <i>Paulino Munisse</i> – IIAM -Mozambique |
| RC-P02-2013 | Development of improved rice varieties | <i>Herminio Abade</i> – IIAM -Mozambique |
| RC-P03-2013 | Enhancing productivity of improved rice varieties through the development of integrated crop management practices | <i>Marcos Langa</i> – IIAM - Mozambique |

| | | |
|---------------------|---|---|
| RC-P04-2013 | Promotion and dissemination of improved rice technologies for sustainable production | <i>Hideraldo Duarte –IIAM- Mozambique</i> |
| RC-P05-2013 | Strengthening rice seed delivery system for enhanced production among smallholder farmers | <i>Nathan Phiri –SCCI - Zambia</i> |
| LEGUMES (LG) | | |
| LG-P01-2013 | Improving bean productivity in low soil fertility and drought prone areas | <i>Manuel Amane – IIAM- Mozambique</i> |
| LG-P02-2013 | Developing bean varieties for high Fe and Zn with resistance to ALS and CBB | <i>Kennedy Muimui –ZARI-ZM</i> |
| LG-P03-2013 | Adaptation and promotion of bruchid resistant bean varieties in Malawi, Mozambique, and Zambia | <i>Annie Matumba - DARS - Malawi</i> |
| LG-P04-2013 | Improving groundnut productivity in low soil fertility and drought prone areas of Mozambique, Malawi and Zambia | <i>Amade Muitia – IIAM- Mozambique</i> |
| LG-P05-2013 | Breeding groundnut Varieties for multiple disease resistance, for quality and food market access in Mozambique and Zambia | <i>Kennedy Kanenga- ZARI-Zambia</i> |
| LG-P06-2013 | Strengthening food legume seed delivery systems in Malawi, Mozambique, and Zambia | <i>Nathan Phiri -SCCI - Zambia</i> |
| LG-P07-2013 | Up-scaling improved soybean production and utilization for enhanced nutrition and income generation | <i>Ndashe Kapulu - ZARI-Zambia</i> |
| LG-P08-2013 | Developing high yielding soybean varieties that are resistant to major diseases and with preferred market traits | <i>Stephen Chileshe- ZARI-Zambia</i> |
| LG-P09-2013 | Developing high yielding varieties and sustainable management practices for improved cowpea production | <i>Patrick Chiza Chikoti- ZARI-Zambia</i> |
| LG-P10-2013 | Development and promotion of improved pigeon pea varieties for increased and sustainable production | <i>Annie Matumba - DARS - Malawi</i> |
| LG-P11-2013 | Enhancing dissemination of food legume based technologies for increased production | <i>Patricia Kaoma -DoA-Zambia</i> |

Round 2 (2014)

| Project code | Project Title | Principal Investigator/Institution |
|---------------------|---|--|
| MAIZE (MZ) | | |
| MZ-P10-2014 | Investigating the occurrence of Maize lethal Necrosis Disease in Malawi, Mozambique and Zambia | <i>Doctor Gondwe-DARS- Malawi</i> |
| MZ-P11-2014 | Improving maize productivity and family income through cow's animal traction and organic fertilizer | <i>Rafael Escrivão-UEM- Mozambique</i> |
| MZ-P12-2014 | Improving and Sustaining Maize and Cowpea Productivity and Production among Smallholder Farmers in Malawi and Mozambique | <i>Henriques Colial-IIAM-Mozambique</i> |
| MZ-P13-2014 | Improving maize and bean yields through the increased farmer accessibility to integrated disease and pest management (IPDM) technologies for major pests and diseases of maize and common bean in Malawi, Mozambique and Zambia | <i>Elisa D.L. Mazuma-DARS-Malawi</i> |
| RICE (RC) | | |
| RC-P06-2014 | Participatory evaluation of improved rice varieties to increase productivity in Malawi, Mozambique and Zambia | <i>Tenyson R. Mzengeza – DARS-Malawi</i> |
| RC-P07-2014 | Improving rice productivity in saline soils and drought prone areas | <i>José Fagema-IIAM-Mozambique</i> |
| RC-P08-2014 | Improving Surface Irrigation Drainage Water Reuse for Rice Production | <i>Geoffrey Mwepa – DARS-Malawi</i> |
| RC-P09-2014 | Improving Smallholders Rice Productivity and Livelihood through the Introduction of Rice – Duck based Farming System in Mozambique and Malawi | <i>Mohamed Harun-UEM-Mozambique</i> |
| LEGUMES (LG) | | |
| LG-P12-2014 | Evaluation and dissemination of improved cowpea varieties in Mozambique and Zambia for enhanced food security, family nutrition and income | <i>Rogério Chiulele -UEM- Mozambique</i> |
| LG-P13-2014 | Efficacy of soil amendment with agricultural lime in reducing aflatoxin contamination in groundnuts in Malawi and Zambia | <i>Lester Botoman-DARS-Malawi</i> |
| LG-P14-2014 | Development of common bean and cowpea with aluminum tolerance | <i>Kalaluka Munyinda-UNZA-Zambia</i> |

| | | |
|--------------------------------------|--|--|
| LG-P15-2014 | Enhancing agro-processing and market access of food legume products for smallholder farmers in Zambia, Malawi and Mozambique | <i>Godfrey Mutale-ZARI-Zambia</i> |
| LG-P16-2014 | Screening common bean varieties with improved biological nitrogen fixation for yield and quality | <i>Virginia Chisale-DARS-Malawi</i> |
| LG-P17-2014 | Enhancing utilization and marketability of groundnut/bambara nut through processing and improved post-harvest practices | <i>Vincent Nyau-UNZA-Zambia</i> |
| LG-P18-2014 | Development of common bean and cowpea with bruchid tolerance | <i>Langa Tembo-UNZA-Zambia</i> |
| MULTIPLE CROPS (MC) | | |
| MC-P01-2014 | Enhanced resilience to seasonal dry spells in rainfed soya, maize and upland rice using silicon-based fertiliser | <i>Kelvin Munsanje - MU-Zambia</i> |
| MC-P02-2014 | Evaluation of pesticide residues in legume and cereal cropping systems in Zambia, Malawi and Mozambique | <i>Mutinta Jessie Malambo-ZARI-Zambia</i> |
| MC-P03-2014 | Improving grains storage structures for smallholder farmers in Mozambique and Zambia | <i>Lucas Tivana-UEM-Mozambique</i> |
| MC-P04-2014 | Reducing Mycotoxin Contamination of Maize, Groundnuts and Beans to Improve Food Safety And Enhance Health and Trade | <i>Henry Njapau - NISIR-Zambia</i> |
| CONSERVATION AGRICULTURE (CA) | | |
| CA-P01-2014 | Herbicide weed control and performance among smallholder farmers practicing Conservation Agriculture | <i>Crispin Pumulo Kapunda-ZARI-Zambia</i> |
| CA-P02-2014 | Developing conservation agriculture maize-legume systems for smallholders farmers in Malawi, Mozambique and Zambia | <i>Oscar Chichongwe - IIAM-Mozambique</i> |
| CA-P03-2014 | Improving Soil Fertility and Reducing Green House Gas Emissions using Biochar in Conservation Agriculture | <i>Nkumbu Mutwale Mutale - ZARI-Zambia</i> |
| CA-P04-2014 | Evaluation of trade-offs of tradition and partial adoption of CA systems for improved food security and incomes | <i>Godfrey Sakala - ZARI-Zambia</i> |
| CA-P05-2014 | Disease and Pest Challenges in Maize Production under Conservation Agriculture Cropping Systems: What do we learn? | <i>Ivy Ligowe -DARS-Malawi</i> |

Annex 3: Possible areas of capacity building for R&D scientists

| | |
|--|---|
| 1. Information & Data Management; Knowledge management skills | 2. Research strategy and Priority-setting |
| 3. Scientific writing | 4. Agro-chemicals and environmental safety |
| 5. Proposal Development and resource mobilization | 6. Mainstreaming gender & environmental issues in AR&D |
| 7. Packaging/Dissemination of research outputs and scaling-out | 8. Food safety (toxicology, microbiology of pathogens, chemical contaminants) |
| 9. Value chain analysis | 10. Virus indexing and diagnostics |
| 11. Research Methodology | 12. Biosafety and stewardship |
| 13. Human Resource, Procurement and Financial Management | 14. Pest rearing, handling and preservation |
| 15. Facilitating partnerships and networking | 16. Laboratory Best Practices |
| 17. Team building and networking skills | 18. Participatory Policy Formulation and Analysis |
| 19. Project Monitoring & Evaluation; Results based Monitoring | 20. Statistical planning, analysis and error reducing techniques |
| 21. Research Management and Leadership | 22. Research farm management |
| 23. Disease and pest diagnostics, handling and surveillance | 24. Machinery maintenance and management |
| 25. Geographical Information System | 26. Germplasm evaluation and characterization |
| 27. Participatory Technology validation | 28. Molecular breeding/marker assisted selection |
| 29. Communication skills | 30. Weed Identification & Knowledge management |

Annex 4: 2014 CCARDESA APPSA WORK PLAN IMPLEMENTATION

| KEY ACTIVITY | IMPLEMENTATION STATUS |
|---|--|
| 1. Conduct a Concept Note endorsement workshop | <ul style="list-style-type: none"> – The workshop was held in Johannesburg in July, and 30 concept notes were endorsed for development into full R&D proposals. |
| 2. Peer review of approved project proposals | <ul style="list-style-type: none"> – A team of six reviewers from the SADC region appraised the projects according to an evaluation grid supplied in the call for proposals. The peer review process took place between 15 and 19 September 2014, and twenty four proposals were recommended for support. – Fourteen of the projects were deemed highly satisfactory, and could be implemented with minor corrections, while the other proposals require some moderate to major corrections before implementation |
| 3. Facilitate the convening of Annual Review and Planning Workshops with RCoLs | <ul style="list-style-type: none"> – The team agreed to defer this activity to November so that the PIs/Co-PIs of the new research projects would also participate in the meetings. – The meetings took place simultaneously in the three countries from 19 to 21 November. However, only Mozambique submitted the revised proposals after the meetings. |
| 4. Undertake training needs assessments and develop training manuals | <ul style="list-style-type: none"> – CCARDESA developed a list of skills and short term training required and forwarded the list to the countries for feedback. A list of high priority training needs was drawn during the Regional Wrap-up Meeting of the Implementation Support Mission in May. All agreed that the most immediate needs were training on scientific and proposal writing, and M&E. The trainings were undertaken during the year. |
| 5. Facilitate M&E training of RCoL staff | <ul style="list-style-type: none"> – CCARDESA sought for the services of a service provider (Impact Training Development Institute) to carry out training in Results Based Monitoring & Evaluation for 15 Research and Development (R&D) staff from the APPSA countries. – Fifteen participants (14 male; 1 female), six from Zambia, three from Malawi and six from Mozambique attended the training. The participants were from the Research stations (ZARI and IIAM) and from the Zambia Farmers Union, the Zambia Seed Centre and from the Ministry of Agriculture in Malawi. – The main objective of the M&E training workshop was to equip the participants with necessary skills in M&E so that they could be able to produce good quality project R&D project proposals. – A critical mass of staff in the project is now trained, and expected to use the skills gained in carrying out M&E activities of R&D projects effectively. |

| KEY ACTIVITY | IMPLEMENTATION STATUS |
|--|---|
| 6. Facilitate training of R&D staff on Project Proposal Writing | <ul style="list-style-type: none"> – A request for Expression of Interest was posted on the CCARDESA website and the activity was scheduled to take place between 6 and 15 August. However, following the exorbitant fees that the prospective service providers were charging, it was decided that in-country service providers be engaged by the individual countries. The countries engaged local consultants for the training. |
| 7. Develop a Regional M&E Framework for APPSA | <ul style="list-style-type: none"> – A regional M&E Framework document was developed and endorsed by all countries. An M&E manual and individual result frameworks for the R&D projects have also been developed but are yet to be finalised. |
| 8. Facilitate development of online M&E system | <ul style="list-style-type: none"> – The activity was deferred until finalization of M&E manual & tools |
| 9. Convene Regional M&E working group meeting (twice per year) | <ul style="list-style-type: none"> – ToRs for the APPSA M&E working group were drafted and shared with countries, after which the regional APPSA M&E working group, comprising the M&E focal points and coordinators, was formalised. – The working group has the mandate to (i) serve as an internal forum for regional technical exchange and to advise on planning and harmonizing M&E approaches within APPSA (ii) act as a regional program mechanism for technical oversight and guidance on M&E matters during APPSA program implementation and (iii) serve as focal point for catalysing lessons learnt and to promote continuous adaptation of the APPSA M&E System – The group held three face to face meetings and two virtual meetings to discuss and agree upon various M&E issues pertaining to the project M&E framework, M&E Manual, updating PIM etc. |
| 10. Facilitate baseline survey | <ul style="list-style-type: none"> – After assessing the 25 R&D projects from the first cycle, it was agreed that seven of them (2 in Malawi; 2 in Mozambique and 3 in Zambia) would require baseline information. – As there were delays in initiating the baseline surveys in all three countries due to baseline tools being developed and shared late, it was recommended that an assessment of the projects from the 2nd cycle requiring baseline surveys be conducted by RCoLs so that they could also be included in the baseline studies. |

| KEY ACTIVITY | IMPLEMENTATION STATUS |
|---|---|
| 11. Bench-marking visits to ASARECA & WECARD | <ul style="list-style-type: none"> – Benchmarking visit was undertaken by APPSA Regional Project Coordinator to the EAAPP Regional Steering Committee Meeting in Ethiopia. – Information sharing was established between the EAAPP Manager and APPSA coordinator, and regular updates on the two project are shared. – The APPSA Coordinator also engaged the WAAPP Manager to facilitate benchmarking visits to WAAP. The Manager agreed to facilitate benchmarking visits to countries working with commodities of interest to APPSA (Benin [maize], Burkina Faso [food legumes] and Mali [rice]). Translation services to be provided. The visits were deferred to next year. |
| 12. Facilitate scientific/exchange visits including across RCoLs, and with international R&D communities | <ul style="list-style-type: none"> – Requested EAAPP and WAAPP to share information about their scientific conferences in commodities for PIs for rice R&D projects to attend rice mini organised by EAAPP in Tanzania. – Seven RCoL staff and the APPSA Coordinator participated in a study tour to the Chinese Academy of Agricultural Sciences (CAAS) in June. – The visit to EMBRAPA is deferred to 2015 |
| 13. Facilitate participation in Regional Training Events for scientists | <ul style="list-style-type: none"> – Thirty thematic areas for capacity building were identified and prioritized by the RCoLs. – CCARDESA is in the process of identifying appropriate service providers for the identified training needs. |
| 14. Provide support on seed policy harmonization and advocacy | <ul style="list-style-type: none"> – Invited the SADC Seed Centre interim coordinator to the APPSA regional wrap-up meeting in May where he gave an update on regional seed policy issues, and it was agreed that the Technical Agreements with regard to Seed Harmonization Policy would be shared within the project. This would enable PIs/co-PIs to keep abreast and adhere to requirements for Regional Variety Release applications in terms of field trial methodology and data requirements. – A Regional Seed Policy Harmonisation Experience sharing workshop that was planned for November 2014 was deferred to 2015 due to time constraints |
| 15. Translate key APPSA documents into French and Portuguese | <ul style="list-style-type: none"> – No key documents for translation as yet. |

| KEY ACTIVITY | IMPLEMENTATION STATUS |
|---|---|
| 16. Production, printing and distribution of APPSA visibility/outreach materials | <ul style="list-style-type: none"> - Produced APPSA Banner, Brochure and Fact Sheet that were shared at regional fora. - Templates for R&D Project Summaries were sent to the RCoLs for completion so that the information could be posted on the APPSA webpage on the CCARDESA website. |
| 17. Field visits to RCoLs | <ul style="list-style-type: none"> - CCARDESA participated in the joint implementation support missions. The 1st support mission was conducted in all 3 countries in April 2014, while the second took place in October, and there were regional wrap-up meetings at the end of each Mission. |
| 18. Procure office equipment | <ul style="list-style-type: none"> - Some office equipment (desktop, laptop and camera) was procured. - Other equipment will be procured once the project officer is in place. |
| 19. Recruitment of APPSA Project Officer | <ul style="list-style-type: none"> - The recruitment process was initiated. - ToRs were developed and submitted to WB for No Objection - Advertisement was posted on CCARDESA website and prospective candidates short-listed - Interviews were conducted during 3rd week of December, and the officer is expected to assume duty in early 2015. |