

New Seed Initiative for Maize in Southern Africa (NSIMA) Phase II

Final Evaluation Report

For: Swiss Agency for Development and Cooperation (SDC), Cooperation Office, Southern Africa in Pretoria

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EXECUTIVE SUMMARY

Byerlee and Beicher observed in 1997 that Africa's food production gap demanded fresh thinking and urgent attention by scientists and policymakers. This is perhaps as true now as it was then. Presently, food insecurity and hunger affects more than sixty million people in Southern Africa every year. The New Seed Initiative for Maize in Southern Africa (NSIMA) Project, funded by the Swiss Agency for Development and Cooperation (SDC), was initiated in 2005 with the goal of stimulating the maize seed value chain in southern Africa. Phase I ran from 2005 to 2007, and Phase II from 2008 to 31 March 2011. Maize is the main staple for most countries in southern Africa.

The project is coordinated by the International Maize Improvement Center (CIMMYT) at the Zimbabwe Regional Office. Its vision was to build a comprehensive maize seed value chain functioning with strong public-private partnerships. To monitor success toward achieving objectives, the project developed a logframe around five outcome challenges (i) germplasm development, (ii) variety testing, (iii) variety registration, (iv) seed production, and (v) seed marketing (Appendix 3). The project is implemented through a network of multi-stakeholder National Coordinating Unit (NCUs) in the participating countries, with representation from the Ministries of Agriculture, NARS, universities, community-based farmer organizations, private seed companies and NGOs.

An outcome assessment of NSIMA I in October 2007 had showed that NSIMA I had been able to identify improved maize varieties, promote seed production and train partners in breeding, trial management and seed production, and played a supporting part in advocacy for seed harmonization within the SADC seed system. The assessment introduced an Outcome Mapping Monitoring and Evaluation System targeted at addressing constraints identified.

This evaluation of NSIMA II was conducted in May-June 2011, and looked into the following aspects:

- Delivery against the proposed objectives (efficiency, effectiveness) in light of the SDC mandate;
- Evaluation of the risks related to multiple partners and measures taken to minimize these risks;
- Potential synergies with other non-maize seed promotion systems.

The evaluation consisted of a desk study and field study. For the field study, four countries - DRC, Lesotho, Swaziland and Zimbabwe - were selected based on funds disbursed to the countries and the levels of activity.

FINDINGS AND CONCLUSIONS

Germplasm Development

With combined funding from NSIMA, DTMA and other sources, the project had achieved germplasm development in line with planned outcomes. The plan over three years was 5 new OPVs and 12 hybrids. A total of 7 new OPVs and 13 hybrids with CIMMYT germplasm were registered in SADC countries from 2008-2010. The other output challenge was 20 elite inbred lines with improved general combining ability released from 2008-2010. Over the three years, 16 elite inbred lines were released as CMLs in 2008, of which 12 were Imazapyr-resistant for *Striga* control, and 4 drought-tolerant lines. Eighty-eight (88) elite lines were released as CZLs during the period. Germplasm development was going on well and making available a wide range of materials for the NCUs to test and release in their countries. There is great reliance on CIMMYT to produce seed of the hybrids and the OPVs, which puts a strain on manpower and other resources on CIMMYT to the extent that the quantum of seed requested is sometimes not met. In addition, capacity challenges at NCUs occasionally result in delayed requests for seed, which results in delayed or no dispatch of seed to some NCUs.

Variety Testing and Registration

For variety testing and registration, the plan was for NARS and CIMMYT to produce VCU and DUS information of new stress-tolerant varieties that support variety registration applications of NARS and seed companies, and to hold three technical workshops on the SADC variety release system. In 2009, NSIMA supported one-day workshops on variety release in Malawi, Zambia and Zimbabwe. In 2010, NSIMA supported NARS to produce VCU and DUS information for variety release in the DRC and Swaziland. In addition, seed of new varieties for DUS/VCU trials was provided to seed companies and NARS. There is no Seed Act in place in Lesotho and the DRC. In Lesotho a draft seed policy has been prepared and awaits presentation to parliament; while in the DRC, there are seed regulations for seed certification but not an overall Seed Act.

Capacity Building

The range of training deemed necessary to meet the objectives of NSIMA included modern techniques in maize breeding, trials management, methods of data handling and analysis, field plot technique and VCU records, DUS testing and techniques of seed production, and on-farm trials and demonstrations. The project for the most part accomplished the training and capacity building objectives. For maize breeding techniques, the project trained 15 out of the 20 planned. In trials management, training of technicians was done in Mozambique and Zambia; and mother-baby trials training in Angola and Zambia. Seed company technicians were trained on seed certification, seed production, processing and quality assurance. One area that was not

accomplished was seminars between seed companies and retailers and wholesalers on the benefits and issues involved in seed selling. The main reason was that NCUs did not prioritize this activity. The overall effect is failure to stimulate the entire value chain as the project intended.

Variety promotion

Many variety promotion activities were carried out by CIMMYT and NCUs, including trials at farmers' fields and demonstration plots. A common challenge is poor data returns from demonstration plots and on farm trials - useful data from these efforts were sometimes as low as 40%. In countries visited, inadequacy of finances to conduct trials, shortage of staff to spread the promotion more widely, inadequacy in the number of extension staff and the lack of capacity to supervise the demonstrations and trials were reported. Challenges with transportation to sites were reported in all countries.

Resource Flows and Reporting

Whilst the project was accomplishing most the intended outcomes and outputs, the review found the need to increase budgetary support to NCUs to better accomplish objectives, improve the project's budget tracking systems, improve the flow of funds and other inputs to NCUs, and strengthen the corresponding M&E and financial reporting by NCUs.

Country reporting on utilization of finances needs to be strengthened and streamlined. The review team found that reporting is better in some countries, while in others it is not working efficiently. The result is delayed or no disbursement of funds, pre-funding by some, and postponed or lack of implementation in others. As funding increases, the need to strengthen and streamline the system will be even greater.

In some countries, seed produced is not reaching the market, despite reported strong demand. Greater attention is required in marketing, distribution, and advocacy efforts.

KEY RECOMMENDATIONS

- Capacity development activities be continued and strengthened in order to maximize the quality of data collected, reporting, field plot techniques, data analysis, seed certification, seed multiplication and other related issues in the seed value chain.
- Outcome and strategy journals be simplified and consolidated. Terminology used in these explained at the annual collaborators meetings and other forums.
- MOUs to be signed once during the life of the project, rather than annually, with appropriate clauses (i) to indicate they are incorporated by reference to each of the projects approved each year by the RSC, (ii) that funding is subject to availability of

funds, (iii) to enjoin project implementers. Hence, only the approved budget sheets need to be signed annually between CIMMYT and the respective NCU, which can be done immediately following the ACM.

- More stringent measures put into place to ensure timely NCU submission of M&E and financial reports. A financial reporting template be developed and circulated to the NCUs/NARS and the necessary training provided.
- NSIMA III consider the following; funding for the purchase of vehicles to support operations of the breeding program that forms the nucleus of improved cultivar development, support for rehabilitation of cold rooms, irrigation facilities and other important facilities in use by NCUs.
- Greater attention to marketing, distribution, and advocacy effort, and the stimulation of entrepreneurs to enter into seed multiplication and marketing in countries such as Swaziland, Lesotho, the DRC and Angola.
- Budgetary support to NCUs should be increased to reflect their key role within the NSIMA mission and the seed value chain and equip them to carry out more activities.
- At the ACM, the responsible NARS financial officer be invited to participate in order to understand the approved projects and assist in following up on accounting and M&E reports during the year and clear any misunderstandings on availability of funds to NCU members.
- Project to expressly incorporate a gender strategy in project design, implementation and reporting.

Acronyms and Abbreviations

ACM	Annual Collaborators Meeting
BMGF	Bill and Melinda Gates Foundation
CGIAR	Consultative Group on International Agricultural Research
CIMMYT	International Maize and Wheat Improvement Centre
CIMMYT Harare	CIMMYT Regional Office, Harare, Zimbabwe
CML	CIMMYT Maize Line
COMESA	Common Market for East and Southern Africa
CZL	CIMMYT Zimbabwe Line
DAR	Department of Agriculture Research
DOA	Department of Agriculture
DRC	Democratic Republic of Congo
DTMA	Drought Tolerant Maize for Africa
FANRPAN	Food Agriculture and Natural Resources Policy Analysis Network
M&E	Monitoring and Evaluation
MOU	Memorandum of Understanding
NCU	National Coordinating Unit
NGO	Non Governmental Organization
NSIMA	New Seed Initiative for Maize in Southern Africa
PI	Principal Investigator/Project Implementer
RPSA	Regional Programme for Southern Africa
RSC	Regional Steering Committee
SDC	Swiss Agency for Development and Cooperation
SAMP	Seeds and Markets Project
SIMLESA	Sustainable Intensification of Maize-legume Cropping Systems for Food Security in Eastern and Southern Africa
SSSN	SADC Seed Security Network
UNDP	United Nations Development Program
VRC	Variety Release Committee

INTRODUCTION

1. The New Seed Initiative for Maize in Southern Africa (NSIMA)

In 1997, Byerlee and Beicher observed in “Africa’s Emerging Maize Revolution” that Africa’s food production gap demanded fresh thinking and urgent attention by scientists and policymakers. This is perhaps as true now as it was then. Presently, food insecurity and hunger affects more than sixty million people in Southern Africa every year.

Maize is the main staple for most countries in Africa and continued production of improved seed varieties is critical for increased productivity. Although quality seed exist for many crops, the proportion of farmers that regularly use improved seed remains low.

The New Seed Initiative for Maize in Southern Africa (NSIMA) Project, funded by the Swiss Agency for Development and Cooperation (SDC), was initiated in 2005 with the goal of stimulating the maize seed value chain in southern Africa. Phase 1 ran from 2005 to 2007, and Phase II from 2008 to 31 March 2011.

Its vision is “a comprehensive seed value chain functioning with strong public-private partnerships that is developing and disseminating sufficient quantities of affordable quality seed of improved, adapted and appropriate maize varieties that will contribute to improving the livelihoods and food security of resource-poor small-holder farmers in southern Africa.”

The project is coordinated by the International Maize and Wheat Improvement Centre (CIMMYT) at the Maize Research Station in Harare, Zimbabwe and currently has activities in 10 countries: Angola, Botswana, Democratic Republic of Congo (DRC), Lesotho, Malawi, Mozambique, South Africa, Swaziland, Zambia, and Zimbabwe.

1.1 NSIMA II Key Result Areas and Expected Outputs

To stimulate the seed value chain, the project was designed to carry out the following activities: provide improved maize germplasm to the participating countries; technical support, training and coordination; identification of bottlenecks and opportunities by the respective countries; facilitation of capacity building of partners and farmers; and advocacy for appropriate policies, partnerships and promotional activities. It is implemented through a network of multi-stakeholder NCUs, with representation from the Ministries of Agriculture, NARS, universities, community-based farmer organizations, private seed companies and NGOs.

An outcome assessment of NSIMA I was carried out in October 2007. The assessment showed that NSIMA I had been able to identify improved varieties adapted and appropriate to resource-poor farmers conditions; promote seed production activities and train partners in crop improvement, trial management and seed production; and played a supporting part to SSSN in

achieving the acceptance of the SADC seed system. The assessment introduced an Outcome Mapping Monitoring and Evaluation System, which is a tool to be used for monitoring and evaluation of the project, targeted at addressing constraints identified.

1.2 Purpose and Focus of the Final Evaluation

This project evaluation focused on the second phase of the project, and reviewed the following aspects:

- Delivery against the proposed objectives (efficiency, effectiveness) in light of the SDC mandate;
- Evaluation of the risks related to multiple partners and measures taken to minimize these risks;
- Potential synergies with other non-maize seed promotion systems.

The evaluation was carried out in May-June 2011.

2. THE EVALUATION METHODOLOGY

The evaluation was conducted by a two-person team that brought into the assignment a thorough knowledge of maize breeding in southern Africa and development programme management. A number of key documents were availed to the team by SDC ahead of time for preliminary review. The timing of the assignment was quite delayed and the team travelled directly to CIMMYT Harare-initially the plan was to meet first with SDC. The first meeting was with the NSIMA Coordinator at CIMMYT Harare to discuss the terms of reference and obtain further background information on the project. The team spent the first few days carrying out a desk review of key documents to develop a methodological approach to the assignment, a data collection tool, an interview schedule, and an inception report.

The following categories of documents were reviewed:

- a) SDC 2009 Food Security Strategy and other documents relating to policy and operational procedures of SDC;
- b) The proposal documents of NSIMA I, NSIMA II and NSIMA III;
- c) Operating manuals, financial management protocols, monitoring and evaluation procedures, and the CIMMYT germplasm policy documents;
- d) The various reports, work plans, project reports (annual and semi annual) prepared by CIMMYT, financial statements, NCU reports, variety description pamphlets, technical bulletins, variety registration documents and other allied documents relating to the development, multiplication and distribution of pre-basic and basic seed.
- e) Other documents on projects closely allied to the work of NSIMA, such as Seed and Marketing Project (SAMP) coordinated by GRM International; the SADC Seed

Harmonization Project coordinated by FANRPAN; the DTMA Project funded Bill and Melinda Gates Foundation; the SIMLESA Project funded by Australian Aid (AUSAID), and related documents.

For the field study, four countries (DRC, Lesotho, Swaziland and Zimbabwe) were selected in agreement with SDC and CIMMYT based on the levels of funding disbursed to the countries and the levels of activity. Interviews were conducted with key informants at CIMMYT Harare; SDC in Pretoria; the NCUs and partners in the four selected countries; organizations implementing other SDC projects; private seed companies; and organizations implementing development projects closing related to the work of NSIMA. There are no significant study limitations that would affect reliability of the results. Although it was not possible to meet all the stakeholders in all the four countries selected, the countries' semiannual, annual and other reports filled this gap.

Structure of the report

The report is structured in a manner that responds directly to the evaluation questions as they appear in the terms of reference (Appendix 2). It presents the team's findings and conclusions on the three evaluation questions.

3: FINDINGS AND CONCLUSIONS

3.1 Success in Achieving Outlined Objectives (Policy, Research and Implementation Levels)

To monitor success toward achieving outlined objectives, the project developed a logframe around five outcome challenges - germplasm development, variety testing, variety registration, seed production and seed marketing (Appendix 3).

3.1.1 Germplasm Development: *To develop stress tolerant, more nutritious maize varieties with good performance and acceptance under resource-poor farmers' conditions in southern Africa.*

This outcome challenge was amply achieved. NSIMA funding along with DTMA and other funding contributed to the development of a wide range of inbred lines, hybrids, OPVs and segregating materials with resistance to a wide range of biotic and abiotic stresses. The objective of the second phase was to release 5 new OPVs and 12 hybrids. A total of 7 new OPVs and 13 hybrids with CIMMYT germplasm were registered in SADC countries between 2008-10. The other output challenge was 20 elite inbred lines with improved general combining ability released from 2008-10. Over the three years, 16 elite inbred lines were released as CMLs, of which 12 were Imazapyr-resistant for *Striga* control, and 4 drought-tolerant lines. Eighty-eight elite lines were released as CZLs during the period.

Distribution of germplasm

Germplasm development was going on well and making available a wide range of materials for the NCUs to test and release in their countries. A list of the materials sent to NCUs in 2010 is presented in Appendix 4. A total of 79 seed shipments were sent to NARS, seed companies, NGOs and other cooperating partners in 2010. These included seed of regional trials, breeders' seed for multiplication, inbred lines for hybrid cultivar development as well as segregating materials for testing at national level. Receipt of seed was confirmed by NCUs in the countries visited, namely the DRC, Swaziland, Lesotho, and Zimbabwe. In The DRC, the review team visited 2 locations (i) the Senga Lutanga farm where seed multiplication, cleaning and treatment for ZM 623 is done (ii) a storage warehouse within Lubumbashi where seed is stored (see Figure 1, page 15).

Challenges

Timing of harvesting and dispatch of seed to NCUs and the partners occasionally presents challenges. Seed sometimes arrives late or is sometimes not sent. Ordinarily, seed requests are done at the annual collaborators meeting held in August of each year, by which time NCUs are expected to have completed data analysis. However, capacity challenges at NCUs result in delays - delayed harvesting of trial due to limited resources, late processing of the trial material, and delayed data analysis. The net result is occasional delayed dispatch of seed to some NCUs.

The NCUs rely on CIMMYT to produce seed of the hybrids and the OPVs. This puts a strain on manpower and other resources on CIMMYT to the extent that the quantum of seed requested is sometimes not met.

Recommendation:

That the seed multiplication role of CIMMYT be escalated to satisfy the increasing demand for breeder seed.

CIMMYT Response: *Breeder and pre-basic seed production is increasing at CIMMYT-Harare, with added emphasis on this given in NSIMA-III and the proposed DTMA-III.*

3.1.3 Registration

The plan was (i) for NARS and CIMMYT to generate VCU and DUS information of new stress-tolerant varieties that support variety registration applications of NARS and seed companies, (ii) to hold three technical workshops (one per year) on the SADC variety release system.

In 2010, NSIMA supported NARS to generate VCU and DUS information for variety release in the DRC and Swaziland. In addition, seed of new varieties for DUS/VCU trials was provided to seed companies and NARS. In 2009, NSIMA supported one-day workshops on variety release awareness in Malawi, Zambia and Zimbabwe. The workshops brought together all the stakeholders who are involved in variety release and created dialogue between breeders and VRC members.

The review team noted that there is no Seed Act in place in Lesotho and the DRC. In Lesotho a draft seed policy has been prepared and awaits presentation to parliament. In the DRC, although there are seed regulations for seed certification, fake seed merchants who market grain as seed were reported. Seed Acts and other statutes provide the regulatory framework for registration of crop varieties and seed quality. Countries may also seek accreditation to the International Seed Testing Association, which enables such countries to export seed to international markets. Lack of plant breeders rights may dissuade seed companies from operating in a country.

Recommendation:

NSIMA to provide policy support to Lesotho and the DRC in getting the Seed Acts enacted. This may entail working with FANRPAN in order for the Acts to be in line with the SADC harmonized seed law.

CIMMYT Response: *NSIMA is actively working with FANRPAN-HaSSP project, which while working in Swaziland, Zimbabwe, Zambia and Malawi, is expected to have spill-over effects in other SADC states. Where possible, CIMMYT will support seed harmonization activities in Lesotho and DRC, as well as in other countries in SADC*

In Lesotho and Swaziland, there are no variety release committees. Where variety release committees are in place and functional, challenges were noted with (i) differences in the instruments used to prepare data to support variety release, (ii) differences in the manner in which the same data is interpreted by different members in the variety release committee. This was reported by different members of the NCU in Zimbabwe and in the DRC.

Recommendation

NSIMA to undertake further capacity development for staff in the collection of DUS and VCU data in order to facilitate the variety registration process. The personnel involved in the variety registration and certification need further training.

CIMMYT Response: Training on DUS/VCU and variety release is planned for NSIMA-III for selected target countries. CIMMYT will also work with FANRPAN-HaSSP where called upon to participate in variety release training activities.

3.1.4 Capacity Building

There was a range of training deemed necessary to meet the objectives of NSIMA. This included new tools in maize breeding, trials management, methods of data handling and analysis, field plot technique and VCU records, DUS testing and techniques of seed production and on-farm trials and demonstrations. The project for the most part accomplished the training and capacity building objectives. For maize breeding techniques, the project conducted 16 training sessions out of the 20 planned. In trials management, the project supported technicians training in Mozambique, Botswana and Zambia in 2009; and mother-baby trials training in Angola and Zambia. The project also accomplished the intended training for seed company technicians on seed certification, seed production, processing and quality assurance. One area that was not accomplished was seminars between seed companies and retailers and wholesalers on the benefits and issues involved in seed selling. The project has planned to carry out 24 one-day seminars but did not hold any. There are several reasons for this (i) NCUs did not prioritize this activity and the project only acts in response to NCUs priorities (ii) NCUs tend to prioritize only those activities they have competence in (iii) lack of implementation of these types of activities may affect stimulation of the entire value chain (iv) where NCUs do not prioritize some activities deemed critical, the project should take proactive measures such as collaborating with other agencies with strengths in their field.

Recommendation

For critical activities which NCUs do not have competencies in or capacity to implement, NSIMA should take proactive measures, which may include collaborations with other agencies.

CIMMYT Response: Agreed. In NSIMA-III we expect to give more technical backstopping to NCUs, both in NCU management and NCU activities with partners.

A description of some of the training conducted under NSIMA in the countries visited is presented in Table 2.

Backstopping visits to NCUs were conducted by CIMMYT staff. During these visits, staff were provided with hands on training and guidance on how to deal with challenges encountered. The average success rate for on-farm trials was reported to be two out of every five trials conducted. This was attributed to multiple factors, among them loss of trials to damage by animals, and high variability in the data set that made the data of little value to the objectives. However the biggest

cause was cited to be the lack of capacity in the layout and management of the trials among the extension staff who supervised the conduct of the trials.

Workshops on seed multiplication:

Workshops on seed multiplication for smallholder farmers were conducted by the NCU in Lesotho. Funding for this was provided by the FAO with technical support from the NCU. The training was effective to the extent that the farmers agreed to organize themselves into groups such that all the neighboring fields carry the same variety during the multiplication stage to limit contamination through cross pollination. A total of 28 ha of seed multiplication of the cultivar ZM521 was under production at Maputsoe farm visited during the review.

In Swaziland a seed multiplication site by a member of the NCU, the African Christian College, was visited. The cultivar under multiplication was ZM309 on 3ha. The farm manager had visited CIMMYT Harare for seed production training; and a breeder from CIMMYT visited the farm to provide technical backstopping in the seed multiplication process. It was reported that training on seed multiplication had been provided under the FANRPAN HASP project at two other sites where community based seed multiplication was in progress.

In all countries, backstopping visits were conducted by CIMMYT staff to support the variety testing and seed multiplication efforts. The DRC, Swaziland and Lesotho all reported visits by CIMMYT staff for backstopping and training visits.

Most of the training is provided by scientists from CIMMYT. However, although there were statistics on the number and type of training provided no training reports were prepared showing the names of participants, venue and dates. In addition, no training evaluation reports were completed by participants.

These reports are necessary as a record of trainings done. Evaluation reports will help identify the skills gaps and the responses of the trainees and for tracking behavior change as a result of the training provided.

Where breeders were attached to CIMMYT as visiting scientists, there were no reports that were left at CIMMYT. Also, when CIMMYT scientists visited programs for backstopping, there were no trip reports prepared; except by a NSIMA consultant who provides backstopping to the DRC.

Recommendations:

A training database should be maintained on dates, venue and names of participants trained.

Participants should complete training evaluation reports after each training.

Visiting scientists to prepare a visiting scientist report as a record of the visit and so that the areas of benefit derived from the visit are outlined.

When CIMMYT breeders visit NCUs for backstopping visits, it is recommended that short trip reports be prepared in order to indicate the nature of the visit and areas where assistance was rendered.

CIMMYT Response: Agreed. A training database is maintained at CIMMYT headquarters, but this was not availed in time to the Reviewers. Training evaluations shall be integrated into training modules, and post-training and post-trip reports shall be produced.

3.1.5 Seed Distributed by CIMMYT

The quantities of seed distributed to the different countries visited are presented in Appendix 4. Some of the seed was sent directly to seed companies, and in other cases seed was sent to the NCU for onward transmission to the CBOs - such as in Lesotho and Swaziland. Seed multiplication was done mostly by seed companies in Zimbabwe, Zambia, Malawi and South Africa; whereas in the DRC, Lesotho and Swaziland, seed production programmes were carried out largely by community based organizations and farmers. In the DRC, seed production was carried out by NGOs and individual farmers under the supervision of the NCU.

3.1.5.1 Seed multiplication

Table 4 presents the area planted and the amount of basic seed produced in three of the countries that were visited. The seed multiplication schemes in these countries are still at infancy and the areas put under seed multiplication are still small. This is compared to countries with well developed seed industries like Zimbabwe where the total amount of seed produced annually is 35 000 to 40 000 tones. There is a need for increased participation by seed companies in Swaziland, Lesotho, Mozambique, the DRC and Angola. This can be achieved by putting in place of government-led incentive policies and through the enactment and enforcement of plant variety protection. In Lesotho, excessive rainfall caused significant failure.

3.1.6 Variety promotion

Many variety promotion activities were carried out both by CIMMYT and NCUs. These consisted of mother baby trials conducted at farmers' fields and demonstration plots. Demonstration plots were visited in Zimbabwe (Bindura, Hereford Farm) and in Swaziland (Mpuluzi area). In Swaziland, the farm visited is located in a high rainfall area where the soil has a low pH. The soils respond well to the application of lime to reduce acidity. The Government of Swaziland is providing lime to farmers. The application of lime to the maize fields had a major effect on the yield of the improved varieties. Farmers expressed their

appreciation for the support program and pledged to procure additional lime to supplement the government support. A common challenge faced is the poor data returns from on farm trials - useful data from these efforts were sometimes as low as 40%. In all countries visited, inadequacy of finances to conduct trials, shortage of staff to spread the promotion more widely, inadequacy in the number of extension staff and the lack of capacity to supervise the demonstrations and trials were reported. This was corroborated in annual and semi-annual reports from all countries. Challenges with transportation to sites were reported in all countries.

Recommendations

The continuation of variety promotion trials and demonstrations can be regarded as imperative to the dissemination of improved maize varieties. Additional finances need to be allocated to improve capacity of staff in NCUs and among extension staff to enable a wider reach out to smallholder farming communities and to improve data returns from these demonstrations and trials. The provision of vehicles to NCUs is expected to have far reaching and lasting effects in the variety development and dissemination activities of NSIMA. It is recommended that this possibility is considered in the next phase because it was a universal problem in all countries visited and reports from the other countries reveal the same.

CIMMYT Response: We concur that variety promotion activities are essential and need to be escalated in NSIMA-III. The provision of vehicles is certainly a highly expressed need from partner NARS, and we would appreciate SDC's serious consideration of availing funds for such.

3.2 Success in Resource Optimization

The use of resources was assessed against three criteria: utilization against budget; accomplished results vis-à-vis planned activities, and funding support to NCUs.

3.2.1 Utilization against budget

A total of US\$1,679,231 was provided for NSIMA II. In 2009, a reallocation was approved to move \$60,000 from the workshops & conferences line item to research and field (\$30,000) and collaborative projects (\$30,000). The justification was that 24 one-day seminars, 3 market surveys and 6 multi-stakeholder meetings were not held because the NCUs in the respective countries did not prioritize them. As recommended elsewhere in the report, the project should take proactive measures to address critical areas not prioritized by NCUs on the basis that the NCUs do not have the competencies required to implement these activities.

Total expenditures stood at US\$1,604,249 at 31 December 2010, the initial project end-date representing 95.5% of the grant amount. The remaining funds at that date totaled \$74,982. At the August 2010 ACM, activities approved for NSIMA 2010/2011 were deferred on the basis of insufficient funds, and were contingent on the signing of NSIMA III. In reality, with a closer budget tracking, the project would have realized that the funding available at that time was

sufficient to substantially support the 2010/2011 activities. The project realized this in December 2010 and made a number of disbursements to NCUs totaling \$40,000. This amount, plus the remaining balance at 31 December 2010, would have substantially covered the 2010/11 project activities.

Recommendation:

The project to institute improved budget tracking systems and procedures.

CIMMYT Response: Agreed. CIMMYT will strictly monitor the planned activities, budgets and expenses in this phase. New budget and expense report templates have been developed and will be instituted and monitored in NSIMA-III.

3.2.2 Accomplished results vis-à-vis planned activities

NSIMA II has built on the accomplishment of NSIMA I, where the Outcome Assessment found that the project had identified improved varieties, promoted seed production, carried out training and supported acceptance of the harmonized seed system. Still, the concentration of funding on NSIMA II was primarily on variety development and testing, training and backstopping and trials management. There are components of the seed value chain in which greater focus is now required, in particular seed marketing and distribution as reported in the DRC, Lesotho and Swaziland; training and capacity building, and variety promotion.

Accomplishments at the lower components of the seed value chain were more limited, with some activities such as seminars between seed companies and retailers and market surveys not being carried out.

Recommendation:

Greater focus is required in lower components of the seed value chain, in particular seed marketing and distribution, variety promotion and advocacy for appropriate policies, partnerships and promotional activities.

CIMMYT Response: Agreed; this is a focus of NSIMA-III

3.2.3 Support to NCUs

Funding support to NCUs was constantly reported as inadequate to meet the project objectives. Given their central position to accomplishing the NSIMA Mission, increased funding to NCUs is necessary. The review team was informed in Zimbabwe that funds were inadequate to meet objectives, since most NCU projects are based on the assumption of government contribution, which is not always forthcoming. Lesotho requested for more funds to be allocated for training

and seed marketing and distribution activities. At the 2010 ACM, one participant indicated that funds available for NCU meetings were insufficient to enable NCUs to function adequately. Other challenges cited by countries were limited funding for transportation, which means that projects may not be visited as often as required; support for publication of completed research work, refurbishment of laboratories, rehabilitation of non-functional cold storage facilities, rehabilitation of irrigation equipment, and support with inputs such as lime to control soil acidity.

Recommendation:

Budgetary support to NCUs should be increased in line with their central role within the NSIMA mission and the seed value chain to enable them to better accomplish project activities.

CIMMYT Response: CIMMYT will closely monitor the requirement of NCU project partners and we will request SDC for budget re-alignment if necessary.

3.3 Efficiency in the flow of inputs and other support to NCUs

3.3.1 Flow of Funds

The review team found that there is room for improving the efficiency in the flow of funds to NCUs, and for strengthening the corresponding financial reporting by NCUs in the use of funds.

The central point within the funds flow system is the RSC/ACM meeting held jointly with the DTMA Project every year in August. Prior to the meeting, NCUs make a call for project proposals, review them, and select the ones to present at the meeting.

The RSC deliberates on the proposals from each country and agrees on the ones to be funded for the coming year, taking into account available budgets and country and regional priorities. A list of the approved projects for the years 2008-10 appears in Appendix 5.

Following the ACM, CIMMYT sends to each NCU a Memorandum of Understanding, appending a list of the approved projects for that country. Among other things, the MOU specifies the financial limits, and the funds disbursement process, which can briefly be described as follows:

- First tranche of 60% within four weeks of return of the signed MOU, project workplans and budgets. The ideal timing for this is September /October.
- Second tranche of 40% within one week of receipt of a financial report for the 1st tranche together with M&E Outcome and Strategy Journals. The ideal timing for this is January/ February of the following year.

The review team found that this system is affected by delays. The first delay occurs with late submission of country project proposals to the Annual Collaborators Meeting. This was evident

from minutes of the 2008 and 2009 ACM meetings. At the 2009 meeting, the NSIMA Coordinator noted that “timelines for project submission were not being adhered to by NCUs and this caused constraints in collating and reviewing projects before the RSC meeting”.

Secondly, the signed MOUs are not all returned on time, and some not at all. For the two periods 2008/09 and 2009/10, a total of 18 MOUs were expected from nine countries. Twelve were signed and returned, representing 67% of expected MOUs. Of the twelve, five were returned more than seven months after the Annual Collaborators Meeting. An additional MOU was signed directly with a project implementer (principal investigator) to conduct training in South Africa on community-based seed production. Disbursements get delayed when return of MOUs is delayed.

Thirdly, the second tranche of 40% is dependent upon submission of a financial report for the first tranche, and M&E journals. The review team found that hardly any financial reports are submitted. Many M&E reports are also not returned or were not available to the reviewers. Most NCUs, except Zambia, return only the outcomes journal.

On financial reports, it was noted:

- i) There is no template or recommended format for the NCUs to use. This was indicated during field visits to the DRC, Swaziland, Lesotho and Zimbabwe and in reviewing the few reports submitted by countries. In Swaziland, the NCU had a financial reporting template for the SSSN project implemented by FANPARN, but not one for NSIMA.
- ii) The MOU requires at least two reports: an interim one for the first tranche, and a final one accompanied by certified copies of supporting documents upon project completion. The review team did not find any final reports, and hardly any interim reports.

The challenges associated with the signing of MOUs and the completion and submission of financial and M&E reports often present a dilemma to CIMMYT, whether to withhold funds and compromise activities and results, or release funds in the absence of reports. Based on interviews, it was apparent that CIMMYT, in order to maintain agreeable relationships with the NCUs, tends not to be aggressive in following up on outstanding reports. CIMMYT has sometimes completely withheld funding, as in the case of Lesotho for 2008/09, but there are instances where funding has been released in the absence of reports so as not to compromise activities and results.

Conversely, NCUs and project implementers often complain of delays in receiving funds. In some countries, such as the DRC, the implementers pre-finance activities. In other cases, activities are either postponed pending receipt of funds, or not implemented. Some of the comments during the review were (i) funds are released late, thereby delaying the NCU in supplying the inputs and funds to the various projects, (ii) release of funds tends to be held up

until responses from all countries have been received, and this leads to delayed supply of inputs to implementers, (iii) reduced funds resulted in reduced exposure of technologies to farmers, slowing down the adoption rate, (iv) farmers have complained about delays in the arrival of inputs to the extent that some trials were not planted because the implementing team did not visit at planting time to ensure the task was accomplished.

Other factors noted as contributing to delays were: banking regulations in some countries which make funds transfers difficult; in-country government accounting processes, particularly on bank signatories; in-country procurement procedures, especially for procurement of inputs for onward delivery to project implementers.

Recommendations

1. *MOUs to be signed once during the life of the project, rather than annually, with appropriate clauses (i) to indicate they are incorporated by reference to each of the projects approved each year by the RSC, (ii) on availability on funds, (iii) to enjoin project implementers/principal investigators. Hence, only the approved budget sheets and workplans need to be signed annually between CIMMYT and the respective NCU, which can be done immediately following the ACM.*

CIMMYT Response: This is a helpful recommendation, and it shall be implemented with the help of the Project Management Unit of CIMMYT.

2. *A financial reporting template should be developed and circulated to the NCUs/NARS in each country, and appropriate training provided in completing the template.*

CIMMYT Response: Expense report templates have been developed and will be utilized in NSIMA-III.

3. *The CIMMYT Harare Accounting Department to play a greater role in following on outstanding financial reports, in liaison with the finance officials at the NARS in each country.*

CIMMYT Response: Agreed.

4. *To enhance financial reporting, the responsible NARS financial officer to be invited to participate at the ACM in order to understand the approved projects and assist in following up on accounting and M&E reports during the year.*

CIMMYT Response: While this is a good recommendation, budgetary support for the ACM does not allow for large numbers of participants. We believe that the best way to deal with this is to provide clear guidelines to the NCUs and to ensure that no funds are released to NCUs until all M&E reports and account reports are satisfactorily supplied to CIMMYT. Furthermore, at the 2011 Annual Collaborators Meeting, in which the

inception of NSIMA-III will be collaboratively discussed with partners, financial and M&E procedures will be presented to assist partners in understanding project monitoring requirements.

3.4 Private Sector Contribution and Sharing of Costs

In the achievement of the objectives of NSIMA, the private sector and NGOs were found to participate actively at various stages of the seed value chain as members of the NCUs in Zimbabwe, The DRC and Swaziland. The NGOs participate through the provision of facilities and technical staff for the multiplication of seed e.g. the African Christian College in Swaziland. This is a partner in the NCU which provided 3ha of land with drip irrigation that was used for seed multiplication. In the DRC, the NGOs - World Vision, Mimosa and SENASEM -are involved with seed multiplication to provide to smallholder farmers in their agricultural support programs. Private sector companies participate in the evaluation of varieties from the CIMMYT program and proceed to release some of them as improved varieties and conduct demonstrations in farmers' fields. In the process, the companies contribute to the cost of evaluating improved varieties, promotion of the varieties through demonstrations, and dissemination through the multiplication and sale of seed. Examples of companies in Zimbabwe that were visited and are providing funds for the testing of varieties are AGRISEED and National Tested Seeds. National Tested Seeds is involved in the empowerment of farmers to multiply seed of the open pollinated variety ZM521 while PANNAR released the hybrid Pan 53 that originated from CIMMYT. Many other seed companies such as Seed Co, Progene Seeds in Zimbabwe, Lozane Seeds in Mozambique, and others in Zambia and Malawi utilize germplasm from CIMMYT which enhances the achievement of NSIMA objectives although they may not necessarily formally be working within the NSIMA initiative.

The private sector organizations conduct their own variety promotion exercises. For example, Pannar, Seed Co and Pioneer establish demonstration plots in areas where farmers and the general public can see, and National Tested Seeds markets seed in packs that carry a pamphlet to guide the farmer on the appropriate agronomic practices. Larger companies publish a list of the varieties they have in the market and avail them to farmers. Seed companies also provide resource persons during training and some pay for accommodation costs of their breeders attending training. In Zimbabwe, the companies provide transportation for monitoring of NCU field activities. Seed companies are also beginning to pay for germplasm freight charges where large quantities are involved.

In the DRC, NCU members involved in seed production provide bags, chemicals and equipment. In Lesotho, there is weak private sector participation in the seed sector. Only two seed companies, Pannar and Sensaco have some presence in Lesotho. Presently, there is no seed company represented in the Lesotho NCU. There is need to stimulate private sector participation

in seed multiplication and distribution in the country through appropriate policy support initiatives.

3.5 Models used by others such as the Drought Tolerant Maize for Africa (DTMA) Project.

The DTMA-southern Africa project is implemented by CIMMYT Harare using the same model as the NSIMA Project. No distinction is made. DTMA funds only drought-related activities. In countries where there is a mix of drought-related activities and non-drought related activities, such as QPM, DTMA will fund the drought component and NSIMA the non-drought component. In countries where DTMA is not present, such as the DRC, Lesotho and Swaziland, activities are exclusively supported through NSIMA funding. The only project that utilizes a different model is the SIMLESA project funded by Australian Aid, where funds are not channeled through CIMMYT but go directly to the NARS, through a sub-grant signed between CIMMYT and NARS. The SIMLESA project also provides that the grant recipient can utilize up to 25% of the funds to support other partners, or to support extension work.

3.6 RISK ANALYSIS

3.6.1 Programmatic and financial-investment risks

Country reporting on utilization of finances needs to be strengthened and streamlined. The review team found that reporting is better in some countries, such as Zimbabwe and Zambia. In other countries, the established system of signing MOUs and submitting financial and M&E reports is not working efficiently. The result is delayed or no disbursement of funds, which leads to pre-funding by some implementers, postponed implementation or lack of implementation. As funding to countries increases, so will the risk. Hence the need to strengthen and streamline the system.

The risk exists in some countries of seed produced not reaching the market, despite reported strong seed demand. In the DRC, a sizeable proportion of seed produced by NCU members in 2009/10 was taken up by the Ministry of Agriculture and warehoused. As shown in Figure 1 below, it was still there during the review. In Swaziland and Lesotho, farmers and NGOs who have taken up seed production face major challenges in marketing the seed.

Figure 1: Seed stored at a warehouse belonging to the Ministry of Agriculture in Lumbumbashi.



In all countries visited, the NARS cited the inadequacy of resources to implement the NSIMA program activities. A typical challenge in all programs visited was the shortage of vehicles to use for travelling to research sites. This is a major constraint affecting the accomplishment of the goals of NSIMA.

Staff turnover is also a challenge. In Swaziland and Lesotho, the previous NARS breeder had left the program and a new breeder had just been hired and requires training. Turnover, though sometimes inevitable, leads to instability and lack of continuity in the conduct of the programs. There is the need for continued emphasis on capacity-building and training by NSIMA.

Another risk is the number and level of training of breeders. The majority of breeders in the NARS do not have training to the level of PhD. In three of the NARS, at least one breeder has training at doctorate level while in four countries, there is at least one breeder undertaking PhD degree studies.

Of the ten countries under the project, only two of them, Zimbabwe and South Africa have functional cold room facilities while the others such as Zambia, Malawi and Mozambique have cold rooms that need rehabilitation. In Lesotho and Swaziland the programs do not have cold storage facilities. Seed kept at room temperature is vulnerable to pests and loss of viability due to fluctuations in the environmental conditions. The result is a need for annual seed multiplication of the germplasm lines that are used frequently in the breeding program, which puts a strain on limited resources.

The poor road network in some countries pose a serious threat to the dissemination of seed to farming communities. This is especially a challenge in the DRC where access to remote areas from the city of Lubumbashi is severely curtailed.

3.6.2 System in place to minimize the risks

The relationship between CIMMYT and the NCUs is guided by an MOU, which stipulates the conditions to be fulfilled prior to the disbursement of funds. It also sets out the M&E and financial reporting requirements. CIMMYT officials also make frequent country visits to monitor implementation of funded activities and hold meetings with the NCUs. All funding for project activities are approved by the Regional Steering Committee made up of the Chairs of each NCU. NCUs have to present and defend before the RSC the projects they intend to implement in their country. This is done at the annual collaborators meeting held in August each year which provides a forum for NCUs to present reports on the activities they have implemented in the previous year.

3.6.2.1 General observations on monitoring and evaluation journals

The M&E reports were generally incomplete. For example, on seed multiplication, no figures were presented on the total quantity of seed produced. They were also not always submitted on time.

The outcome journals do not appear to be well understood by the implementers and information provided does not often tally with what the journal requires. The strategy journal appears to be even less well understood, and was completed by only a few NCUs. It appears that members do not appreciate the purpose of the strategy journal and hence they do not attach much importance to it.

Implemented only three years ago, there is need to conduct workshops on the M&E tools, or include an M&E session in other ongoing workshops. This will provide an opportunity to re-acquaint the NCUs and partners with the tools, and obtain feedback from the users so that any needed changes can be effected. These workshops can also be used to introduce a financial reporting template. In addition, every opportunity should be taken, such as the annual collaborators meetings, to briefly re-familiarize participants with all the reporting requirements and deadlines. Participants should be requested to come to the ACM with any outstanding M&E and financial reports.

Recommendations

It is recommended that workshops be conducted to re-familiarise the NCUs and partners with the two M&E tools (outcome and strategy journals). These can be separate workshops, or an

M&E session can be incorporated in other appropriate workshops. These workshops can also be used to introduce a financial reporting template and provide the necessary training.

During the annual collaborators meeting in August every year, every opportunity should be taken to briefly re-familiarize participants with all the reporting requirements and deadlines. Participants should be requested to come with any outstanding M&E and financial reports.

CIMMYT Response: Agreed. While training has been given on Outcome Mapping M&E to some members of the NCUs in the early stages of implementation, clear documentation has been regularly circulated, and frequent follow-ups have been made, it is evident that the system is not well implemented at the national level. Thus, the inculcation of the M&E procedures into the normal operating activities of NCUs will be a major objective in NSIMA-III. Every opportunity will be taken to provide technical backstopping to our partners to fulfill M&E and financial reporting requirements.

3.6.3 Established control system at CIMMYT Harare

The CIMMYT Harare regional office benefits from established institutional processes. CIMMYT is governed by a Board of Trustees, which oversees activities at the headquarters and 13 regional offices. It is also a member of CGIAR, which provides a framework for collaboration and sharing of information and best practices, and a forum for interaction with the funders of agricultural research. Annual audits are carried out by an external audit firm. For the year ended 31 December 2010, the financial statements were audited by KPMG who gave an unqualified opinion.

At the regional office, the NSIMA coordinator is responsible for overseeing the implementation of the project. A Project Management Unit (PMU) at the headquarters provides support in processing of contracts, technical and financial reporting, and donor communications. The review team was advised that CIMMYT is in the process of building two databases (i) a *project manager* for project information/documents; and (ii) a *project management system* for monitoring the achievement of milestones and deliverables.

An Operating Manual (2005) is in place which outlines the policies on finance, purchasing, human resources administration, travel, inventory and fixed assets, vehicles and shipments of germplasm. A separate Human Resources Manual (2004) is also in place. CIMMYT headquarters has recently published *Policies on Finance and Accounting* which take effect from June 2011. Three CIMMYT Harare staff attended training on these policies in Mexico in April 2011.

The regional office uses a computerized accounting system, which tracks each project's transactions separately. Accounting reports are sent monthly to the headquarters. The review team was informed that there is a plan to move to an online accounting system through which headquarters can view transactions in real time.

Recommendation:

The intended creation of two databases, Project Manager and Project Management System will strengthen the control systems and should be fast-tracked.

CIMMYT Response: CIMMYT is implementing an organisation-wide project management system and this will be incorporated into NSIMA-III.

3.6.3.1 Observations on the established controls

1. Disbursements to countries

Amounts disbursed to countries are expensed directly upon payment, and not posted as advances to be expensed when financial and M&E reports are received. Hence, the amounts are assumed to be spent upon disbursement. The implication is there is no requirement for the accounting department to follow up or assist in following up outstanding reports and supporting documentation from the countries. Further, the regional office is not in a position to tell whether all disbursed funds have been utilized, or whether they were utilized for the activities the funds were approved for.

Recommendation:

Funds disbursed to countries be accounted for as advances within the accounting system and reconciled upon receipt of expenditure reports.

CIMMYT Response: In the sub-contracts with partners, we will include the deliverables (financial and technical) of our partners. All fund releases to partners will be reported under advances and once we receive the liquidation/financial report we will report it as actual expenses of the project.

2. Vehicle Use

The regional office had 28 vehicles at the time of the review. Travel is captured in movement logbooks (Appendix 6), except for about 10 vehicles assigned to the supervising scientists. The regional office employs two drivers, and the majority of vehicles are self-driven by research and other staff. Fuel is purchased in bulk and stored in a tank with a capacity of about 30-35,000 litres, which can last approximately 3-4 months. Fuel coupons are used to draw fuel, on the approval of the Administrator/HR Manager.

Recommendation:

All vehicle costs charged to the NSIMA project should be supported by vehicle movement logbooks.

CIMMYT Response: CIMMYT vehicle use is monitored by logbooks, and is satisfied that vehicle use proportional costing is adequate, since in many instances it is impossible to directly allocate particular trips to one or other project.

3. Personnel

As CIMMYT does not utilize a timesheet system, except for casual wage employees, time allocation between projects is done at the headquarters for internationally recruited staff. For locally recruited staff, the allocation is done in consultation with CIMMYT Nairobi because most staff are co-funded between DTMA, NSIMA, IRMA and other CIMMYT projects. Once a time allocation is agreed upon, it remains constant for a period of time, such as six months.

Although timesheets represent a more accurate basis of allocating time between projects, a recommendation on their use may not be appropriate without a more in-depth study of the institutional reasons for adopting a different model and the merits and demerits of introducing them. However, a system should be in place for senior level review and approval of time allocations to confirm they are representative of actual time spent on the different projects.

4. Procurement

Procurement is initiated through an internal purchase requisition, and approved by the supervising scientist for the project incurring the cost. Because of frequent travel, scientists can sign for each other. Reports are sent at the end of each month to each scientist to confirm that costs have been correctly charged to their project.

Three quotations are required for amounts above \$100. A sole source justification mechanism is in use when three quotations may not be appropriate. Once the quotations or sole source justifications are ready, an approved purchase order is issued to the selected supplier. Payments to suppliers are either in cash, cheque or by bank transfer. However, there is no procurement plan to guide overall procurements.

Recommendation:

An annual procurement plan should be established to guide procurements and provide a reference point on costs charged to different projects. The plan should have an appropriate approval mechanism for revising it when circumstances permit.

CIMMYT Response: CIMMYT has a thorough accounting procedure for procurement, with appropriate authorization mechanisms, *viz.*, CIMMYT has an approval mechanism and procurement process that is followed in all Country Offices and headquarter. Three quotations are required for all purchases more than \$500. All capital requests for the year are approved by the Program Director and Management Committee before acquisitions.

5. Travel and perdiems

CIMMYT has published perdiem guidelines to cover local and international travel. Internationally recruited staff are provided with CIMMYT Mexico credit cards to facilitate frequent regional travel. The credit card statements are reviewed first by CIMMYT Mexico. Copies of the statements are then sent to CIMMYT Harare for

reconciliation with the expense report submitted by the traveller. It was noted that a back-to-office trip report is not required to be submitted with the expense reports.

Recommendation:

A brief back-to-office trip report should accompany the expense report, as a record of the nature and purpose of the travel.

CIMMYT Response: Agreed – a short travel report will be submitted by all staff who conduct regional or international travel for NSIMA.

6. Project Financial Audits

The SDC-CIMMYT contract requires an external local financial audit to be carried out at the end of the project to cover the entire project duration, in line with the guidelines attached to the contract.

Recommendation:

It is recommended that a financial audit on NSIMA II be carried out in line with the SDC-CIMMYT contract.

CIMMYT Response: This is being implemented.

3.6.4 Selection criteria for partners

In all countries visited, Zimbabwe, DRC, Lesotho and Swaziland, the NCUs are formulated by inviting stakeholders – NARS, seed authorities, community based farmer organizations, parastatal organizations, private sector, NGOs and others - to join. Participation is open to all invited stakeholders, and in some countries, the composition is more comprehensive and inclusive.

Project implementers (referred to as principal investigators in the MOUs) are selected based on the proposals they submit after a call for proposals by the NCUs. The NCUs scrutinize the proposals and select those to present to the Regional Steering Committee for funding. The RSC approves a number of proposals for each country based on budget and priority considerations. No due diligence is carried out but the principal investigators are incorporated by reference into the MOU signed between CIMMYT and the NCU. The NCU has primary responsibility to monitor the accomplishment of funded activities. In Zimbabwe, the NCU has a system of allocating monitoring and supervision of activities to sub-teams within the NCU. The sub-teams report back at NCU meetings on the activities they have monitored. This is a particularly useful model that can be replicated in other NCUs.

Recommendation:

NSIMA should consider replicating in other countries the team-approach model used by the Zimbabwe NCU in monitoring and reporting back on project activities.

CIMMYT Response: The NSIMA approach is used in most CIMMYT coordinated projects.

3.6.5 Risk that the new seeds benefit only the larger seed companies

Appendix 4 shows the summary of seed shipments in kilograms per consignment sent from CIMMYT to NCUs in 2010.

CIMMYT does not view that private companies would benefit more from the CIMMYT products compared to the farmers. When the cultivar is successful and farmers prefer it, then the private company has a market and they produce more. The two are tied and it is unlikely that the private company will make large profits at the expense of farmers. The pricing of the product finds an equilibrium level that is sustainable for the farmers if there is adequate competition in the market.

CIMMYT works with all categories of stakeholders in the effort to deliver seed products to the farmers, but has been working more with smaller emerging companies that do not have a breeding program.

Seed multiplication is done by both the larger and the emerging companies. The larger companies carry their own maize breeding programs - such as Seed Co, Pannar and Pioneer. In Malawi, Zambia, Zimbabwe and South Africa there is a wide range of large seed companies while in Lesotho, Swaziland, the DRC and Angola, there are no large companies with a significant presence. The smaller seed companies such as Agriseed and National Tested Seeds in Zimbabwe and to some extent in Malawi utilize largely the OPVs. The larger companies carry low volumes of OPVs - usually 20% or less. There is therefore reduced risk that the new improved varieties benefit only the larger companies because they prefer to carry hybrid cultivars from their own programs. The larger companies cannot be the only beneficiaries because for success, the pricing of the seed needs to be within the affordable range for the farmers. Therefore sales volumes can only increase if the pricing covers the majority of farmers. The benefit by the larger seed companies cannot therefore be at the exclusion of farmers in terms of their ability to access good quality seed at affordable prices.

3.6.6 Gender Perspective

CIMMYT acknowledged that the gender perspective was not expressly integrated into the development and implementation of the NSIMA II project. However, it is evident that CIMMYT International has for long studied and integrated gender perspectives into aspects of its work. As early as 1996, it carried out a study on Gender Issues in the Workplace at its Mexico headquarters. This study was published in 1999 by The Center for Gender in Organizations.

CIMMYT also has access to the CGIAR Gender Program, and is also a member of the Program on Participatory Research and Gender Analysis (PRGA) whose work is to develop and promote methods and organizational approaches for gender-sensitive participatory research on plant breeding and on management of crops and natural resources.

The prime objective of a gender approach is to ensure men and women participate and benefit in an equitable manner in project activities by creating an enabling environment. For these opportunities to be maximized, experts recommend that the gender approach be applied during all the stages of project design. This will entail involving men and women in:

- The project design team;
- Defining the objectives of the project;
- Deciding on the activities to be carried out;
- Defining the monitoring and evaluation indicators by which achievements will be measured;
- Agreeing on the project budget.

In one of the PRGA published papers, New Directions in Participatory Plant Breeding, the researchers state that “by not involving women in participatory plant breeding, we are missing a significant proportion of the farming population, as research elsewhere clearly demonstrates that men and women have different priorities in their farming and crop variety choices, regarding selection and specific preferences”.

Although gender was not explicitly built into the NSIMA II process, the review team observed that the DRC NCU, whose members are also key project implementers, has a well balanced gender composition. Of the 11 (out of 16) NCU members who attended a meeting with the review team on 7th May 2011, five were women and six were men. The energy and vibrancy at the meeting was perhaps evidence of the benefits of a gender-inclusive membership. The benefits of gender inclusiveness cited by the NCU members during the meeting were: greater transparency; greater commitment by women; women are more meticulous; and agricultural activity mostly involves women.

Recommendations:

NSIMA III to include a gender approach in its design and implementation, by

- *Identifying gender constraints;*
- *Identifying entry points & developing entry strategies;*
 - *Developing gender sensitive targets;*
- *Sensitising project implementers to adopt gender integration approaches.*

CIMMYT Response: Agreed. While gender-preference information on variety selection has been surveyed in some countries, such as Malawi, where the very early ZM309 variety was identified by women as being important to home food security, gender integration has not been widely incorporated in earlier phases of NSIMA. Thus, NSIMA-III will take greater cognizance of gender integration.

3.7 Synergy with other SDC projects

The two SDC-funded projects that were reviewed are the Seeds and Markets Project (SAMP) implemented by GRM International, and the SADC Seed Security Network SSSN: Domestication of Harmonized Seed Policies which is implemented by FANRPAN.

I: NSIMA and SAMP Projects

The technical focus of the SAMP project is targeted capacity building for farmers and extension services, kick-starting markets through enhancing the availability and accessibility of quality seeds and other inputs; improved input and output markets for farm produce; and knowledge management and sharing with key stakeholders. The geographic focus is 3 countries: Zimbabwe, Swaziland and Lesotho.

There is a healthy overlap in the objectives and activities of both projects. Apart from the provision of maize germplasm, which is the institutional strength of CIMMYT, and knowledge management – which is not a key focus of NSIMA, but is of SAMP - the other themes – training, capacity building for farmers; accessibility to quality seed; and building partnerships –a common feature of the two projects. Rather than present a problem, this overlap presents an opportunity to leverage resources, broaden the circle of partnerships, and provide an opportunity for a collaborative approach with SAMP to help in addressing some of the challenges NSIMA is facing in stimulating the seed value chain, particularly in marketing, distribution and training. This can be achieved through agreed mechanism. Potential cooperation areas:

Marketing & Distribution:

The key issue facing farmer groups visited in Swaziland and Lesotho was finding a market to sell produced seed. This was cited by the African Christian Church in Swaziland, farmers in Matsapha Swaziland, and the Maputsoe farmers group in Lesotho. This is despite the existence of strong demand for quality seed in the two countries. There is a real need to connect farmers to markets. The farmers informed the review team that they had been trained in seed production, but not in marketing and distribution. But they had ideas on what needs to be done. For example, the farmers at Maputsoe had the following suggestions: a radio program to talk about seed; countrywide talks to market the products themselves; Ministry of Agriculture help with demonstrations across the country; the government to buy their seed first before importing; the government to reduce subsidies for imports; and consumer sensitization about improved seed

vis-à-vis ordinary seed. Collaboration with the SAMP Project presents an opportunity to find practical strategies to connect farmers in Swaziland and Lesotho to the market. The strategies employed in these two countries, when successful, may also be replicated by NSIMA in other countries facing similar challenges, such as the DRC.

Training and Capacity Building:

SAMP interfaces with NSIMA through the provision of seed production training to farmers in Zimbabwe by CIMMYT staff.

Field Office in Swaziland and Lesotho:

SAMP plans to open field offices in Swaziland and Lesotho. When established, NSIMA can explore a working relationship to take advantage of SAMP's presence in these countries. An appropriate MOU can be developed to set out the terms. The SAMP Project already has an MOU with CIMMYT Harare.

II: NSIMA and SADC Seed Security Network SSSN: Domestication of Harmonized Seed Policies

One of the sites visited during the review was the African Christian College, Swaziland. The site is receiving support from both NSIMA and SSSN. It planted ZM309 after receiving seed, seed production training and technical support from NSIMA. The construction of the maize crib was reported to have been funded by FARNPAN. Further to this, seed cleaning equipment was expected from FARNPAN under this project. These reports were corroborated in the interview with the FARNPAN in Pretoria.

The SSSN is receiving support from SDC to work initially in 4 countries- Malawi, Swaziland, Zambia and Zimbabwe. USAID is funding its work in another 5 countries – Angola, Botswana, Mozambique, Namibia and Tanzania. Also, FARNPAN supports training of smallholder framers in seed multiplication. In this effort, FARNPAN cooperates with NSIMA through the involvement of CIMMYT staff. In this regard, there is a point of convergence with the NSIMA mode of operation. The point of convergence of NSIMA and FARNPAN is in the strengthening of the seed value chain to enable access to affordable, good quality seed of improved maize varieties to smallholder farmers in sufficient quantities in order to increase production.

Figure 2: Maize shelling at African Christian College, Swaziland



3.8 NSIMA as a model to develop other seeds in the region e.g. legumes, using other centres such as CIAT, ICRISAT, GART

There are seed production and distribution challenges with a range of other crops that have been documented. The production and multiplication of seed of groundnuts, common beans, cowpeas, Bambara nut, sorghum and pearl millet is widely reported to present challenges in SADC. There are programs of varying strength in the development of improved varieties of these crops in the different countries.

The international bean improvement center (CIAT) has a regional station in Malawi and Zimbabwe. The Center in Malawi develops improved varieties of common beans. The regional station in Harare is presently working with GRM International on multiplication of beans in the

Zaka District of Zimbabwe. The focus is on enabling the farmers to derive benefit from producing the commodity at a level that brings significant incomes.

The low productivity of smallholder farmers in SADC is widely attributed to low soil fertility. The main focus of CIAT therefore is to address soil fertility and to maximize productivity. The program is supported by the Southern Africa Challenge Program. The CIAT program also works with farmers to link them to markets through post harvest handling and contract farming where CIAT teams look for markets in advance.

The NSIMA model can be adapted for the promotion and dissemination of improved seed of common beans, cowpea, and sorghum. Collaborative arrangements for groundnut can be developed with the ICRISAT groundnut project based at Chitedze research station in Malawi. For sorghum, a similar link can be created with the ICRISAT regional project based in Bulawayo, Zimbabwe while linkages for cowpeas can be developed with the International Institute for Tropical Agriculture (IITA) in Ibadan, Nigeria.

What lessons can be drawn from the NSIMA experience that are relevant to solving the seed availability challenges described above?

1. The NSIMA project provides an effective conduit for germplasm to be transmitted from CIMMYT to the NCUs.
2. The NSIMA model was successful in releasing improved maize varieties in all the countries covered by the project.
3. The provision of training and technical backstopping to programs proved to be an important component in the achievement of the objectives of NSIMA.
4. The success in releasing varieties was determined by the strength in organization of the NCU.
5. The planning of NSIMA assumes that certain basic resources such as transport, building, seed storage facilities will be provided by the national governments through the ministries of agriculture. However in all countries visited the inadequacy of transport facilities was a persistent problem, more so in some countries than in others.
6. The dissemination of seed through marketing depended substantially on the presence of established seed companies.
7. Some countries have well developed seed companies while others remained constrained by the absence of seed companies.
8. Community based seed multiplication groups can multiply seed of improved varieties provided training is provided to the members. However, in the absence of an agency to buy and disseminate the seeds, the capacity of community based seed multiplication groups is limited.

9. Infrastructure in terms of roads that connect to areas distant from areas of multiplication is a key component in the success of the NCU in reaching out to the farmers.
10. Delays in the dispatch of seed from CIMMYT were experienced. This was due to the advanced stage at which requests for seed were sent by NCUs to CIMMYT.

4.0 RECOMMENDATIONS

It is recommended that capacity development activities be continued and strengthened in order to maximize the quality of data collected, reporting, field plot techniques, data analysis, seed certification, seed multiplication and other related issues in the seed value chain.

It is recommended that reports on the following be documented; backstopping visits, workshop participant evaluation, workshop proceedings, visiting scientists, training sessions and visiting scientist impressions.

The outcome and strategy journals be simplified and consolidated to make them more user friendly. Terminology used in these should be explained at the annual collaborators meetings.

The purpose of the strategy journal needs to be explained to members. A clear appreciation of the value of the strategy journal would improve the frequency of submission for this journal.

More stringent requirements should be put into place to ensure timely submission of monitoring and evaluation reports by NCUs.

The project to institute a better budget tracking system, either at the Project Management Unit at headquarters, or by assigning this responsibility to a senior official at the regional office .

It is recommended that ameliorative steps be put in place in order to ensure to determine what was done, what was missed out and reasons be presented why planned projects or training were not conducted. Necessary steps need to be taken to correct such failures.

Timeliness of harvesting, dispatch of seed, planting of materials, processing of trials, collection and analysis of data should be improved in order to improve the robustness of the variety trials and demonstrations conducted by NCUs.

It is recommended that NSIMA III consider the following; funding for the purchase of vehicles to support operations of the breeding program that forms the nucleus of improved cultivar development, support for rehabilitation of cold rooms, irrigation facilities and other important facilities as required by the NCUs.

Marketing

The stimulation of entrepreneurs to enter into seed multiplication and marketing may assist in countries such as Swaziland, Lesotho, the DRC and Angola.

Budgetary support to NCUs should be increased to reflect their key role within the NSIMA mission and the seed value chain and equip them to carry out more activities.

MOUs to be signed once during the life of the project, rather than annually, with appropriate clauses (i) to indicate they are incorporated by reference to each of the projects approved each year by the RSC, (ii) that funding is subject to availability of funds, (iii) to enjoin project implementers. Hence, only the approved budget sheets need to be signed annually between CIMMYT and the respective NCU, which can be done immediately following the ACM.

A financial reporting template should be developed and circulated to the NCUs/NARS in each country and the necessary training provided.

Tracking of expenses should be intensified through vehicle movement logbooks to be completed for all costs charged to NSIMA.

The CIMMYT Accounting Department to play a greater role in following on outstanding financial reports, in liaison with the accounting officials at the NARS in each country.

At the ACM, the responsible NARS financial officer should be invited to participate in order to understand the approved projects and assist in following up on accounting and M&E reports during the year and clear any misunderstandings on availability of funds to NCU members.

Develop gender sensitive implementation procedures through inclusion of gender sensitive targets, inclusion of gender integration approaches and assessment systems to capture gender balance in programs and recording of gender balance among individuals participating in the different activities.

Table 1. Present status of seed control legislation in countries under NSIMA

Seed Control Legislation				
	Seed Act	Plant Variety Protection	Variety Registration	ISTA Accreditation
Angola	Yes	No	Yes	No
Botswana	Yes	No	Yes	No
DRC	No	No	Yes	No
Lesotho	No	No	Yes	No
Malawi	Yes	No	Yes	Yes
Mozambique	Yes	Yes	Yes	No
South Africa	Yes	Yes	Yes	Yes
Swaziland	Yes	No?	Yes	No
Zambia	Yes	Yes	Yes	Yes
Zimbabwe	Yes	Yes	Yes	Yes

ISTA International Seed Testing Association. Adapted from Lanyintuo, Mwangi, Diallo, MacRobert, Dixon and Banziger (2008).

Table 2. Training in seed multiplication reported in the various countries visited.

Country	Training provided	Funding Agency	Beneficiaries
Zimbabwe	Seed multiplication	AECF GRM/SAMP (Proposed program)	CBO
Swaziland	Seed Multiplication	FARNPAN/HASP COMESA/COMRAP	CBO
Lesotho	Seed multiplication	FAO	CBO
DRC	Seed Multiplication	NCU members	CBO/Seed Companies

Table 3. Training provided by CIMMYT to different members in national coordinating units from 2008 to 2010.

Training type	Categories trained And number trained	Year
Stress breeding Techniques	Seed company 20 technicians	2008-2010
Short term Visiting Scientists	20 visiting scientists from NARS	2008-2010

Source CIMMYT – NSIMA outputs 2008-2010

Table 4. Area planted and amount of basic seed produced in the countries visited.

Country	Season	Area planted	Amount of seed produced/basic comment
DRC	2010/11	2.25. (NCU)	750kg
Lesotho	2010/2011	2.71 (NCU)	Crop failed
Swaziland	2010/2011	3.0 (NCU)	Crop outlook good-harvesting Crop harvesting was in progress
Zimbabwe	2010/2011		35000 tonnes

Active basic seed production

Table 5. Private companies and NGOs involved with testing multiplication and dissemination of improved maize varieties developed by CIMMYT in countries visited.

Name of Organization	Type of Organization	Activity in maize seed value chain	Country of activity
SEEDCO	Private	Evaluation and multiplication	ZA, ZW, ZM, MW
Progene	Private	Evaluation and multiplication	ZW
National Tested Seeds	Private	Evaluation and multiplication	ZW
Agriseeds	Private	Evaluation and multiplication	ZW
Pannar	Private	Evaluation and multiplication	ZW

Table 6. List of varieties released by national programs in the different cooperating countries.

AO	CD	LS	MW	MZ	ZA	SZ	ZM	ZW
			DARS	IIAM		CAR		CBI
IIA								CBI
IIA		DCR	DARS	IIAM	ARC-CGRI		ZARI	CBI
IIA		DCR			ARC-CGRI		KAMANO	CBI
IIA		DCR	DARS	IIAM	ARC-CGRI	CAR	ZARI	CBI
IIA			DARS	IIAM	ARC-CGRI			CBI
			DARS		ARC-CGRI	CAR		
IIA			DARS	IIAM			ZARI	
IIA	UNILU	DCR	DARS		ARC-CGRI			Seedco

AO= Angola, CD=Democratic Peoples Republic of Congo, LS=Lesotho, MW=Malawi, SZ=Swaziland, ZA=South Africa, SM= Zambia, ZW=Zimbabwe.

Total basic seed production in all countries 2005 – 2009 = 282 tonnes

Table 7 : Status and dates of return of signed MOUs for 2008/09 and 2009/10

		2008/09	2009/10
1	Angola	1-Nov-08	Unavailable
2	Botswana	N/A	N/A
3	DRC	15-Oct-08	3-Apr-10
4	Lesotho	Unavailable	9-Sep-10
5	Malawi	Unavailable	31-Mar-10
6	Mozambique	Unavailable	19-May-10
7	South Africa	Unavailable (A separate MOU signed 16-Nov-08 with a Project Implementer)	Unavailable
8	Swaziland	10-Oct-08	7-Apr-10
9	Zambia	13-Oct-08	Signed
10	Zimbabwe	22-Oct-08	23-Oct-09

Table 8 .Number and level of training of breeders in the nine participating countries under the NSIMA project.

Country	Number of Breeders	Highest Level of Training	Number Currently in training
Zimbabwe	2	M.Sc.	1 currently in PhD training
Zambia	4	M.Sc.	1 currently in PhD training
Malawi	2	M.Sc.	1 currently in PhD training
Mozambique	4	3 M.Sc. & 1with PhD	1 currently in PhD training
DRC	2	1 M. Sc& 1 PhD	None currently in PhD training
Angola	2	1PhD & 1 with M.Sc	None currently in PhD training
Swaziland	2	M. Sc.	None in Ph.D training
Lesotho	1	B. Sc.	None in Ph.D training

LIST OF PERSONS INTERVIEWED

NAME	ORGANIZATION
Abednego Nkambule	Demonstration Farm – Mpuluzi, Swaziland
Alex Carr	GRM Seeds and Markets
Andrew Henderson	Progene Seeds
C. Mutimaamba	Crop Breeding Institute, R & SS
Dean Muungani	Agriseeds and Services, Zimbabwe
Dr. Bella Mpofu	FANRPAN
Dr. Deo M. Muloy	NCU Chair Democratic Republic of Congo
Dr. John MacRobert	CIMMYT Harare
Dr. Lindiwe M. Sibanda	FANRPAN
Dr. Matla Martin Ranthamane	Department of Agricultural Research-Lesotho
Dr. Nelson Mango	CIAT, based at CIMMYT Harare
Dr. Peter Setimela	CIMMYT Harare
Dr. Victor Simelane	NCU Swaziland
Dr. Mulugetta Mekuria	CIMMYT Harare
Dr. Samuel Kareithi	SDC
E. Mtetwa	Seed Services R & SS Zimbabwe
Esau Tofa	CIMMYT Harare
Farmers Group	Maputsoe - Lesotho
Francis Khoalewiane	Department of Agricultural Research-Lesotho
Hanish Brown	National Tested Seeds
Ian Mashingaidze	FANRPAN
Kakole Likotsi	NCU Chair, Lesotho
Larry Carter	African Christian College, Swaziland
Lineo Maphobole	Department of Agricultural Research-Lesotho
Makhosini Dlamini	Demonstration Farm – Mpuluzi, Swaziland
Makoloi Mahali	Department of Agricultural Research-Lesotho
Marankoe Selikane	Department of Agricultural Research-Lesotho
Maseko Stephen Phuza	Malkerns Research Station, Swaziland
Mrs Moyo	CIMMYT Harare
Nelson Munyaka	GRM Seeds and Markets
Nyash Gandiwa	Pristine Seeds, Harare
Pamela Sithole	CIMMYT Harare

Sefume Lesole
Simeon Chicana
Stephen Phuza
Sydney Mango

Department of Agricultural Research-Lesotho
National Tested Seeds
Malkerns Research Station, Swaziland
African Christian College, Swaziland

Terms of Reference
Evaluation of PHASE II
New Seed Initiative for Maize in Southern Africa (NSIMA)
Ref. 7F- 00404.05
Partner: CIMMYT, Zimbabwe
March 2011

1. Introduction

Farmer use of quality seed of improved varieties is critical for productivity and livelihood enhancement. Although improved varieties exist for many field crops, and especially maize, the proportion of farmers that regularly use improved seed remains low in southern Africa. SDC has been supporting Seed projects on policy issues, research and implementation, initially through ad hoc initiatives and recently through a more coordinated approach which was validated in July 2009 by the SDC HQ: the RPSA Food security strategy using Seed as the main focus.

The New Seed Initiative for Maize in Southern Africa (NSIMA) is a network of multi-stakeholder National Coordinating Units (NCU's) in SADC working together to strengthen the maize seed value chain so as to contribute to improving the livelihoods of resource-poor small-holder maize farmers. NSIMA Project has been supported by SDC since many years. This project aimed at a multi-stakeholder approach to the above problem by involving NARS (National Agricultural Research Systems), NGOs, the private seed sector and regional organizations identified a number of constraints or bottlenecks and determined specific objectives and activities. These covered the full continuum of activities from germplasm enhancement, through seed systems, to empowering farmers to benefit more rapidly from maize breeding progress, and so increase farm-level productivity and improve livelihoods.

The current phase 2 of NSIMA will end from 31 March 2011; the expected outcomes of this phase are:

1. Provision of improved germplasm, technical backstopping, training and coordination to the activities of partners through NCU's.
2. NCU's to have identified bottlenecks and opportunities in the seed value chain of their respective countries, and together with relevant partners, established and facilitated activities to overcome constraints and enhance development of the seed sector based on Outcome Challenges.
3. NCU's to have facilitated capacity building of partners and farmers relevant to the seed value chain.
4. NCU's have advocated for appropriate policies, partnerships and promotion activities that enhance the development of the seed value chain.

The outstanding challenges for NSIMA in the second phase¹ included enhancing the weak components of the seed value chain; providing adequate support to partners to carry out relevant and meaningful projects; building the capacity of staff in both the NARS and private sector; and achieving greater success with trials through improved management. Overcoming these constraints and building on the opportunities in the seed sector in SADC will pay dividends to improving productivity and livelihoods of small-holder farmers.

Since the formulation of the new SDC strategy in Southern Africa three new projects have been developed with Partners with objectives that are in some way overlapping². Some additional projects are under development. A risk exists that parallel initiatives might be developed. In addition the multiplication of partners to reach the final beneficiary increases the risks related to programmatic and financial management.

2. Description of the Assignment

The assignment will look in the following aspects:

- a) evaluation in terms of delivery against the proposed objectives (efficiency, effectiveness) in the light of SDC mandate
- b) evaluation of the risks related to the chain of command (multiple partners) and measures taken to minimize these risks
- c) evaluate the potential synergies with other non maize seed promotion systems

2.1. Evaluation Questions

The objectives of this assignment are to answer evaluation questions as follows:

- A) **Effectiveness and efficiency** : To what extent has NSIMA II achieved its outlined objectives (policy level, research, implementations levels) according to the project's planned outcomes? Outcomes Mapping reports are available. To what extend the use of resources have been optimized? How efficient is the flow of inputs and other support to NSIMA NCUs as a process? What needs to change in NSIMA III to make it more efficient? What are the arrangements towards the private sector regarding sharing of costs, contribution for others ? This may include flow of funds, capacity, materials and reports etc. What are the model used by others such as Bill and Melinda Gates foundation etc.?
- B) **Risks analysis** : What are the risks related to the achievements of the projects both in terms of programmatic risks as well as financial – investments risks ? What system has been put in place by Cimmyt to minimize the risks (MOU, Terms of reference, contract related to deliverables, capacity building etc.) ? What control system is established (internal evaluation, external audit, total quality system, log book on vehicle, cash management etc.). What are the selection criteria

¹ Phase 1 was funded out of the SOSA Division “Regional Programme” budget.

²SSN Phase 2 with FANRPAN, Seed marketing with GRM, CCARDESA with SADC.

for contracting partners, (due diligence process, capacity building of national nodes etc.) . What are the risks that the new seeds beneficiate only to the larger seed companies ? Is the gender perspective integrated into the process ?

- C) **Synergies:** How has NSIMA ii interacted with the current context and new initiatives within SDC in particular FANRPAN initiative, GRM project and by others in the field of seed to address actual bottlenecks and identify the gaps NSIMA project can address taking into account the strength of the project and the new context in Southern Africa? How can NSIMA be utilized as a model to develop other seeds in the region e.g. legumes, using other centers such as the CIAT, ICRISAT, GART etc.?

2.2. Activities of the Consultant

- In view of SDC strategy on Food security and on new project developed (FANRPAN; GRM etc.) conduct an initial literature review of key documents on NSIMA project. These include Project proposal, comments by technical experts on proposal prior to approval, periodic progress reports, outcome mapping reports from stakeholder meetings, and financial reports. Prepare a set of detailed questions which should be looked in during the mission **(4 days)**
- Meet SDC's Regional Programme Manager for Food Security (Pretoria) to agree any definitions required, verify stakeholders identified, outline expectations and to discuss any logistics and support required from SDC**(1day)**. And thereafter adjust preparations accordingly, liaising with NSIMA CIMMYT officials. **(0.5 days)**
- Develop, present and agree a methodological approach to the assignment, including data collection tools, a draft interview schedule, and expected milestones/timeframe **(3 days)**.
- Conduct fieldwork in at least 4 NSIMA implementing countries(Zimbabwe, Zambia, Lesotho and Malawi), taking into account the local context and existing initiatives **(15 days)** to assess NSIMA's capacity building input into NCUs in the target countries as well as processes of flow of support from CIMMYT office to these country NCUs both programmatic, systemic and financial .
- Collate and analyse draft findings and develop a working report for SDC **(4 days)**.
- Present draft findings to SDC's Regional Programme Manager for Food Security (Pretoria) **(0.5 day)** and to a workshop of stakeholders **(1 day)**.
- Prepare the final report including a draft 5 page End of Phase Report (template to be provided) borrowing lessons from the evaluation findings. **(3 days)**

2.3. Required Outputs

The Consultant will provide the following outputs:

- An inception report and three-page methodology to be agreed by SDC within one week of mobilisation.
- A PowerPoint presentation of findings for delivery at the aforementioned workshops.
- A draft report of no more than 12 pages, excluding annexes.
- An End of Phase Report of no more than 5 pages

- A final report of no more than 15 pages, excluding annexes.

The Consultant is expected to present his/her findings in a concise and user-friendly format which recognizes the operational requirements of the key stakeholders.

3. Required expertise

The consultant(s) must have experience and a proven understanding of development programme management in Southern Africa, and a background in rural development, management, food security, seed industry, and/or agriculture. A good understanding of institutional management would be necessary. An understanding of donor activities as well as donor programming would be beneficial.

4. Location, Timing and assignment duration

The assignment must be conducted starting early April 2011. The Consultant is required for a total 32 working days.

5. Sources of written information

Include a list of written material that the consultant should refer to as part of the review or evaluation. This list should include relevant SDC guidelines.

- a. Projects' proposal and implementation documents
- b. Project log frames
- c. Narrative, financial and other annual or evaluation reports since project inception
- d. Auditors management reports
- e. Project contract on deliverables agreed
- f. Gender checklist
- g. End of phase report Model



Logframe of NSIMA Outcome Challenges, Progress Markers, Support Activities and expected Outcomes Outcome Challenges of the Seed Value Chain	Progress Markers	Support Activities	Outcomes
<p>Germplasm Development</p> <p>1. Develop stress tolerant, more nutritious maize varieties with good performance and acceptance under resource-poor farmers' conditions in southern Africa.</p> <p>1.1. CIMMYT Zimbabwe develops improved, stress tolerant lines and populations targeted at main agro-ecologies in southern Africa.</p> <p>1.2. NARS develop maize varieties and hybrids with trait combinations of national and regional importance in short-term breeding projects.</p> <p>1.3. NARS and Seed Company technicians and scientists trained in stress breeding techniques.</p>	<p>Over three years, 5 new OPVs and 12 hybrids developed with improved performance and acceptance under the stress-prone conditions of resource-poor farmers, registered and taken up by the private seed sector for marketing.</p> <p>Over three years, and 20 elite inbred lines that have improved general combining ability released from CIMMYT-Zimbabwe.</p> <p>Twenty NARS and seed company technicians and scientists trained in stress breeding techniques.</p> <p>NARS and Seed Company breeders provided with short-term visiting scientist opportunities at CIMMYT-Zimbabwe</p>	<p>CIMMYT-Zimbabwe maintaining a stress breeding program targeted at the main agro-ecologies in southern Africa and developing new stress tolerant inbred lines and synthetics with a broad genetic base.</p> <p>With technical back-stopping from CIMMYT, and provision of elite stress-tolerant Germplasm, NARS conducting focused breeding projects which develop maize varieties possessing the trait combinations needed for performance and acceptance in important SADC maize mega-environments.</p> <p>Private Seed Companies provided with elite stress-tolerant Germplasm for breeding and testing.</p>	<p>Private seed companies register and market new and improved varieties derived from CIMMYT and NARS breeding programs</p> <p>NARS breeding programs dynamic and productive, bringing forth improved breeding lines and varieties that are made available to the private sector for marketing.</p> <p>Seed company breeding programs dynamic and productive, resulting in improved stress-tolerant varieties being registered NARS and seed company breeders more capable of breeding for stress tolerance</p>
<p>Variety Testing</p> <p>2. Improved maize varieties that perform well under the stress-prone conditions of resource-poor farmers identified, and data that support their registration collected.</p> <p>2.1. Collaborative regional and national farmer-participatory trials conducted that contribute to variety registration and provide information on the performance and acceptance of maize varieties under resource-poor farmer conditions.</p> <p>2.2. Information that increases the knowledge of farmer support groups, service providers and farmers on seed-related issues developed and disseminated.</p> <p>2.3. Statistically valid and user-friendly variety information developed by NARS and disseminated through farmer support groups and service providers (extension, NGOs, rural schools, private seed sector) to farmers.</p> <p>2.4. NARES, Seed Companies, NGOs, extension and partners collaborating in evaluation trials trained in trial management and information dissemination.</p>	<p>Stress tolerant maize varieties released in all participating SADC countries.</p> <p>Annually updated regional information on maize variety performance published.</p> <p>Simple decision tools (pamphlet, posters) developed and disseminated to farmer-support groups for farmers to be able to make a more informed choice between variety types (hybrids versus OPVs), grain versus seed, and maize varieties.</p> <p>Fifty personnel from collaborators trained in trial management, analysis and result presentation.</p>	<p>CIMMYT annually prepares Regional Variety Trials for dissemination to partners.</p> <p>NARES, private seed companies and CIMMYT conducting regional trials for the development of regional variety information.</p> <p>NARES consolidating regional and in-country variety testing systems for variety release and the development of country-specific information.</p> <p>NARES, universities, NGOs, private seed companies and farmers together planning, organizing and executing the trials with a common vision.</p> <p>CIMMYT working with NARES to conduct in-country training and develop simple information for country-specific and region-wide dissemination through extension, NGOs, rural schools and the private seed sector.</p>	<p>Seed companies, NGOs and farmer groups better informed of performance of available and new maize varieties.</p> <p>Technicians, scientists and collaborators better able to conduct maize variety trials.</p> <p>Greater success rates in trial performance.</p>

<p>Variety Registration 3. Regional variety registration implemented in SADC. 3.1. VCU and DUS information of new varieties produced by NARS and seed companies to support variety registration applications at the national level. 3.2. Stake-holder workshops on the implementation of the SADC Seed System held.</p>	<p>NARS and CIMMYT produce VCU and DUS information of new stress-tolerant varieties that support variety registration applications of NARS and Seed Companies. Three technical workshops (one per year) held on the SADC variety release system.</p>	<p>SADC SSN, NARS and CIMMYT provide technical input into SADC Seed System implementation training. NARES develop DUS and VCU information of national elite varieties for registration purposes. CIMMYT-Zimbabwe consolidates and produces DUS and VCU information on CIMMYT elite varieties. NARS and CIMMYT facilitate the up take of new public varieties by Seed Companies for registration and marketing.</p>	<p>Seed Companies and NARS register new varieties. Stake-holders in the seed sector trained in variety release procedures, becoming better informed and more proactive in promoting variety registration. Public-private partnerships developed for the marketing of new maize varieties. SADC Seed System</p>
<p>Seed Production, Processing and Quality Assurance 4. Greater production of quality seed of improved varieties carried out by seed companies, NGOs and CBOs. 4.1. Production of basic seed of public varieties enhanced and quality seed distributed to seed companies, NGOs and CBOs for certified seed production. 4.2. Seed Company and CBO technicians trained in seed certification procedures, seed production, processing and quality assurance.</p>	<p>Basic seed of improved maize varieties produced and disseminated to seed companies, NGOs and CBOs. Three training sessions (one per year) conducted for seed company technicians on seed certification, seed production, processing and quality assurance. Optional1: farmer organizations involved in Community Based Seed Production trained in seed production management.</p>	<p>NARS supported by NSIMA to carry out basic seed production. NCU's arrange local training programs for seed company, NGO and CBO staff. Seed Companies, CIMMYT and NARES to provide expertise for training programs.</p>	<p>Seed Companies, NGOs and CBOs enabled to produce larger quantities of certified seed of improved varieties. Seed Company technicians trained in seed certification and production procedures so as to give better service and advice to farmers producing seed. Farmers involved in CBSP more capable of producing seed of high quality.</p>
<p>Seed Marketing and Distribution 5. Seed of improved stress-tolerant varieties more widely marketed and accessible to farmers in remote, under-serviced areas. 5.1. One-day seminars for retailers and wholesalers held to inculcate the benefits and issues involved in seed selling, particularly in under-serviced markets. 5.2. Widespread conduct of variety demonstration by seed companies, NARES and NGOs in remote rural farming areas.</p>	<p>Twenty four one-day seminars held between seed companies and retailers and wholesalers on the benefits and issues involved in seed selling. Demonstrations of improved varieties conducted in remote rural areas Optional1: Market surveys carried out in remote and under-serviced rural farming areas Optional1: Multi-stakeholder one-day meetings held to highlight developments in maize traits, processing, utilization and production</p>	<p>NCUs arrange seminars between seed companies and retailers and wholesalers on the benefits and issues involved in seed selling. Seed company marketing executives provide information on products, prices, etc. NARES, Seed Companies and NGOs conduct demonstrations of improved varieties in remote, under-serviced areas.</p>	<p>More rural retailers willing and better able to stock seed. Better linkages between retailers and seed companies. Farmers in remote, under-serviced areas better informed of improved varieties, thereby causing a demand for seed.</p>

Summary of seed shipments in kg per consignment from CIMMYT to NCUs in 2010

Shipment	Consignee	Country	IL	Hybrids	OPV	RT
1002	Seed Co	ZW	0.6	2		
1008	Seed Co	ZW	1.25		0.5	
1018	Mbeu Tech	MZ	0.9		5.5	
1019	Seed Co	ZW	0.2			
1020	Seed Co	ZW	0.25	5.5		
1025	NARS	ZW	0.1			
1030	NARS	ZW				1
1033	Pannar	ZW	0.1	0.7		
1035	NARS	MW	2.5	5.5		
1036	Demoter	MW			160	
1040	NARS	MZ		20	20	
1050	ZamSeed	ZM	50	10		
1052	Pristine Seed	ZW	200	500		
1053	Pannar	ZW	8			
1055	NARS	ZM	0.2	0.5		
1056	NARS	ZM	0.5			
1058	NARS	ZA			24	
1059	NARS	MZ	1.2	4		
1060	University of Fort Hare	ZA	1.2			
1062	NARS	MW	17			
1064	NARS	MW	100			
1067	Agriseed	ZW		20		
1068	Funwe Farm	MW	79			
1069	Indigenous Seeds	ZM	7	32	10	
1070	NARS	SZ			40	
1073	NARS	MZ		10	220	
1078	NARS	MZ			400	
1079	Agriseed	ZW	0.2			
1081	Demoter	MW			250	
1082	Seed Co	ZW	0.2			
1086	S.Nicholson	NA		14.75		
1087	NARS	ZW			200	
1088	NARS	ZW			75	
1094	NARS	MZ	4	16		
1095	NARS	BW	1	18		
1097	Indigenous Seeds	ZM	7	20	25	
1098	NARS	ZM			50	
10100	Agriseed	ZW		14		
10102	University of Zimbabwe	ZW	0.5			
10104	NARS	AO			25	20
10107	Seed Co	ZW	0.1			
10108	Agriseed	ZW	0.2			12

10110	NARS	AO		24	106	
10111	Faceira	AO	7	14		
10114	Progene Seeds	ZW		40		
10115	Monsato	ZA	0.7			
10116	Seed Co	ZA	0.35			2
10119	NARS	MW		35	42	26
10122	University of Lubumbashi	CD			30	8
10123	NARS	ZM				20
10124	Seed Co	ZM				8
10125	NARS	ZW				24
10126	NARS	BW				14
10127	NARS	MZ				28
10128	Pannar	ZA				2
10129	NARS	ZA				2
10132	Seed Co	ZW	2	16		
10133	NARS	LS	13		51	4
10136	NARS	MZ		2		
10139	Pannar	ZW	0.2			
10140	ARC-GCI	ZA		10		
10141	NARS	ZM		10		
10143	NARS	ZM	1			
10144	Seed Co	ZW	0.4			
10145	NARS	ZW	0.1			
10147	Seed Co	ZW	17			
10156	Agpy	ZW			300	
10157	Agriseed	ZW		2		
10158	Seed Co	ZW	1			
10159	NARS	ZM		10		
10160	ARC-GCI	ZA		16		
10161	Progene Seeds	ZW	0.5			
10162	ZamSeed	ZM		0.2		12
10165	Pristine Seed	ZW	200			
10167	NARS	MW		7.5		
10168	Lozane Seeds	MZ	25	7.5		
10169	Agriseed	ZW	230			
10170	Africa University	ZW	0.35			
10171	NARS	ZW	0.4			

COUNTRY	2008/09	2009/10	2010/11
Angola	Striga IR Maize Variety Trials \$ 3,500.00	Basic seed multiplication of released varieties \$ 3,000.00 Collaborative striga research \$ 5,000.00	
Botswana			Promotion of newly released maize varieties \$ 5,000.00
DRC	Variety promotion \$ 4,500.00 Basic seed production \$ 4,000.00 VEVO \$ 4,000.00 Field days \$ 2,000.00 Regional Trials \$ 2,458.00 DUS and VCU \$ 871.00 Seed production training \$ 3,200.00	Promotion kits for ZM623 \$ 3,900.00 Seed Production \$ 3,000.00 VEVO demonstration \$ 2,000.00 Field days \$ 2,000.00 Regional Trials \$ 2,000.00 DUS and VCU \$ 811.00 Retailers Training \$ 1,500.00 Bags Labeling \$ 1,000.00 Breeding Nursery \$ 884.00 Information meeting \$ 1,200.00	Promotion:ZM 623 & 721 \$ 4,000.00 Basic Seed Production \$ 3,000.00 VEVO Demonstration \$ 3,000.00 Field Days \$ 2,500.00 Regional Trials \$ 2,300.00 DUS and VCU \$ 800.00 Variety Testing \$ 1,200.00
Lesotho	MBTs & Seed Dissem. \$ 8,000.00	Decision tools for farmers \$ 1,900.00 Promotion of improved and high yielding OPVs \$ 2,000.00 Strengthening community based seed \$ 3,000.00 Promotion of OPV varieties through MBT \$ 8,000.00 Retailers Training \$ 1,500.00	Basic Seed Production \$ 6,000.00 Variety promotion by demonstrations, field days \$ 8,000.00 Assessment of Basotho farmers preferences \$ 3,500.00 Promotion of OPV varieties through MBT \$ 7,500.00
Malawi	QPM variety trial \$ 8,000.00	Decision tools for farmer variety selection \$ 2,000.00 QPM inbred-line development \$ 2,500.00	Regional IR maize evaluation trial \$ 6,500.00 QPM inbred-line development \$ 3,500.00
South Africa		Maize striga trials \$ 5,000.00 Maize regional trials \$ 5,400.00 QPM cultivar trials \$ 5,400.00 Community based seed production training \$ 5,000.00	Smallholder farmer particip. variety evaluation \$ 16,000.00 Community based basic seed production \$ 10,000.00
Swaziland	Community Based seed production \$ 1,013.00 Basic seed production \$ 4,000.00 Maize variety demonstrations \$ 4,000.00 MBT (10 sets) \$ 4,000.00	Basic seed production & breeders seed \$ 3,000.00 On-farm verification trials using MBT \$ 4,500.00 Information dissem. on the performance \$ 2,000.00	Basic Seed Production \$ 3,500.00 MBT 10 locations \$ 3,500.00 community based basic seed production training \$ 2,500.00 Demonstrations of maize varieties \$ 5,000.00
Zambia	Regional Trials \$ 4,000.00 Community Based seed production \$ 2,000.00 QPM trials \$ 6,000.00	Promotion of Obatanpa as QPM \$ 1,000.00 Training staff at SCCI in DUS and VCU \$ 3,000.00 Annual stakeholders meeting \$ 2,000.00	Improved use of certified seed maize \$ 6,000.00 Updating and Publication of Active Variety List \$ 5,000.00 Evaluation of IR Maize varieties \$ 3,000.00 Active variety list trial \$ 9,000.00 Dissemination meeting \$ 9,000.00 Basic Seed Demand Assessment \$ 6,000.00
Zimbabwe	Training MBT partners \$ 3,000.00 Training seed agronomists \$ 2,000.00 Basic seed production \$ 4,500.00		Standard reference variety data base creation \$ 5,500.00
TOTAL	\$75,042.00	\$83,495.00	\$140,800.00

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