

Independent Evaluation

Malawi

Capacity Building for Aflatoxin Management and Control in Groundnuts



UNITED NATIONS
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UNIDO EVALUATION GROUP

Independent Evaluation of the UNIDO Project:

**Capacity Building for Aflatoxin
Management and Control in Groundnuts
in Malawi**

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We hope that the presented conclusions and recommendations will contribute to the continuous improvement of the project and to the achievement of the expected results.

ABBREVIATIONS AND ACRONYMS

ADD	Agricultural Development Divisions
AICC	African Institute for Corporate Citizenship
ARET	Agricultural Research and Extension Trust
ASWAp	Agricultural Sector Wide Approach (ASWAP)
CAADP	Comprehensive African Agricultural Development Programme
DAES	Department of Agricultural Extension Services
DCP	Department Crop Production
DFID	Department of International Development
DOH	Department of Health
ELISA	Enzyme-linked Immuno-sorbent Assay
EPA	Extension Planning Areas
EU	European Union
GTPA	Grain Traders and Processors Association
HPLC	High-Performance Liquid Chromatography
HQ	Headquarters
MBS	Malawi Bureau of Standards
MGDS	Malawi Growth and Development Strategy
NASFAM	National Smallholder Farmers' Association of Malawi
NEPAD	New Partnership for Africa's Development
NORAD	Norwegian Agency for Development
OVI	Objectively Verifiable Indicator
RLEEP	Rural Livelihoods Economic Enhancement Programme
SADC	Southern African Development Community
SQAM	Standardisation, Quality Assurance, Accreditation & Metrology
STDF	Standards and Trade Development Facility
TOR	Terms of Reference
UNDP	United Nation's Development Programme
UNIDO	United Nations Industrial Development Organisation

Glossary of Evaluation Terms

Term	Definition
Baseline	The situation, prior to an intervention, against which progress can be assessed.
Effect	Intended or unintended change due directly or indirectly to an intervention.
Effectiveness	The extent to which the objectives of a development intervention were or are expected to be achieved.
Efficiency	A measure of how economically inputs (through activities) are converted into outputs.
Impact	Positive and negative, intended and non-intended, directly and indirectly, long term effects produced by a development intervention.
Indicator	Quantitative or qualitative factors that provide a means to measure the changes caused by an intervention.
Intervention	An external action to assist a national effort to achieve specific development goals.
Lessons learned	Generalizations based on evaluation experiences that abstract from specific to broader circumstances.
Logframe (logical framework approach)	Management tool used to guide the planning, implementation and evaluation of an intervention. System based on MBO (management by objectives) also called RBM (results based management) principles.
Outcomes	The achieved or likely effects of an intervention's outputs.
Outputs	The products in terms of physical and human capacities that result from an intervention.
Relevance	The extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donor's policies.
Risks	Factors, normally outside the scope of an intervention, which may affect the achievement of an intervention's objectives.
Sustainability	The continuation of benefits from an intervention, after the development assistance has been completed
Target groups	The specific individuals or organizations for whose benefit an intervention is undertaken.

I

Executive Summary

Scope, methodology and limitations: This independent project evaluation was undertaken at the request of UNIDO and the donor at the end of Phase 1 of the project, Capacity Building for the Control and Management of Aflatoxins in Groundnuts in Malawi (TEMLW08001). The evaluation was undertaken in accordance with the Terms of Reference appended in Annex A, and assesses the outputs and the outcomes achieved by the project. In addition, the evaluation sought out lessons and recommendations in order to inform a possible redesign in the second phase of the project. The evaluation was based on the review of project documentation from the UNIDO project manager and the national consultant in Malawi, as well as qualitative interviews with a variety of stakeholders in Malawi including project consultants, government officials in counterpart organisations, related government agencies, extension workers who were trained to become trainers by the project, trading companies, and farmers. Telephonic interviews were undertaken with the donor and the implementing agency, UNIDO. The evaluation was carried out by an external evaluator recruited by UNIDO, Ms. Jayanthi Aniruth.

The main limitation of the evaluation is based on the fact that the project evaluation was undertaken thirteen months after the end of the project, impacting negatively on the stakeholders' recollection of project activities.

Project Description: The Ministry of Trade and Industry (MIT) and the Ministry of Agriculture were designated as counterparts and co-ordinating agencies. The project had a budget of €407,930 over two phases that were to be implemented over a period of 36 months. Phase 1, which was to cover the first 24 months of the project, had an associated budget of €250,000. The logical framework matrix defines the planned outcome of the project as: 'The targeted groundnut and paprika farmers and processing enterprises are able to carry out effective aflatoxin management programmes and reduce wastage caused by mould contamination by 50% (25% in phase 1 and 25% in phase 2).'

The project provided international technical expertise to advise local stakeholders on how to control aflatoxin contamination within the groundnut crops produced in Malawi. This technical expert identified equipment and methodologies that are locally appropriate and designed training materials and manuals that could be used to build local capacity to manage aflatoxin contamination. The project was designed to procure the recommended equipment for testing and demonstration purposes and to train extension staff from the Ministry of Agriculture and NASFAM so that these frontline trainers could, in turn, train farmers in aflatoxin management. The project also undertook to train traders and processors further up the value chain and was supposed

to have undertaken a national media campaign in order to raise awareness about the importance of aflatoxin control and the health risks involved in consuming contaminated products. The project also retained a technical expert to develop a business plan assessing the commercial viability of providing aflatoxin testing at the Malawi Bureau of Standards (MBS) and the Agricultural Research and Extension Trust (ARET). Phase 1 of the project started in February 2009 and ended in December 2010. The evaluation of the project was commissioned in December 2011 and undertaken in January 2012.

Main Findings and Conclusions

Relevance: The project contributed to the realisation of the Agricultural Sector Wide Approach (ASWAp) within Malawi, which is aligned to the Malawi Growth and Development Strategy. The ASWAp seeks to increase the total value of agricultural exports by commodity, including the export of groundnuts. Agriculture is the most important sector of the economy and employs approximately 80 percent of the workforce. Groundnuts account for 25% of the income of smallholder farmers and are an important aspect of household food security. Groundnuts are therefore crucial to the livelihoods strategy of smallholder farmers in Malawi. The UNIDO project, which built the capacity of these smallholder farmers to produce aflatoxin free groundnuts, will therefore contribute to improving the nutritional and health status of poor Malawian farming families, in addition to maximising the income that they can earn from their groundnut crops.

Ownership: The government departments designated as counterparts and co-ordinating agencies demonstrated weak ownership of the project, despite high-level buy-in from the heads of these organisations. While the project documentation indicates good involvement and commitment from government departments at project inception, this commitment appears not to have been honoured and involvement appears to have waned fairly quickly. High levels of staff turnover within government organisations coupled with inadequate management of project information and ineffective 'project handover' practices led to poor institutional memory within government departments and impacted negatively on ownership of the project. In effect, relationships were built with people, not organisations and a change of personnel led to the demise of the relationship with the organisation. However, NASFAM demonstrated very strong ownership of the project and has been an active partner in the implementation of a number of activities.

Efficiency: The pace of project implementation was compromised by (1) a delay in the approval and transfer of funds from ComMark Trust to UNIDO; (2) UNIDO's complicated administrative and financial procedures which involved local project personnel, UNIDO's headquarters in Austria, UNIDO's office in South Africa and the UNDP Office in Lilongwe; (3) short and erratic contracts for national project personnel which compromised commitment to the project and threatened to compromise continuity; (4) Local stakeholders questioned the value of the international consultant hired to prepare the business plan for an accredited aflatoxin laboratory. He reportedly

appeared quite suddenly, with little introduction to stakeholders who also had very little understanding of his remit. He undertook a number of interviews with stakeholders and then reportedly 'disappeared' with no feedback to local stakeholders; (5) the TOR for the international consultant appears to have been very wide, given the fact that he spent only three months in Malawi; (6) the 'close-out' of the project was abrupt and unstructured and left stakeholders in Malawi confused about UNIDO's intentions and the future of the project.

Effectiveness and Impact: The project's logical framework matrix indicates that a 25% reduction in loss of crop due to aflatoxin contamination was expected among target beneficiaries after the first phase of the project. However, the baseline survey did not incorporate the results of the aflatoxin tests conducted on groundnut and soil samples and, consequently, did not reflect on the extent of aflatoxin contamination and on the crops lost due to this contamination. Given the lack of test results and the lack of a follow-up survey at the end of the project intervention, it is not possible to ascertain whether the project outcome has been realised, even though anecdotal evidence reflected in this evaluation report indicates that the project has been effective in decreasing aflatoxin contamination in groundnuts in Malawi.

Interviews with companies that participated in the training indicate that they have changed handling and storage practises to minimise the risk of aflatoxin contamination. The extension workers interviewed estimated that 65% of the farmers trained have changed farming practises in accordance with the advice received in the aflatoxin management training. NASFAM, which has been conducting consistent testing of the groundnuts purchased from its member farmers, reported a decrease in the levels of aflatoxin contamination detected in the 2010 harvest. They attribute this improvement to the training provided to farmers through the UNIDO project in the latter half of 2009. The project has also been effective in increasing NASFAM's capacity to deliver aflatoxin free groundnuts to market, through the provision of eight mechanical decorticators, which will abate the wet shelling of groundnuts by NASFAM members.

Sustainability: The weak ownership of the project by government departments does not bode well for the internalisation of the aflatoxin control and management capacity into the extension system of the Ministry of Agriculture. However, the government of Malawi has identified groundnuts as a key crop for household consumption and for export promotion, and various initiatives are underway to support the development of this sub-sector. A critical mass of activities might soon be reached, leading to the efficient promotion and support of the groundnut sub-sector. Moreover, the project developed robust training materials that continue to be used for training by organisations such as NASFAM; and various programmes supporting the groundnut sector have requested access to these training materials.

Issues with Regard to a Possible Next Phase

(1) The UNIDO training was positively evaluated by stakeholders and was effective in getting beneficiaries to adopt good practises in producing and managing groundnuts. It is therefore recommended that Trademark SA release funds for Phase 2 of the project. If Trademark SA is unable to fund the project, UNIDO should mobilise the necessary funds from other sources. UNIDO should investigate the possibility of linking Phase 2 to the NORAD funded 'Market Access and Trade Capacity Building Support for Agro-Industrial Products in Malawi' project in order to leverage the budget based on complementarities between the two projects.

(2) UNIDO should use NASFAM as the Counterpart/Host Agency for Phase 2. This would allow NASFAM to take ownership of the project in a more empowered fashion and would allow them to further build their capacity and profile as a central agency in promoting the control and management of aflatoxin contamination in Malawi.

(3) Phase 2 should vigorously promote the adoption of the technologies that were recommended by the international consultant. UNIDO (together with local stakeholders) should work out the details of the proposed 'communal ownership' of equipment and facilitate the implementation of the model with local farmers.

(4) Given the public health dimensions to aflatoxin contamination, it is important that the national media campaign be undertaken as a matter of priority. Once local consumers understand the deleterious effects of consuming aflatoxin contaminated nuts, it should create a local demand for aflatoxin free nuts, thereby pushing farmers and traders to bring aflatoxin free products to the local market.

(5) The quality and the perceptions of the quality of the Malawian groundnut crop as a whole will have to be addressed in order to gain re-entry and retain access to international markets. The project will therefore have to scale up training to reach a higher proportion of extension officers (and therefore farmers) and traders.

(6) In the interests of equity and inclusivity, Phase 2 should offer training to traders and processors more widely and should include those that are not associated with the Grain Traders and Processors Association.

(7) If the quantum of funding that is mobilised will allow it, UNIDO should include the producers of other commodities that are susceptible to aflatoxins within the ambit of the project.

Recommendations to UNIDO

(1) UNIDO should submit an updated project document to Trademark SA as soon as possible in order to access funding and begin implementation of Phase 2 by July 2012.

(2) The updated project document for Phase 2 should: (a) designate NASFAM as the counterpart/host agency; (b) enable the adoption of recommended equipment by farmers; (c) ensure the implementation of a more proactive monitoring system in order to track the prevalence of aflatoxin contamination and be in a position to offer farmers in-field advice on how to manage any outbreaks; (d) enable the implementation of the national media campaign; and (e) enable the scaling up of training of traders, extension workers and farmers.

(3) UNIDO should establish a baseline for aflatoxin contamination at the outset of Phase 2 and should include the monitoring of the Objectively Verifiable Indicators related to each outcome and output, as discrete activities within the project budget and schedule. Since effectiveness will be demonstrated by measuring the change engendered by the project in relation to this baseline, it is important that the methodology is properly defined and the exercise repeated at the end of Phase 2. UNIDO should weigh the costs and benefits of including a control group since this would allow the effects of the project intervention to be more rigorously established.

(4) Given the high staff turnover within government organisations in Malawi, the national consultant should manage this risk by assuming partial responsibility for handover of project duties to new incumbents. The departing official should facilitate an introductory meeting between the new representative and the national consultant before departure. The meeting should brief the new official on the project and should hand-over a project file from the old official to the new.

Recommendations to Government

Given the congruence of the project with the objectives and strategies of the government, departments should take greater ownership of the project, in order to ensure that the public extension system develops the ability to control and manage aflatoxin contamination in groundnuts. MIT expressed the intention to lead a Project Task Team, including NASFAM, the Ministry of Agriculture, Chitedze Research Station and UNIDO, in order to guide project implementation in Phase 2. This proposal is motivated by MIT's designation as the general counterpart to UNIDO given its focus on industrial development. However, MIT should then ensure that the Department of Agricultural and Extension Services (DAES) engages fully and proactively with the project.

Recommendations to Trademark SA

Since the project has been effective in delivering a highly regarded training product that has effectively built capacity and promoted the adoption of good practises along the groundnut value chain, it is recommended that Trademark SA fund the second phase of the project, subject to the submission of a revised project document by UNIDO that incorporates the recommendations of this evaluation. Given the lapse of time since the end of Phase 1, it is imperative that the funding agreement be expedited and that the implementation of Phase 2 starts by July 2012.

Main Lessons Learnt

- A well designed and adequately resourced project M&E system is essential in order to measure and demonstrate the project outcomes and the project impact, a matter of critical importance in justifying project performance and securing further funding from donors. Each project should translate the OVIs reflected in the logframe into a project M&E system at the project inception stage.
- Short and often erratic contracts undermine commitment and ownership of a project, and are likely to encourage unnecessary changes in project personnel, thereby undermining project implementation in the long run. If project activities warrant,

UNIDO should offer national consultants or 'in-country' project implementation staff contracts that mirror project timeframes, so that project continuity is ensured. Consecutive short term contracts unnecessarily compromise commitment to the project and present consultants with bad incentives.

- The contract terms of international experts (not Chief Technical Advisors) are usually quite limited in period and this time should be focused on technical matters rather than expecting international consultants to offer project management support or logistical/organisational support to project managers who are geographically removed from the project.
- Maintaining stakeholder interest and involvement requires, at the minimum, the demonstration of continued project momentum. This requires frequent communication to all local stakeholders about the status of project activities and developments, especially when the project manager is not present locally. A project mailing list with bi-monthly or monthly updates on the progress of 'unseen' activities like procurement and the transfer of funding from funders, could be a quick and effective means of keeping stakeholders engaged and allowing them to feel as if they still retained a measure of 'control' over activities from which they are effectively excluded by contractual arrangements.
- In situations where counterpart organisations and government stakeholders have low capacity and high staff turnover, it is important for the project to formalise processes for handover of project activities for PSC members or members of any smaller group, like a Project Task Team. The national consultant could therefore assume co-responsibility for 'induction' of new members onto the project.

II

Introduction

1 Purpose of the Project Evaluation

This terminal project evaluation was undertaken by an independent evaluator recruited by UNIDO, Ms. Jayanthi Aniruth, in the period January-February 2012. The fieldwork in Malawi was undertaken between 23-27 January and gathered information from a variety of project stakeholders. Telephonic interviews and electronic interactions with UNIDO personnel were conducted during February 2012.

The evaluation was undertaken in order to assess the outputs and the outcomes achieved by the project in order to inform the project implementing agents and funders about the level of success attained within and by the project. In addition, the evaluation was commissioned in order to gather up to date information to feed into the decision on whether a second phase of the project should be undertaken. The evaluation therefore sought out lessons and experiences in order to guide a possible redesign in the second phase of the project.

The purpose of the evaluation, as stated in the Terms of Reference, is to enable the donors, UNIDO, counterpart organisations and the government of Malawi to:

- (a) Assess the outputs produced and outcomes achieved and to compare these to the planned outputs and outcomes.
- (b) Verify prospects for development impact and sustainability.
- (c) Assess the efficiency of implementation in terms of the quantity, quality, cost and timeliness of UNIDO and counterpart inputs and activities.
- (d) Provide an analytical basis and recommendations for the focus and design for the possible continuation of the project in a next phase (if applicable).
- (e) Draw lessons of wider application for the replication of the experience gained in this project in other projects and countries.

Please refer to Annex A for the full Terms of Reference for this project evaluation.

2 Information sources and availability of information

The evaluation accessed and reviewed documentation from the UNIDO project manager from the Agri-business Unit, as well as an official from the UNIDO Trade and Capacity Building Unit who was involved in the initial identification and design of the project. The evaluator also had access to minutes of meetings and similar documents prepared by the National Expert who provided services to the project within Malawi. Unfortunately, the evaluation did not have the benefit of documents from ComMark

Trust, the project funders, since ComMark Trust's electronic system could no longer be accessed due to the closure of the organisation and the transfer of the project to Trademark SA.

The evaluation benefitted from open-ended, qualitative interviews with a variety of stakeholders in Malawi:

- a. Anarmac staff (project consultants in Malawi);
- b. Ministry of Trade & Industry,
- c. Ministry of Agriculture,
- d. Agricultural Research and Extension Trust (ARET),
- e. International Crops Research Institute for the Semi-Arid Tropics (ICRISAT),
- f. Chitedze Research Station;
- g. Malawi Bureau of Standards (MBS) (telephonic interview),
- h. 2 Extension Officers from the Department of Agricultural Extension Services (DAES),
- i. 1 Environmental Health Officer from the Department of Health (DOH)
- j. National Smallholder Farmers' Association of Malawi (NASFAM),
- k. 5 groundnut trading companies;
- l. 13 smallholder groundnut farmers who participated in the project training.

Please refer to Annex B for a list of stakeholders interviewed.

Telephonic interviews were then held with ComMark Trust, the project funder, and UNIDO Project Manager.

3 Methodological remarks and validity of the findings

The project evaluation was undertaken at the beginning of 2012, thirteen months after the project ended in December 2010. Moreover, most of the public and visible project activities that generated stakeholder engagement and participation (like the training workshops for extension workers, traders and farmers) occurred in 2009. So, the evaluation sought information from respondents regarding their involvement in activities that occurred as much as 24 months earlier. As a consequence, interviewees often had difficulty in recollecting project information, activities and events accurately. Indeed, some stakeholders have advanced not only different perspectives of events, but have actually offered contending 'facts' regarding the implementation of the project.

Moreover, the lapse of time between the implementation and the evaluation of the project means that in many instances, the representatives of stakeholder organisations who had directly participated in the project, have changed jobs or retired and were therefore not available to provide inputs into the project evaluation.

Given the time constraints in closing out the project, the national consultant retained by UNIDO in order to co-ordinate the stakeholder interviews, was given only one weeks lead time to arrange interviews with relevant stakeholders. Some key people who participated in the UNIDO project on behalf of stakeholder organisations were therefore unable to meet with the project evaluator. For example, even though the evaluator was able to engage with representatives from ICRISAT and ARET, these individuals were not best placed to reflect on the performance of the project.

The transfer of funds to defray costs associated with undertaking the evaluation mission was delayed for more than a month and had not been transferred from UNIDO headquarters in Vienna, via the UNDP offices in Lilongwe, to the national consultant organising the project evaluation at the time of undertaking the mission. The national consultant was therefore unable to procure the necessary petrol (which is in short supply and therefore very expensive in Malawi) to undertake the planned interviews with extension officers and farmers in the Kasungu and Dowa areas. The interviews undertaken by the project evaluation mission were therefore limited to the Lilongwe and Mchinji areas.

The evaluation relied on the information provided by UNIDO staff and other information requested from the National Expert interviewed in Malawi.

As indicated in the section above, documents from the funder, ComMark Trust, were not available to the evaluator due to system changes when project moved to Trademark SA.

4 Project Summary

The Capacity Building for Aflatoxin Control and Management in Groundnuts in Malawi project was funded by ComMark Trust, a South African based organisation that is funded by the United Kingdom Department for International Development (DFID). After ComMark Trust's closure the project was handed over to Trademark SA. The project was initiated following a joint mission undertaken by the Standards and Trade Development Facility (STDF), ComMark Trust and UNIDO in November 2007.

UNIDO was the executing agency for the project and was responsible for the management of the project finances and the its implementation. The project document designated the Ministry of Trade and Industry as the counterpart agency, and the Ministry of Agriculture and the Ministry of Trade and Industry were jointly named as the co-ordinating agency. However, UNIDO undertook a meeting with the Permanent Secretary of Agriculture in the project inception phase, during which an individual from the Ministry of Agriculture was designated as project co-ordinator.

The project document reflects a project that costs Euro 407,930 which is to be implemented over a period of 36 months. However, the project timetable then makes reference to a Phase 1, the first 24 months of the project and a Phase 2, the last 12 months of the project. The project budget reflects a cost of Euro 250,000 associated with Phase 1 and a cost of Euro 157,930 for Phase 2. The total allotment for Phase 1 of the project (which has been completed) was Euro 221,239¹; of which Euro 204,754.20 (92.6%) has been spent.

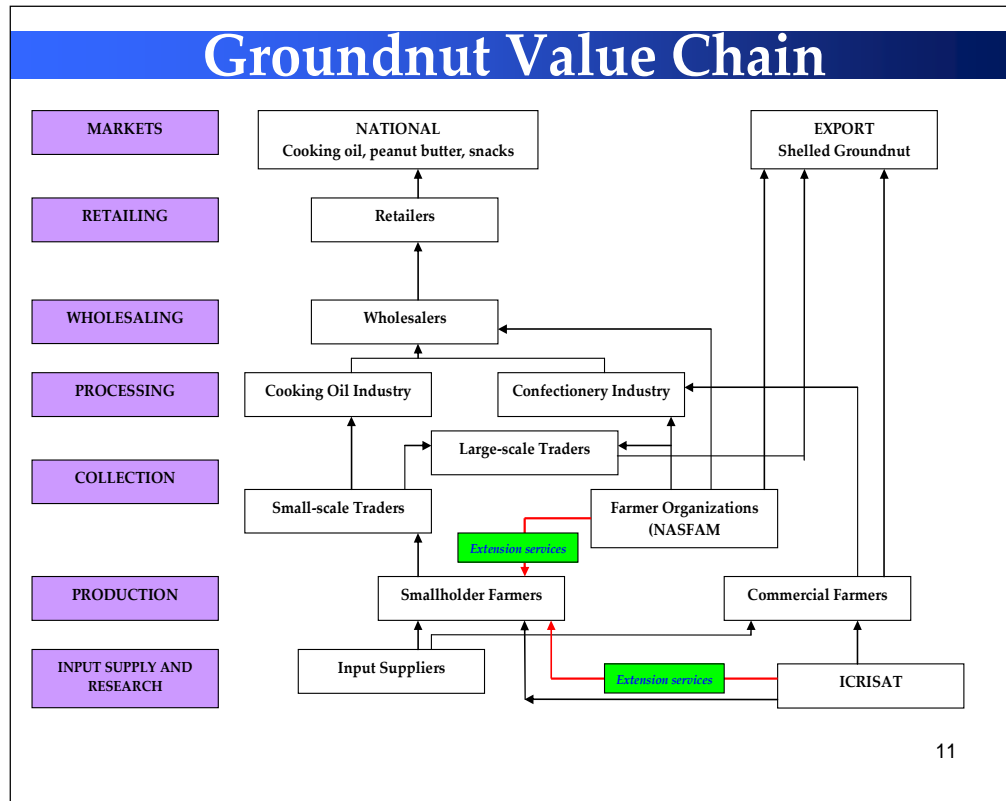
The targeted outcome of the project, as defined in the logical framework matrix included in the project document was:

'The targeted groundnut and paprika farmers² and processing enterprises are able to carry out effective aflatoxin management programmes and reduce wastage caused by mould contamination by 50% (25% in phase 1 and 25% in phase 2).

¹ The Euro 250,000 budgeted for Phase 1 minus the 13% support costs to UNIDO

² Please note that, despite the title of the project, the project document sometimes refers to aflatoxin management and control in groundnuts and paprika (and sometimes includes maize). The project manager reported that the validation workshop with stakeholders, held on 11 February 2009, decided that Phase 1 of the project would focus solely on aflatoxin management in groundnuts. However, the project document and the logical framework for the project were not amended to reflect this change.

The project took an innovative approach to achieve this outcome by addressing practises along the groundnut value chain that increased the risk of aflatoxin contamination. Please refer to the figure below for a reflection of the groundnut value chain in Malawi³.



Source: Presentation by Makoka, D on 'Status and Potential of Legumes in Malawi'

The project provided international technical expertise to advise local stakeholders on how to control aflatoxin contamination within the groundnut crops produced in Malawi. This technical expert identified equipment and methodologies that are locally appropriate and designed training material and manuals that could be used to build local capacity to manage aflatoxin contamination. The project was to procure the recommended equipment for testing and demonstration purposes and to train extension staff from the Ministry of Agriculture and NASFAM so that these frontline trainers could, in turn, train farmers in aflatoxin management.

The project was also to train traders and processors further up the value chain in limiting the risks of aflatoxin management through the use of appropriate handling and storage methodologies. The project was supposed to have undertaken a national media campaign in order to raise awareness about the importance of aflatoxin control

³ Makoka, D, (Feb, 2012). Presentation on the 'Status and Potential of Legumes in Malawi'. African Institute of Corporate Citizenship.

and the health risks involved in consuming contaminated product; however, the procuring of suitable national expertise to undertake the campaign delayed this project activity repeatedly until other project activities in Phase 1 had ended, making it impracticable to implement this activity.

The project also retained a technical expert to develop a business plan investigating the commercial viability of providing aflatoxin testing at MBS and ARET. However, the results of this investigation indicated that a commercial testing facility would not be feasible within a two year timeframe. Given this fact and the monetary constraints on the project, it was decided that the technical expert should not develop the business plan. Instead, the technical expert ended his contract with a mission report that included recommendations that UNIDO subsequently feed into the EU-UNDP-UNIDO Development of a Robust SQAM Infrastructure in Malawi project and the NORAD-UNIDO Market Access and Trade Capacity Building Support for Agro-industrial Products project.

Phase 1 of the project was initiated with a validation workshop for stakeholders in Malawi in February 2009 and ended in December 2010. The evaluation of the project was commissioned in December 2011 and undertaken in January 2012.

III

Country and Project Context

1 UNIDO in Malawi

UNIDO has been working within Malawi since the mid-1980s and have implemented 39 project interventions within the country⁴. According to the UNIDO website, UNIDO has raised and spent almost USD 9,6 million on these projects over the last 26 years. Malawi is one of the 10 countries serviced by the South African Regional Office since its establishment in 2006. However, often project managers based at UNIDO Headquarters in Austria are responsible for the identification, formulation and implementation of projects within Malawi.

The following projects are still being implementation within Malawi:

- Malawi: Market Access and Trade-Capacity Building Support for Agro-Industrial Products
- HCFC Phase-Out Management Plan (Stage I, First Tranche)
- Strengthening of Industrial and Trade Statistics Database - Preparatory Assistance
- Market Access and Trade Facilitation Support for Malawi, through Strengthening Institutional and National Capacities Related to Standards, Metrology, Testing and Quality (SMTQ) - Preparatory Assistance
- Empowering Poor Rural Communities with Labour-Saving Technologies for Increased Labour Productivity, Food Production and Income Generation
- Enabling Activities To Facilitate Early Action on the Implementation of the Stockholm Convention on Persistent Organic Pollutants (POPs) in Malawi

⁴ Even though the UNIDO website lists 39 separate project numbers, a review of the project descriptions indicates that in a number of instances, a single project incurred expenditure against multiple project numbers.

2 Groundnut Production in Malawi

Groundnuts are the most widely cultivated legume in Malawi and accounts for 25% of the income of smallholder farmers. Groundnuts are an important aspect of household food security and a valuable source of cheap vegetable protein and vitamins. The nutritional value of groundnuts is such that they form the major constituent in commercial preparations to treat malnutrition in children and adults. Groundnut cropping also improves soil quality by fixing atmospheric nitrogen within the soil, a benefit that is becoming increasingly important in the context of rising prices for chemical fertilizers across the world.

Between 1961 and 2006, the amount of land under groundnut cultivation in Malawi increased from 159,000 hectares to almost 267,000 hectares, an average annual growth rate of 3.4%. However, this growth rate has been quite variable, with only 50,000 hectares of groundnuts cultivated in 1990. This decrease is attributed to the collapse of Malawi's groundnut export in 1989. Malawi's groundnut export fell from 30 tons in 1988 to zero in 1989, due to the detection of high aflatoxin levels when the groundnuts were landed in the United Kingdom (Simtowe, undated). Groundnut exports remained low after 1990 but appeared to be making a recovery in 2004 when export increased to 8,6 tons. However, performance has been variable, with exports falling to 2,4 tons in 2005 and 3,8 tons in 2006. Export then increased to 16.9 tons in 2007, decreased to 14,3 tons in 2008 and increased to 19,9 tons in 2009 (Makoka, 2012). Unlike the export of groundnuts, the land being cultivated for groundnuts has steadily increased since 1990, so that by 2006 it had again reached the 1980 hectareage, when groundnut production was at its peak (Simtowe, undated).

While the liberalisation of agricultural markets in the 1980s and 1990s appears to have helped to increase groundnut production, they failed to sustain growth in groundnut export. Agricultural researchers have therefore concluded that policies should focus on supporting the production of high quality groundnuts with lower aflatoxin levels, so as to enable groundnut farmers in Malawi to enjoy the benefits of higher global producer prices that increased at an average growth rate of 7.2 percent during the period 1991-2006 (Simtowe, undated). The UNIDO implemented Capacity Building for Aflatoxin Management and Control in Groundnuts Project has therefore been highly relevant to Malawian groundnut farmers.

3 Alignment of the Project to Government Policies and Development Initiatives

The project was congruent with a number of government policy frameworks developed by the Malawi Government in a bid to reduce poverty and curb malnutrition levels through increased agricultural productivity and trade. One such policy, the Agricultural Sector Wide Approach (ASWAp) was developed by the Malawi Government in 2008. This policy recognises commercial agriculture, agro-processing and market development as key priority areas that must be supported in order to boost the country's economy and increase general levels of prosperity. It is within the parameters of this government policy framework that the government and other stakeholders have been emphasising value addition to agricultural crops by smallholder farmers in order for them to realize better economic returns (ASWAp, 2008). The UNIDO project sought to increase economic returns to smallholder farmers by enabling the production of aflatoxin-free groundnuts that could be exported into more lucrative international markets.

Another policy framework within which the project operated was the National Nutrition Policy. Improving the nutritional status of the people of Malawi is one of the government's major priorities. Building on the Vision 2020, the Malawi Poverty Reduction Strategy and the Malawi Economic Growth Strategy as tools and strategies to realise the aspirations of Malawians, the Malawi Government adopted and is implementing a nutrition policy aimed at achieving adequate nutrition for all in order to promote good health and self-sufficiency (GoM, 2008). This policy framework recognizes that access to nutritionally adequate and safe food (that is free from contamination) in the right quantities is a right of each individual. The policy is aligned to Millennium Development Goal Number One that seeks to eradicate extreme poverty and hunger that manifest in malnutrition.

The Government of Malawi has created a Department of Nutrition which reports directly to the Office of President and Cabinet. Currently, the department is implementing a therapeutic program in all government controlled and mission (Church) controlled hospitals around the country. The programme involves provision of groundnut paste (locally known as Chiponde) to malnourished children and HIV/AIDS infected patients. This groundnut paste is mostly sourced from locally owned companies. The program has proved to be very successful as it has tremendously improved the health status of the beneficiaries.

The Capacity Building on Aflatoxin Management and Control Project was aligned to the government's goal to transform the groundnut sub-sector from a subsistence-oriented sector to a more commercially-oriented sector. In order to enable the achievement of this goal, a number of organisations are implementing innovative arrangements to link farmers to markets and to reduce transaction costs associated with activities along the supply chain (e.g. storage, product quality control, standardization, etc.).

One such innovation, the groundnut production insurance scheme was recently launched in the districts of Kasungu, Lilongwe and Nkhosvota, where it is being piloted. The insurance scheme is the outcome of a partnership between NASFAM and the Insurance Association of Malawi and is supported by technical assistance from the World Bank and Opportunity International. The insurance scheme allows the farmer to purchase an index-based weather insurance contract that pays out if the rainfall in a season is insufficient to support groundnut production. The insured crop can then be used by farmers as collateral for accessing credit from financial institutions. This enables groundnut farmers to purchase and plant certified groundnut seeds. Using certified seed increases the farmer's ability to control aflatoxin contamination of their groundnut crops, thereby enhancing profits (Simtowe, undated).

The Ministry of Agriculture, has for the last decade, been implementing input subsidy programmes, in which seed has been a major component. While the input subsidy programme targets the staple crop, maize; it also includes legumes like groundnuts. In 2009 the government purchased nearly 16 tons of groundnut seed of improved varieties from ICRISAT's support seed revolving fund and distributed these to farmers as part of the subsidy program (Simtowe, undated).

ICRISAT has, for a number of years, managed a groundnut breeding programme in Malawi and has distributed seed to farmers. Since 1999, USAID has funded ICRISAT to produce breeder and basic seed for groundnuts through a revolving fund scheme. The programme produced almost 146 tons of basic seed and 25 tons of breeder seed during the 1999-2006 period (Simtowe, undated).

In 2008, the Malawi Research into Use (RIU) organisation established a Legumes Platform. The goal of the Platform was 'to contribute to overall food and nutrition security and income in Malawi through resilient and sustainable seed systems that would spur increased legumes productivity at farm-level under various agro-ecological conditions, resulting in more legumes utilization at local and industrial levels including exports. Funding and resource constraints have however, hampered the operation of the Legumes Platform. The African Institute for Corporate Citizenship (AICC) has recently undertaken to revitalise the Legumes Platform and to coordinate its operations. The Platform seeks to bring together public and private stakeholders in order to address issues constraining the performance of the legume value chain.

The Legume Platform seeks to address the following key issues: (1) Promoting an effective legume seed supply system; (2) Farmer empowerment and organisational development; (3) Promoting technology transfer; (4) Linking legume farmers to high-value markets; (5) Enhancing farmer productivity (6) Moving to higher value-added activities within the value chain.

4 Counterpart Organisations

The Department of Agricultural Research, NASFAM and Department of Agriculture and Extension Services were the main collaborating partners in the project. These partners helped the project in the provision of technical support during the baseline survey exercise and training of extension staff, traders and farmers. However, it should be noted that in the course of the project implementation, desk officers and other persons from the Department of Agriculture and Extension Services were less than forthcoming in their commitment to the implementation of project activities. Given the imperative of internalising aflatoxin management capacity within the extension system, it is necessary that this issue be addressed in the second phase of the project.

NASFAM has been a key stakeholder in the implementation of the UNIDO Capacity Building for Aflatoxin Management and Control in Groundnuts project. Over the years, NASFAM has initiated efforts to reduce aflatoxin contamination levels in the groundnuts produced by its farmers. Twenty thousand of NASFAM's members are involved in groundnut production; many of who are unaware of aflatoxin contamination, its deleterious effects on human health and the negative impact of aflatoxins on the marketability of the groundnut crops in international markets. In order to meet the internationally accepted minimum level of aflatoxins, NASFAM established a laboratory to carry out tests for aflatoxins on its farmers' groundnuts and has undertaken the training of their member farmers in aflatoxin management techniques, with the assistance of the UNIDO project.

IV

Project Planning

1 Project Identification

In November 2007, a member of UNIDO's Trade Capacity Building (TCB) branch, the Standards and Trade Development Facility (STDF) and ComMark Trust, undertook a joint mission to Malawi in order to investigate ways to increase that country's capacity to control and manage aflatoxins in groundnuts and paprika, as a prerequisite to increasing Malawi's exports of agricultural products.

The mission conducted meetings with a number of relevant stakeholders from the public and private sectors in order to understand the current situation regarding the extent of aflatoxin contamination, testing facilities used by companies within Malawi and the needs of the target beneficiaries. Stakeholders consulted included the Ministry of Industry, Trade and Private Sector Development, the Ministry of Agriculture, the National Smallholder Farmers' Association of Malawi (NASFAM), the Paprika Association of Malawi (PAMA), the Agricultural Research and Extension Trust (ARET) and two large food processing and trading companies, Rab Processors and Transglobe.

At the end of the mission it was agreed that UNIDO, STDF and ComMark Trust would jointly prepare a terms of reference for a consultant to develop a business plan reflecting on the commercial viability of establishing an accredited aflatoxin testing laboratory at ARET and/or Malawi Bureau of Standards. It was also agreed that the project should be expanded to include training on aflatoxin management for farmers, traders and processors involved in the groundnut and paprika value chain.

2 Project Formulation

The UNIDO Trade Capacity Building branch drew in expertise from the UNIDO Agro-industries branch and took the lead in formulating the project and the project document that was submitted to ComMark Trust for approval of funding. The project design that was approved by UNIDO managers and financed by ComMark Trust was then presented to local stakeholders in Malawi at a validation workshop in February 2009.

The workshop included 29 representatives from 19 local stakeholder organisations, four from the private sector and 15 from the public sector. The project manager reported that an outcome of this validation workshop was that stakeholders decided that Phase 1 of the project should focus on capacity building for the management of aflatoxins in groundnuts alone, and not address aflatoxin management in paprika and maize, as reflected in the original project document.

3 Description of the Underlying Intervention Theory

The project document includes a logical framework for the project that sets out the project's intervention logic, the objectively verifiable indicators linked to each project output and the means of verification, but not the assumptions or risks that would affect the achievement of project outputs. While the logical framework matrix does not reflect the activities to be undertaken in order to achieve the defined project outputs, the project document does set these out clearly elsewhere in the document.

The vertical logic of the logical framework is coherent. The project was designed to provide the following essential inputs and conduct the following activities:

- Technical expertise to advise local stakeholders on how to control aflatoxin contamination within the groundnut crops produced in Malawi;
- The technical expert would identify equipment and methodologies that are locally appropriate and would design training materials and manuals that could be used to build local capacity to manage aflatoxin contamination;
- The project would procure the recommended equipment for testing and demonstration purposes;
- Training for trainers (extension staff from DAES, DOH and NASFAM) and training manuals/materials so that these frontline trainers could in turn train farmers, traders and processors in aflatoxin management;
- Funding for the logistical costs associated with the training of farmers, traders and processors by local extension staff that had been trained;
- A national media campaign to raise awareness about the importance of aflatoxin control and the health risks involved in consuming contaminated product. This campaign would have increased local demand for aflatoxin-free groundnuts; and
- A technical expert to develop a business plan investigating the commercial viability of providing aflatoxin testing at MBS and ARET.

The above mentioned inputs and activities would have allowed the project to produce the following seven outputs over the 36 month implementation period:

- Counterpart organisations (ICRISAT, Ministry of Agriculture) & NASFAM are able to carry out regular monitoring to identify problem areas/regions;
- Forty extension staff are trained and disseminating skills in managing aflatoxin contamination in groundnuts;
- Farmers in the selected area/s are able to carry out recommended best practices for aflatoxin control in pre and post harvest activities;
- Traders and all actors along the groundnut supply chain are using best practices in handling, storage and utilisation of the commodity to minimise aflatoxin contamination;
- Awareness is created on a national scale regarding aflatoxin contamination and its management;
- Field manuals on aflatoxin management are developed and translated into various local languages and are being used effectively by stakeholders;

- MBS and ARET are able to assess the feasibility and sustainability of providing local accredited testing and certification services for exporters.

These outputs would, in turn, have allowed the project to realize its defined outcome, i.e. that 'The targeted groundnut and paprika farmers⁵ and processing enterprises are able to carry out effective aflatoxin management programmes and reduce wastage caused by mould contamination by 50% (25% in phase 1 and 25% in phase 2).

4 Mobilisation of Funds

ComMark Trust, which is the sole funder of the project, was established with funding from the United Kingdom Department of International Development (DFID). ComMark Trust, upon request from DFID, participated in the original mission that sought to define the parameters of the project, together with STDF and UNIDO and was therefore party to the original design of the project. Upon completion of the project document, the development of which was led by UNIDO, the project document was submitted to ComMark Trust for consideration by its Board of Trustees, which is responsible for making funding decisions for the organisation.

The project document defines a project that costs Euro 407,930 and which is to be implemented over a period of 36 months. However, the project timetable then makes reference to a Phase 1, the first 24 months of the project and a Phase 2, the last 12 months of the project. The project budget then reflects a cost of Euro 250,000 associated with Phase 1 and a cost of Euro 157,930 for Phase 2. However, it should be noted that the project document does not show any new activities to be introduced in Phase 2 of the project. Phase 2 merely continues four activities that were to begin in Phase 1: (1) the training of farmers, (2) the training of traders and processors, (3) the evaluation and revision of these training programmes and (4) the continuation of the nationwide media campaign regarding the hazards of aflatoxin contamination.

The UNIDO project manager reported that the project document separates the budget into a Phase 1 cost and a Phase 2 cost because ComMark Trust did not have all the necessary funds available in the relevant funding cycle and undertook to make the funding for 'Phase 2' available in the following funding cycle. The separation into two phases was therefore an expedient action taken in light of the availability of funds, but the project itself was seen as one project to which the funders and implementers were committed. UNIDO presented the project as a whole to Malawian stakeholders at the validation workshop in February 2009, and local stakeholders therefore expected the implementation of the entire project, in accordance with the project document.

⁵ Please note that the project document sometimes refers to aflatoxin management and control in groundnuts and paprika (and sometimes includes maize). The project manager reported that the validation workshop with stakeholders, held on 11 February 2009, decided that Phase 1 of the project would focus solely on aflatoxin management in groundnuts. However, the project document and the logical framework for the project were not amended to reflect this change.

However, according to the representative of ComMark Trust, the Board of Trustees committed to fund only Phase 1 of the project and designated an amount of Euro 250,000 for this phase, on the understanding that funding for Phase 2 would be sought elsewhere. This difference in understanding of the funding agreement/relationship between UNIDO and ComMark Trust led to an abrupt withdrawal of the project from Malawi at the end of 2010 when the UNIDO project manager came to understand that funding for Phase 2 of the project would not be forthcoming.

V

Project Implementation

1 Financial Implementation

Project Budget

The project document includes a results-based budget that reflects the cost attached to different activities to be undertaken in the achievement of each output specified in the project document. This type of results-based budgeting is not standard practice within UNIDO and is an example of good practice adopted within the parameters of the project. However, the activity based budget does not make explicit the assumptions on which the costs for each activity are based, making it difficult to reflect on the credibility of the budget.

Moreover, despite the good practice in the budgeting of the project, the financial reporting on the project did not follow the same results-based approach and instead used the standard UNIDO budget lines to report on project expenditure. The fact that the financial reporting format is different from the budgeting format makes comparison between the planned expenditure and actual expenditure impossible.

Project Expenditure

Budget Lines	Description	Total Allotment (Euro €)*	Uncommitted Balance (Euro €)	Total Expenditure (Euro €)	% of Total Project Expenditure
1100-11XX	Short-term international consultants	43,229.0	0.0	43229.0	21.1%
1500-15XX	Project Travel	888.2	0.0	888.2	0.4%
1600-16XX	Mission costs	9,405.1	0.0	9405.1	4.6%
1700-17XX	National Consultants	28,007.4	105.4	27902.0	13.6%
3300-33XX	In-service training	54,662.9	0.0	54662.9	26.7%
4500-45XX	Equipment	48,065.1	0.0	48065.1	23.5%
5100-51XX	Sundries	6,122.7	0.0	6122.7	3%
8000-89XX	Independent evaluation of project	30,858.7	16379.4	14479.3	7.1%
Total		221,239.0	16,484.8	204,754.2	92.6%

Table 1: Project Expenditure as at February 2012

* Budget for Phase I, excluding support costs of 13%

Table 1, based on the financial report from the project manager, shows that project expenditure was split into eight categories: international consultants, project travel,

mission costs, national consultants, in-service training, equipment, sundries and evaluation costs. As expected in a project that is primarily focused on capacity building for aflatoxin management, the single largest category of expenditure was 'in-service training', accounting for 26.7% of expenditure. This was followed by expenditure on equipment which accounted for 23.5% of project expenditure. This expenditure on equipment was congruent with the objectives of the project which sought to identify problems in the value chain, propose new equipment and technologies to ameliorate these problems and purchase the relevant equipment to be used for the purpose of demonstration.

Expenditure on international consultants amounted to 21.1% of project expenditure and formed the third largest category of expenditure. Again, this level of expenditure is congruent with the objectives of the project, which sought to provide technical experts with international experience in order to identify problems, suggest tested and proven solutions for the control of aflatoxins and produce training material and build capacity in the new methodologies and techniques.

Budget revisions

Only one major budget revision appears to have been undertaken. This revision involved the reassignment of some of the funds meant to be used for the development of material to be used in the national media campaign to create awareness regarding aflatoxin contamination and its effect on human health.

UNIDO twice advertised their need for national experts to design materials for the media campaign, but the CVs received in response to these advertisements did not demonstrate sufficient expertise and experience in undertaking the work. UNIDO then requested permission from ComMark Trust to utilise international consultants from neighbouring African countries in order to undertake the work. However, ComMark Trust reportedly misunderstood the request to use international expertise and understood this to refer to consultants from outside the region. ComMark Trust therefore resisted the request from UNIDO and the two organisations then entered into a protracted correspondence regarding the matter during 2010. By the time ComMark Trust granted UNIDO's request, the other project activities were winding down and UNIDO deemed it unsuitable to begin the media campaign at a time when other capacity building activities were ongoing. Some of the funds designated for the media campaign were therefore reassigned, with ComMark Trust's agreement, to fund an independent evaluation of the Capacity Building for Aflatoxin Management and Control in Groundnuts in Malawi project. This report is the result of that project evaluation.

While this is the only actual budget revision that was reported by the UNIDO project manager, stakeholders in Malawi, including the project counterpart, complained of what they perceived as repeated 'budget cuts'. They complained that a variety of promised project activities did not materialise due to the afore mentioned budget cuts, for example, the purchase of motorcycles for the use of extension staff who would be training farmers. Regarding this particular example, the project manager explained that quotations for the purchase of the motorcycles were secured but indicated that the

project budget would accommodate the purchase of only a few motorcycles, and did not include sufficient funds for operational and maintenance costs. The project therefore did not purchase the requested motorcycles.

2 Management

The project was designed and managed according to the 'agency execution' model, according to which UNIDO was responsible for the implementation of the project activities, including the management of financial resources, the sourcing and management of human resources (short term consultants in this case) and the sourcing of equipment. The project evaluator received reports of two missions to Malawi undertaken by the UNIDO project manager who was based in Vienna. The project manager's first mission was undertaken in January 2009 and focused on project initiation activities and on getting agreement from counterpart organisations on the work-plan. The second mission was undertaken in September 2009 to allow the project manager to attend a Project Steering Committee meeting and to monitor the progress in implementation of the project.

The Ministry of Agriculture designated a staff-member to act as coordinator of the project and made offices available for the use of the project at the Chitedze Research Station. However, UNIDO did not furnish these offices and they did not become operational. The role of the project coordinator from the Ministry of Agriculture appears to have been fairly ambiguous with local stakeholders reporting that he was responsible for only 'protocol and venues'. Moreover, the national consultant reported directly to the UNIDO project manager, but indicated that he sometimes sent reports via the national coordinator at the Ministry of Agriculture. The role of the coordinating agency seems to have been fairly limited.

It is also worth noting that the person designated by the Ministry to act as project coordinator, appears to have been chosen because he had prior expertise and interest in aflatoxin management, since this was the subject of his doctoral studies. However, this staff member was nearing retirement and was in the process of planning for this retirement. Given these circumstances, it would have been prudent for UNIDO to request that the Ministry designate another staff member to work alongside this coordinator from the outset of the project, so that capacity for aflatoxin management could have been built and retained within the Ministry and the prospects for sustainability of the project be improved.

The project document includes some detail on the institutional arrangements for the project. It names both the Ministry of Trade and Industry and Ministry of Agriculture as the coordinating agency and names the Ministry of Trade and Industry as the counterpart agency. It also mentions that UNIDO will establish a National Project Steering Committee with representatives from the various stakeholders and collaborating institutions/agencies of the project. A meeting between the UNIDO project

manager, the national and international consultants and the project coordinator from the Ministry of Agriculture in January 2009 decided on the membership of the PSC and designated the national consultant to prepare Terms of Reference for the PSC.

It is interesting to note that NASFAM and ARET are not included as members of the PSC in the Terms of Reference, despite the fact that they are both included as target beneficiaries in the project. In practice, NASFAM became a key partner in the implementation of the project and attended the PSC meeting in September.

Minutes of only one PSC meeting, undertaken on 24 September 2009, was made available to the evaluator. The project manager indicated that further meetings of the PSC were constrained by the delay in disbursement of the second tranche of funding from ComMark Trust.

The project used a national consultant to assist in the co-ordination of the project on-the-ground. The national consultant was contracted on a series of short-term contracts. According to the project manager, the first contract of three months was intended to allow UNIDO to assess the performance of the consultant. Thereafter, the contracts varied in period between three months to six months. The project manager estimates that three or four contracts were issued to the national consultant. It is worth noting that the project document indicates that the national consultant would be retained for the entire duration of the planned project, i.e. 36 months. The project manager attributed the short and erratic contracts issued to the national consultant to the delays in the transfer of funds from the donor to UNIDO.

The project showed a bias towards international expertise and management. This is made evident in the Terms of Reference (TOR) for the national consultant compared to the TOR for the international expert, both of which are included in the project document.

The project document assigns responsibility for the delivery of virtually all project activities to the international expert, as follows:

- (1) Organising a project inception workshop;
- (2) Assessing the capacity of counterparts to deliver training; identifying and providing specifications for essential tools required; determining training needs in aflatoxin control;
- (3) Conducting a baseline survey in selected regions to determine the level of aflatoxin contamination in ground nuts;
- (4) Identifying critical points along the groundnut supply chain that are susceptible to contamination by aflatoxins and proposing appropriate interventions; providing specifications if equipment or storage structures are necessary for demonstration purposes;
- (5) Preparing training manuals on aflatoxin control in English;
- (6) Identifying potential trainers/extension staff and preparing and implementing the training programme for extension staff;

- (7) Designing and organizing appropriate farmer training programmes to be implemented using manuals developed;
- (8) Assessing constraints that may limit adoption of new technologies and recommending appropriate interventions;
- (9) Conducting region wide training of farmers;
- (10) Organizing appropriate trader/processor training programmes to be implemented using manuals developed;
- (11) Evaluating impact of training programmes and revising training modules;
- (12) Developing materials (radio, TV, Posters, leaflets, etc.) for a campaign to minimize and control aflatoxins;
- (13) Organizing a nationwide campaign to reduce the contamination of commodities with aflatoxin moulds; and
- (14) Preparing an end of mission report

A review of the above listed tasks show that in addition to the provision of expert input regarding aflatoxin management, the international expert was also given logistical and organisational responsibilities. The TOR stipulated that the international expert would be required to undertake all of these tasks within a period of just three months, during two visits to Malawi.

In comparison, the responsibilities ascribed to the national consultant over a period of 36 months were very light indeed:

- (1) Coordination of activities between the various actors mainly UNIDO, counterparts and national implementing agencies;
- (2) Provision of logistical support to international and UNIDO HQ missions;
- (3) Support of the international expert to carry out his assignments (making necessary data available or accessible);
- (4) Organizing the translation of the training manuals into local languages;
- (5) Supporting the international expert in the identification of key media outlets for the aflatoxin management campaign; and
- (6) Preparing an end of assignment report.

The comparison between the respective responsibilities ascribed to the national and international experts appears to under-value the possible contribution by the national consultant. As could be expected, given the fact that the international expert spent only three months in Malawi, in practice, Malawian nationals actually undertook many of the tasks ascribed to the international expert. For example, four training workshops were undertaken directly by the project, two for extension workers (the trainers who would be training farmers) and another two for traders and processors. Of these, a NASFAM employee conducted the first two training workshops in June-July 2009, the international expert conducted the third workshop at the end of September 2009 and the NASFAM employee again conducted the last workshop at the beginning of October 2009.

3 Outputs

The project used an international expert to identify problems in the control and management of aflatoxin contamination along the groundnut value chain, through a combination of personal visits to warehouses and factories of traders/processors and the information from a baseline study which surveyed groundnuts and soil from farms belonging to 447 smallholder farmers. This information, combined with local knowledge and resources from NASFAM, was used to develop training material and build local capacity in aflatoxin management among 27 extension workers and 38 traders and processors. The capacitated extension workers then trained 1138 farmers with financial assistance from the UNIDO project.

The international expert also made recommendations on appropriate technologies and equipment to be used in order to address critical practises that promoted aflatoxin contamination of groundnuts in Malawi. Project resources were used to purchase and test the recommended equipment, in order to demonstrate the good practise being advocated by the project. The project therefore purchased four manual and four electrical shellers that were eventually transferred to NASFAM associations, to be used by NASFAM smallholder farmers. However, NASFAM and the coordinating agency, the Ministry of Agriculture, indicated that they expected the purchase and delivery of another piece of equipment, the Sante multi-purpose machine for tilling and groundnut lifting, which was recommended by the international consultant. However, this machine was not delivered and no explanation was offered to the local stakeholders in Malawi for the failure to deliver this machine. The project also purchased laboratory equipment and chemicals for aflatoxin testing at the laboratory at Chitedze Research Station and provided training to laboratory staff on the use of the equipment.

Lastly, the project hired a second international expert in order to assess aflatoxin testing capacity at the Malawi Bureau of Standards (MBS) and the ARET laboratory and to develop a business plan to test the feasibility of providing aflatoxin testing services on a sustainable commercial basis. While the output of this contract was a report rather than a complete business plan, the recommendations from this report have been used to strengthen other UNIDO projects within Malawi.

One planned output of the project did not materialize: the national media campaign to raise awareness about the importance of aflatoxin control and the health risks involved in consuming contaminated product was not undertaken due to problems in procuring the correct expertise. This campaign was expected to increase local demand for aflatoxin-free groundnuts.

4 Outcome and Impact

The logical framework within the project document states the expected outcome of the project as:

“The targeted groundnut and paprika farmers and processing enterprises are able to carry out effective aflatoxin management programmes and reduce wastage caused by mould contamination by 50 per cent”.

The project document indicates that a 25% reduction in loss of crop due to aflatoxin contamination is expected after the first phase of the project and a further 25% would be attained after Phase 2. Since this evaluation is being conducted after Phase 1 of the project, the outcome expected at this stage is a 25% reduction in crop loss due to aflatoxin contamination.

The project undertook a baseline survey and drafted a report based on the results in August 2009. This survey was instrumental in identifying farming practices that predisposed the Malawian groundnut crops to contamination by aflatoxins, based on the experience and knowledge of the international expert. However, at the time of preparing the baseline report, the results of the aflatoxin testing of the samples collected were not available. The UNIDO project manager indicated that NASFAM was supposed to undertake the testing of the groundnut and soil samples collected, but that the testing was delayed due to a shortage of chemicals.

The results of the tests were reportedly sent to UNIDO by the national consultant's office in November 2010, but it appears to have gone astray due to the extended absence of the project manager on medical leave at that time. The baseline report therefore does not incorporate the results of the tests and, consequently, does not reflect on the extent of aflatoxin contamination and on the crops lost due to this contamination.

The logical framework indicates that the project outcome would be verified by a ‘Survey of products from the target regions’ at the end of the project. The project manager reported that the project had hoped to collect and test groundnut samples from the farmers targeted for capacity building at the end of the project. However, this sampling did not take place due to the abrupt closure of the project. Given the lack of test results regarding aflatoxin contamination at the beginning of the project (baseline study) and the lack of a follow-up survey at the end of the project intervention, it is not possible to ascertain whether the project outcome has been realized.

However, anecdotal evidence from interviewees during this project evaluation indicates that the project has had a positive impact:

- The project increased knowledge and capacity among 1138 farmers and 38 traders regarding good practices to minimize the risk of aflatoxin contamination,

- The extension officers interviewed during this evaluation estimate that 65% of these farmers have changed their farming practices
- The evaluator interviewed representatives from two trading companies that participated in the training. Both these companies reported that they have improved storage and handling practices in line with the information received at the training.
- NASFAM reported that the aflatoxin testing conducted on members' groundnuts showed a decrease in aflatoxin levels in the 2010 harvest, compared to the year before. NASFAM attributes this improvement to improved on-farm management practices by farmers who benefitted from capacity building provided by the UNIDO project.

VI

Assessment

1 Relevance

Relevance to the Region

The New Partnership for Africa's Development (NEPAD) recognises the importance of agriculture in promoting sustained growth and reducing poverty across the continent. NEPAD has therefore adopted the Comprehensive African Agricultural Development Programme (CAADP) consisting of four mutually reinforcing pillars:

- (1) Sustainable land and water management;
- (2) Improved market access and integration;
- (3) Increased food supplies and reduced hunger; and
- (4) Research, technology generation, dissemination and adoption.

Pillar 4 is a cross-cutting pillar which supports the achievement of the other three pillars (Ministry of Agriculture, 2010).

The Capacity Building for Aflatoxin Management and Control in Groundnuts Project is relevant to the attainment of the CAADP by assisting groundnut farmers to meet the stringent aflatoxin standards of export markets. The project also sought to identify and disseminate suitable technologies to assist in the control of aflatoxins and would therefore assist in attaining pillar 4 of the CAADP.

Relevance to the Government of Malawi

The Malawi Growth and Development Strategy (MGDS) defines six key priorities: a) agriculture and food security; b) irrigation and water development; c) development of transport infrastructure; d) energy generation and supply; e) integrated rural development; and f) prevention and management of nutrition disorders, and HIV/AIDS. The strategy seeks to increase the contribution of the agricultural sector to economic growth through the production of food crops and value-added for domestic and export markets (Ministry of Agriculture, 2010). The activities of the UNIDO aflatoxin management project were therefore congruent with the objectives of the MGDS.

The Agricultural Sector Wide Approach (ASWAp) provides a detailed strategy and an implementation plan to give effect to the MGDS' goal to increase the economic contribution of the agricultural sector. The ASWAp aims to increase agricultural productivity and to contribute to 6% annual growth within the sector. The ASWAp focus areas are:

- i) Food Security and risk management;
- ii) Commercial agriculture, agro-processing and market development;
- iii) Sustainable Agricultural Land and Water management.

The ASWAp seeks to increase food security by increasing maize productivity, reducing post-harvest losses and diversifying food production, Malnutrition will be reduced by agricultural diversification that includes legumes, vegetables, fruit, small stock, rabbits, chicken, guinea fowl and fish. It also seeks to increase productivity of pulses and *groundnuts*.

With regard to focus area two, the ASWAp promotes commercial agriculture by smallholder farmers, diversification of crops, agro-processing to substitute imports and value-adding activities, developing the markets for inputs and outputs (both the domestic and export markets) and developing public-private-partnerships among producers, buyers, input dealers, service providers, and policy makers in the value chain.

The ASWAp seeks to increase the total value of agricultural exports by commodity: including tobacco, tea, cotton, sugar, coffee, macadamia, birds eye chillies, paprika, *groundnuts* and soybeans. The programme promotes quality through compliance to sanitary and phytosanitary standards and provides technical support services to enhance output quality including quality certification and regulatory services.

In terms of specific targets for groundnut production, ASWAp seeks to increase groundnut productivity from 0.5mt per hectare in the 2009/2010 year to 1.5mt per hectare in 2013/2014. The ASWAp proposes to increase groundnut productivity by:

- Providing subsidised legume seeds to 2,900,000 farmers between 2010 to 2014;
- Establishing 152 community seed banks in the between 2009 and 2014; and
- Increasing the number of farmers receiving advice on Good Agricultural Practises, so that a total of 4,897,500 farmers should have received GAP advice within the period 2009 to 2014.

The UNIDO Capacity Building for Aflatoxin Control and Management project was therefore highly relevant to the implementation of both, the national Growth and Development Strategy for Malawi as well as the Agricultural Sector Wide Approach strategy. The ASWAp document explicitly lists the lack of capacity in the Ministry of Agriculture's extension system as a potential risk that might undermine the implementation of the programme if capacity is not built through staff training and improvement in the conditions of service. The UNIDO project was therefore particularly relevant to the implementation of the ASWAp since it built the capacity of frontline extension staff regarding Good Agricultural Practise in aflatoxin management and enabled them to build the capacity of farmers in this regard.

As indicated in the project context section of this report, the UNIDO project complemented a number of other programmes underway in order to develop the

groundnut sector in Malawi. These programmes include the seed breeding programme at ICRISAT, the input subsidy programme managed by the Ministry of Agriculture, the groundnut production insurance scheme established by NASFAM and the World Bank and the Rural Livelihoods Economic Enhancement Programme (RLEEP) in the Chishya Extension Planning Area in Mchinji.

The UNIDO project is also congruent with export promotion strategy of the Ministry of Trade & Industry which seeks to diversify exports, especially exports to the high value markets in the European Union.

Relevance to Farmers in Malawi

The majority of the Malawian population is poor, with 52.4 per cent of the population living below the poverty line and 22.4 percent barely surviving. Dire poverty has resulted in high levels of malnutrition, with 43.2 percent of children under-five experiencing stunting and 22 percent underweight in 2004 (NSO, 2005).

Agriculture is the most important sector of the economy and employs approximately 80 percent of the workforce and contributes to national and household food security. Groundnuts account for 25% of the income of smallholder farmers, are an important aspect of household food security and provide a valuable source of cheap vegetable protein. Groundnuts are therefore a crucial part of the livelihoods strategy of smallholder farming families in Malawi. The UNIDO project, which built the capacity of smallholder farmers to produce aflatoxin free groundnuts, will therefore contribute to improving the nutritional and health status of poor Malawian farming families, in addition to maximising the income that they can earn from their groundnut crops by enabling its sale into more lucrative markets that impose more stringent sanitary and phyto-sanitary requirements.

Interviews with groundnut traders in Malawi indicated that the project's relevance to Malawian groundnut traders and farmers had recently increased, since South Africa, a traditional market for Malawian groundnuts, had recently imposed more stringent aflatoxin standards.

Relevance to UNIDO

The Capacity Building for Aflatoxin Control and Management in Groundnuts in Malawi project is relevant to two of UNIDO's three main thematic areas: trade capacity building and poverty reduction through productive activities.

UNIDO's initial involvement in the project, together with the Standards and Trade Development Facility, was motivated by their mandate to assist developing countries integrate into global markets by conforming to the quality and other standards of these markets. In order to successfully enter international markets developing countries need to provide evidence of market conformity and UNIDO sought to assist Malawi to develop their conformity infrastructure by developing the capacity of national standards

bodies to perform internationally-recognized aflatoxin testing. The project therefore investigated the aflatoxin testing capacity within Malawi and investigated the commercial sustainability of developing such capacity within an existing laboratory at the Malawi Bureau of Standards or ARET. In addition, the project sought to improve management practices throughout the groundnut value chain in order to enable Malawian exporters to overcome technical barriers to trade related to aflatoxin levels, thereby complying with the phyto-sanitary requirements of more lucrative export markets and engaging more positively in global trade⁶.

The project also sought to improve the incomes earned by smallholder farmers by building their capacity to produce aflatoxin free groundnuts, thereby earning a premium for their produce, an objective that fell squarely within the purview of the 'poverty reduction through productive activities' focus of UNIDO

⁶ UNIDO in Brief, www.unido.org

2 Ownership

Weak Ownership of Project by Government Departments

On her first mission to Malawi at the project inception stage, the UNIDO project manager held meetings with representatives at the highest levels of various government departments and agencies identified as being significant to the implementation of the project, including the Permanent Secretary for Agriculture and Food Security in the Ministry of Agriculture. She also met with representatives of the Ministry of Trade and Industry, Agricultural Research Services, ICRISAT, the Agricultural Development and Marketing Corporation (ADMAC); the Malawi Export Promotion Council, the Malawi Industrial Research and Technology Development Centre, the Malawi Bureau of Standards and NASFAM in order to introduce the UNIDO project and discuss cooperation and coordination of activities. The interactions generally ended in an agreement on how each organisation would engage with the project.

At the meeting with the Permanent Secretary (PS) of Agriculture and Food Security, he designated a staff member to act as the project coordinator. He also made office space for project staff available at the Chitedze Research Station.

In addition to the meetings conducted by the UNIDO project manager, the national and international consultants contracted by UNIDO undertook a number of meetings with various government organisations at the beginning of the project in order to enlist their cooperation and plan for the implementation of the project. The minutes of these interactions indicates willingness from government organisations to become involved in the project and to contribute time and effort to its implementation. However, this commitment did not seem to materialize in the actual implementation of the project. For example, in the minutes of a meeting with the Department of Agricultural Extension Services (DAES) and the Department of Crop Production (DCP) undertaken on 17 February 2009, DAES undertook to take the lead in the development of the training manual and indicated that they would work together with DCP on this task. However, in actuality, it was the international consultant contracted by UNIDO and a staff member of NASFAM that actually prepared the contents of the training manual. Thus, while the project documentation indicates good involvement and commitments from government departments at project inception, these commitments appear not to have been honoured and involvement appears to have waned fairly quickly.

The role of the project coordinator appointed by the Ministry of Agriculture appears to have been quite marginal in the implementation of the project. For example, in June 2009, he sent an e-mail to the UNIDO project manager complaining that project implementation had not yet started since the launch in February 2009. The e-mail raises a number of specific issues and includes the following paragraph:

“The farmers in Malawi as of now in June 2009 have already completed harvesting their groundnuts and they are busy selling them to various vendors. Chances are that

the longer we take to implement the Baseline survey the more difficult it will be to find groundnuts with the farmers or rather to find farmers with groundnuts for us to purchase for the Project.”

The project manager’s response to this point is the rather telling statement ‘Baseline survey has been concluded’. The coordinating agency and the project coordinator therefore appear not to have been very involved or knowledgeable about the project activities that were underway, even in the first five months of the project’s implementation.

The project coordinator appointed by the Ministry of Agriculture indicated that the enthusiasm for the project from government departments waned because (a) budget constraints prevented the implementation of a number of activities e.g. the purchase of motorbikes; (b) budget constraints meant that the second phase of the project would not be conducted, and (c) no explanations for these budgetary constraints and changes to the budget were given to local stakeholders.

The project manager however, indicated that information regarding the lack of funds for Phase 2 only became known to UNIDO at the end of Phase 1 and therefore could not have influenced participation or non-participation from government departments. The project manager believes instead, that personal motivations related to planning for his retirement, led to the project coordinator’s limited involvement in the project.

Regardless of the reasons, there appears to have been weak ownership of the project by government departments. This was illustrated by the fact that:

- The national consultant was unable to secure a meeting with anybody from DAES for the evaluation of the project;
- The interviewee from the Ministry of Trade and Industry, who is responsible for managing the Ministry’s relationship with UNIDO, had no knowledge of the project beyond one meeting with the international consultant contracted to develop the business plan regarding the commercial viability of aflatoxin testing; and
- Nobody within the Ministry of Agriculture had been designated to ‘take over’ responsibility for the project from the now retired project coordinator or, more importantly, take on responsibility for continuing work related to aflatoxin management and control.

Staff turnover within government organisations appears to have been high and the staff members from many organisations that were directly involved in the project are no longer within the organisations. This was the case for the Ministry of Trade and Industry, the Ministry of Agriculture and ARET. This staff turnover, coupled with inadequate management of project information and ineffective ‘project handover’ practices has led to poor institutional memory within government departments and has impacted negatively on ownership of the project. In effect, relationships were built with people, not organisations and a change of personnel has led to the demise of the relationship with the organisation.

Strong Ownership of Project by NASFAM

NASFAM was identified during the project formulation phase as an important beneficiary organisation. The organisation was identified as being important to the project because:

- (a) It is the strongest and best organised farmers association in Malawi with a membership of approximately 100,000 smallholder farming families. Twenty thousand of these smallholder farmers are engaged in groundnut farming, enabling access to the direct beneficiaries targeted by the project;
- (b) The commercial trading arm of NASFAM is one of the few trading companies in Malawi that has been actively testing for aflatoxin contamination in the groundnuts they purchase.

However, NASFAM has been important to the project as more than just an organisation that benefits from the capacity building activities offered by the project. Rather, the organisation has been an active partner in the implementation of the project. NASFAM assisted in the implementation of the project by:

- Working with the international consultant in developing the aflatoxin training manual;
- Conducting the aflatoxin tests on the groundnut samples for the baseline survey;
- Conducting the two training workshops for the extension workers who would undertake the training of the groundnut farmers;
- Conducting one of the two training workshops for traders and processors;
- Undertook evaluation of the training programmes for farmers and frontline extension staff together with the national consultant; and
- Testing and reporting on the groundnut decorticators procured from India in order to meet the requirements of the Agricultural Technology Clearing Committee (ATCC). The committee, which is composed of members from the National Research Council, the private sector, the University of Malawi and the Department of Agricultural Research, require that new agricultural technologies being introduced into Malawi be tested for three years within the country before it is released for use in the market.

In summary, NASFAM's ownership of the project has been high and NASFAM's involvement has been critically important to the implementation of the UNIDO project.

3 Efficiency

Although the project document included an activity-based budget, the financial reporting on the project followed the traditional budget lines used by UNIDO. Consequently, a detailed reflection on the efficiency of project inputs against project outputs is not possible.

The original mission to formulate the project took place in November 2007, along with the proposed funder, ComMark Trust. The project document envisages that the project implementation would commence by July 2008, but the actual implementation of the actual inception workshop with stakeholders in Malawi occurred only in February 2009, following a delay in the approval of funds. The transfer of the second tranche of funds from ComMark Trust to UNIDO was also delayed when ComMark Trust phased out and the project was transferred to TradeMark SA. The project manager reported that the slow release of funding delayed project activities and the pace of implementation.

The pace of implementation was also delayed by UNIDO's administrative and financial procedures. In terms of accepted protocol, the national consultant in Malawi would request quotations for local goods and services (e.g. venues for training) and develop a budget for a particular activity. This budget would then be submitted electronically to the project manager in Vienna, who would approve the budget and submit the documentation to UNIDO's Finance Department in Vienna, so that they could prepare a Miscellaneous Obligation Document (MOD). The MOD would then be sent to the UNIDO Regional Office in South Africa for approval. After approval, the SA Office would transfer funds to the United Nations Development Programme in Malawi. Once the documents had been processed by UNDP, the national consultant was able to pick up cash from the UNDP office in order to pay project expenses. Alternatively, if the bank details of a specific service provider was available and reflected in the MOD, the UNDP would pay the service provider directly. The project manager reported that if the system was working properly, then this process should take a week. However, the national consultant reported that this long and complex process often took much longer and delayed project activities, including the aflatoxin training for extension workers and farmers which was supposed to have been undertaken in May-June 2009 during the groundnut harvesting season and was supposed to have included practical in-field activities. Instead, the delay in the transfer of funds to Malawi meant that the training of extension workers occurred in early July and that was followed by the farmers' training thereafter. It is worth noting that the evaluation survey conducted after the training, indicated that both frontline staff and farmers saw the lack of practical field-based activity as a shortcoming of the training offered by the project.

The UNIDO project manager also recognised the delay of funds from UNDP to the project in Malawi as a problem that hampered the implementation of the project. The project manager met with the UNDP Co-ordinator for non-resident agencies in September 2009 in order to address this issue. However, despite promises to 'look into the matter', this meeting did not resolve the issue and the flow of funds from UNIDO

HQ to the project continued to be a problem that hampered the delivery of project activities, including the activities involved in this project evaluation two years after this intervention.

As indicated in the previous section on management of the project, the short and erratic contracts for national project personnel impacted negatively on efficiency since it compromised commitment to the project and threatened to compromise continuity. The national consultant was contracted on a series of short-term contracts. According to the project manager, the first contract of three months was intended to allow UNIDO to assess the performance of the consultant. Thereafter, the contracts varied in period between three months to six months. Rationality dictates that consultants manage the risk and uncertainty associated with consulting by investing time and effort in developing a 'pipeline' of work, so as to ensure a steady income stream.

A consultant who has been issued a contract for three months or even six months, therefore, quite reasonably, starts looking around for new work quite early in that contract period. Since this search requires time and effort, the consultant's input on the project contract is therefore not totally focused and likely to be of lower quality than if the consultant was issued a contract of, for example, a year. It is worth noting that the project document indicates that the national consultant would be retained for the entire duration of the planned project, i.e. 36 months.

The value of inputs from international consultants was questioned by some national stakeholders interviewed by the evaluator. National stakeholders acknowledged the technical abilities of the first international expert engaged by the project, but appeared to have had higher expectations of the consultant in terms of his contribution to the project activities. Different stakeholders claimed that they had had to undertake the major part of the work in preparing the training manuals as well as the baseline survey.

The value of the international consultant hired to prepare the business plan for an accredited aflatoxin laboratory was questioned more vociferously. He reportedly appeared quite suddenly, with little introduction to project stakeholders who also had very little understanding of his remit. He undertook a number of interviews with local stakeholders and then reportedly 'disappeared' with no feedback to local stakeholders. The people at MBS and ARET who were engaged by the evaluator, including the Chief Executive of ARET, had no knowledge of the outcome of the work undertaken by this international consultant, and did not have sight of the product he produced. The national project co-ordinator from the Ministry of Agriculture and the national consultant also reported that they did not receive the final report from this consultant.

As indicated in the previous section on the management of the project, the terms of reference for the international consultant attributed responsibility for almost all project activities to this international expert, including responsibility for co-ordination and logistics. As could be expected, given the fact that the international expert spent only three months in Malawi, in practice, Malawian nationals (NASFAM staff or staff from the

office of the national consultant) actually undertook many of the tasks ascribed to the international expert. This appears to have generated unnecessary tension that could have been avoided if the division of responsibilities between the national and international expert/s in original TORs had been more reasonably allocated.

Stakeholders in Malawi reported that the 'close-out' of the Capacity Building for Aflatoxin Control and Management project was unstructured and abrupt and left stakeholders confused about UNIDO's intentions and the possible future of the project and the work in aflatoxin management that it initiated. The project should have had a proper exit strategy that reflected on how capacity building for aflatoxin management might be continued after the project.

The UNIDO project manager acknowledged that capacity building activities ended abruptly, but attributed this to the funder's communication that funding for Phase 2 of the project would not be forthcoming in the following financial year, as expected by UNIDO. Regardless, of any change in the funding circumstances of the project, UNIDO should at least have sent a formal written communication to local stakeholders advising on the most recent developments on the project and proposing ways in which the work started by the project could be taken forward, so as to update stakeholders and hopefully initiate a discussion regarding the sustainability of work in aflatoxin management.

4 Effectiveness and Impact

The project approach promised to be effective in managing and controlling aflatoxin contamination within groundnuts produced in Malawi, since it sought to analyse and address practises all along the groundnut value chain, starting with proper crop production management and handling in farmers' fields to post harvest storage followed by marketing and processing conditions. The project also sought to address the issue of capacity building for accredited aflatoxin testing in order to enable the testing, certification and export of the improved groundnut crops within Malawi. This holistic value-chain approach to quality improvement promises the best results in improving and maintaining quality of product, thereby promoting the export of market compliant goods.

The following table is an excerpt from the logical framework contained in the project document and reflects the Expected Outcome of the project, together with the related Objectively Verifiable Indicator (OVI) and Source of Verification:

	Intervention logic	Objectively verifiable indicators	Sources of verification
Outcome(s)/ Immediate objective(s)	The targeted groundnut and paprika farmers and processing enterprises are able to carry out effective aflatoxin management programmes and reduce wastage caused by mould contamination by 50 per cent.	50% (25% in phase 1 and 25 in phase 2) decrease in aflatoxin contamination for products from project target regions at end of project	Survey of products from target regions

The logical framework therefore indicates that a 25% reduction in loss of crop due to aflatoxin contamination was expected after the first phase of the project.

In order to credibly reflect on whether this target had been reached and expected outcome realised, a baseline survey was undertaken in early 2009 in order to establish the level of aflatoxin contamination before the implementation of the project. The report based on this baseline survey is dated August 2009 and assisted in identifying the farming practices that predisposed the Malawian groundnut crops to contamination by aflatoxins, based on the experience and knowledge of the international expert.

However, at the time of preparing the baseline report, the results of the aflatoxin testing of the samples collected were not available due to a shortage of chemicals to undertake the testing. The results of the tests were reportedly sent to UNIDO by the

national consultant's office in November 2010, but it appears to have gone astray due to the extended absence of the project manager on medical leave at that time. The baseline report therefore does not incorporate the results of the tests and, consequently, does not reflect on the extent of aflatoxin contamination and on the crops lost due to this contamination.

As indicated in the excerpt from the logical framework above, the project outcome was to have been verified by a 'Survey of products from the target regions' at the end of the project. The project manager reported that the project would have collected and tested groundnut samples from the farmers targeted for capacity building at the end of the project. However, this sampling did not take place due to the abrupt closure of the project.

Given the lack of test results regarding aflatoxin contamination at the beginning of the project (baseline study) and the lack of a follow-up survey at the end of the project intervention, it is not possible to ascertain, with any certainty, whether the project outcome has been realised, even though anecdotal evidence reflected in this evaluation report indicates that the project has been effective in decreasing aflatoxin contamination in groundnuts in Malawi.

The project appears not to have reached its target of training 40 frontline extension staff. While the project's 'Final Report' prepared in December 2010 reports that "A total of 30 extension staff participants and 8 participants from NASFAM and 2 participants from the Ministry of Health were trained as trainers in aflatoxin management"; the 'Frontline Training Workshop Report' prepared by the NASFAM staff member who delivered the training reported that "There were supposed to be a total number of 30 participants in the training workshops but 27 participants attended the trainings.". This means that the project reached only 68% of the targeted stated in the project document in terms of the number of extension staff trained.

The project appears to have been effective in building the capacity of traders and processors in aflatoxin management and in convincing them to adopt good practises that reduce the risk of aflatoxin contamination. The project document did not set a target for the number of traders and processors to be trained by the programme, but rather, focuses on the effectiveness of the training in effecting behavioural change among the trainees. The logical framework defines the Objectively Verifiable Indicator (OVI) for this activity as: "% increase in number of traders and processors in selected target communities applying appropriate methods in the storage, transportation and storage of selected commodities" and names the Source of Verification as "Survey Report". The project manager indicated that the survey report referred to here is the report evaluating the impact of the aflatoxin training provided by the programme. However, this evaluation of the training was undertaken in field by the staff from NASFAM and the national consultant's office between 11 and 26 November 2009 and focused only on the extension officers trained by the UNIDO project and the farmers that these extension officers trained thereafter. The 'Survey report' therefore does not reflect on the OVI for this activity.

However, the evaluator was able to interview three representatives from two trading companies from among the 38 participants on the aflatoxin management training offered to traders. These interviews indicated that both companies have changed handling and storage practises in order to minimise the risk of aflatoxin contamination. It is commendable that the project was able to target the right individuals within the trading companies and that these individuals were sufficiently motivated and capacitated to effect changes in company practise upon their return to the workplace.

The project document did not set a target for the number of farmers to be trained by the extension workers who received training from the project. Moreover, it does not describe the methodology to be used in cascading the training down to farmers after the training of the trainers/frontline extension staff. However, the final report indicated that “each trainer will have to train a minimum of 50 farmers in their respective Extension Planning Areas...”

According to this model, the 27 trained extension workers should then have trained 1350 farmers. However, the final report indicates that only 1138 farmers were trained, 84.3% of the original target. However, it should be noted that the training of farmers is one of the few activities that was supposed to have continued in the second phase of the project, which hasn't yet taken place. Phase 1 of the project has therefore been particularly effective in providing access to training to farmers.

As with the training of traders, the OVI indicated in the logical framework, focuses on the effectiveness of the farmer training in effecting behavioural change among the farmers rather than the number of farmers to be trained. Again, the logical framework indicated that the Source of Verification for this OVI would be a ‘Survey Report’ that would reflect on the “% increase in number of farmers in target communities that are applying new methodologies in the production and storage of ground nuts”.

The survey questionnaire administered to farmers during the evaluation of the training did pose questions to farmers about whether and how they had changed farming practises since the training. The survey indicated that farmers intended to change farming practises but that these changes had not yet been effected since the growing season had yet to begin.

The evaluator had the opportunity to interview 13 farmers who had received training from the programme as well as 3 of the 27 extension workers who were trained. The farmers reported that they had changed their farming practises in accordance with the teachings of the aflatoxin control and management training. The extension workers interviewed estimated that 65% of the farmers trained had indeed changed practises; but indicated that follow-up monitoring and advice was required in order to assist farmers to follow the new practises introduced.

NASFAM, which has in recent years been conducting consistent testing of the groundnuts purchased from its member farmers, reported a decrease in the levels of

aflatoxin contamination detected through tests conducted on the 2010 harvest. They attribute this improvement to the training provided to farmers through the UNIDO project in the latter half of 2009.

The project was effective in strengthening NASFAM and building capacity among NASFAM member farmers. The 1138 farmers trained by the UNIDO project included NASFAM members. Since the training records do not differentiate between NASFAM members and non-members, it is not possible to say exactly how many NASFAM member farmers were trained. In addition, the UNIDO project trained eight NASFAM staff members who continue to train NASFAM member farmers using the training material developed by the UNIDO project.

In addition, the UNIDO project transferred ownership of eight mechanical decorticators to NASFAM. This included four manual decorticators and four electric decorticators. A pair of the decorticators, one manual and one electrical, was delivered to the farmer associations in each of the four districts: Mchinji, Nkhotakota, Ntchisi and Mzimba. The purchase of the decorticators was recommended by the international expert in order to abate the practise of hand-shelling of the groundnuts since farmers often wet the groundnut pods in order to make hand-shelling easier, a practise that hugely increases the likelihood of aflatoxin contamination. The purchase of these machines will therefore greatly increase NASFAM's capacity to deliver aflatoxin free groundnuts to the market.

Anecdotal evidence indicates that the project has been successful in delivering a good training product that has benefitted farmers and traders in the six target districts and assisted them in adopting good practises that should decrease the risk of aflatoxin contamination. However, the scale of the project, as planned and as delivered thus far, is fairly small and will not affect the quality of the groundnut crops from Malawi as a whole.

For example, NASFAM, a countrywide organisation, represents 100,000 or 5% of an estimated 2,000,000 farming families in Malawi. Twenty percent or 20,000 of the NASFAM members grow groundnuts. Even if we assume that all 1138 farmers that were trained by UNIDO were NASFAM members, this would mean that only 5.7% of the NASFAM members who grow groundnuts have been able to access training from the UNIDO project. The training activity would therefore have to be scaled up significantly in order to be able to make a difference to groundnut crop production in Malawi.

5 Sustainability

As indicated in the section VI (ii) there appears to be weak ownership of the project by government departments. This does not bode well for the internalisation of aflatoxin control and management capacity into the extension system managed by the Ministry of Agriculture. Despite the fact that project documents indicate that a number of government departments committed to contribute to the implementation of the project, these commitments appear not to have been honoured beyond participation at meetings. Even the coordinating agency, the Ministry of Agriculture appears to have been only marginally involved in the implementation of the project and nobody within the Ministry of Agriculture was designated to 'take over' responsibility for the project from the now retired project coordinator. More importantly, given the fact that the UNIDO project activities appeared to be drawing to an end, nobody within the Ministry has been designated to take on responsibility for continuing work related to aflatoxin management and control in groundnuts.

Staff turnover within government organisations has been high, with the staff members from many organisations that were directly involved in the project no longer within the organisations. This was the case for the Ministry of Trade and Industry, the Ministry of Agriculture and ARET. This staff turnover, coupled with inadequate management of project information and ineffective 'project handover' practices has led to poor institutional memory within government departments and has impacted negatively on prospects for sustainability of the project. In effect, capacity was built within specific people, not organisations and there is little likelihood that these government departments will continue the work begun by the UNIDO project.

However, the government of Malawi has identified groundnuts as a key crop for both, household consumption (to fight malnutrition) and for export promotion, and various initiatives are underway in order to support the growth and development of the this sub-sector. These initiatives include:

- The groundnut breeding programme at ICRISAT;
- The provision of groundnut seeds as part of the government input subsidy programme;
- The promotion of Good Agricultural Practises and the development of community seed-banks through the ASWAp programme;
- The groundnut production insurance scheme implemented by NASFAM and the Insurance Association of Malawi; and
- The Legumes Platform initiated by Malawi Research in Use and now facilitated by the African Institute for Corporate Citizenship (AICC).

The current focus on the development of the groundnut sub-sector indicates that a critical mass of activity might be reached, leading to the effective promotion and support of the groundnut sub-sector.

Even though the prospects for the sustainability of the UNIDO project as a whole appears weak, the project developed robust training materials that continue to be used for training by other organisations, example NASFAM.

An extension officer working in the in Chishya Extension Planning Areas in Mchinji, also indicated that he has included the material from the UNIDO programme in the training that he conducts for farmers under the auspices of the Rural Livelihoods Economic Enhancement Programme (RLEEP).

The Chitedze Research Station representative interviewed requested electronic copies of the training manual on aflatoxins (the English version as well as the three local language translations) so that the material may be utilised within the ASWAp programme.

Two trading companies interviewed, Farmer's World and Export Trading Company, requested electronic copies local language training manuals on aflatoxin so that they may distribute them at the outlet/collection points that they have established within rural communities.

6 Performance against Outcomes & Outputs

<p>OUTCOME: The targeted farmers, traders and processors are able to effectively control and manage aflatoxin contamination in groundnuts and reduce the loss of commodities due to aflatoxin contamination by 25 percent</p>	<p>A baseline study was conducted however, NASFAM testing for aflatoxin levels on samples of groundnuts and soil collected in the baseline study was delayed due to a shortage of chemicals. The results of the tests were reportedly sent to UNIDO in November 2010, but went astray. Consequently, the baseline report does not incorporate the results of the tests and does not reflect on the extent of aflatoxin contamination (and crops lost). It is therefore uncertain whether the planned outcome from the project has been realised.</p>
<p>Output 1: Counterpart organisations (ICRISAT, Ministry of Agriculture) & NASFAM able to carry out regular monitoring to identify problem areas/regions based on a mapping methodology and baseline study</p>	<p>There is no evidence of a regular monitoring system for aflatoxin management having established within the Ministry of Agriculture or ICRISAT. The project did increase the Ministry of Agriculture's capacity to conduct aflatoxin testing by purchasing laboratory equipment and chemicals for the Chitedze Research Station. However, a representative of Chitedze indicated that the laboratory did not become operational due to the 'spoiling' of the chemicals purchased, due to incorrect storage.</p>
<p>Provide essential equipment and tools</p>	<p>8 decorticators were purchased for NASFAM; Laboratory equipment and chemicals were purchased for Chitedze Research Station. NASFAM and stakeholders indicated that they expected the delivery of a tiller called the Sante, but that it was not delivered and that they received no explanation from UNIDO for the failure to deliver.</p>
<p>Baseline survey to determine the level of aflatoxin contamination in ground nuts in the selected region</p>	<p>The baseline survey was conducted, but did not determine a baseline regarding the levels of aflatoxin contamination or crop losses (see first row above).</p>

Prepare training manuals in English	Five hundred manuals were printed and distributed to extension workers.
Output 2: 40 Extension staff trained & disseminating skills in managing aflatoxins in groundnuts	Twenty-seven extension workers were trained. Extension workers were drawn from DAES, Department of Health and NASFAM.
Output 3: Farmers in selected areas are able to carry out recommended best practices for aflatoxin control in pre and post harvest activities.	1138 farmers were trained. Extension officers interviewed estimate that 65% of these farmers have changed their farming practices.
Output 4: Traders and all actors along the groundnut/supply chain are using best practices in handling, storage and utilization of the commodity to minimize aflatoxin contamination	Thirty eight traders and processors were trained. The traders met reported that they have changed storage and handling practises.
Output 5: Awareness created on a national scale on aflatoxin contamination and its management	Activities related to this output were not undertaken due to problems in procuring appropriate expertise.
Output 6: Field manuals developed and translated in the various local languages on aflatoxin management and control and are being used effectively by the stakeholders.	The manuals were translated into three local languages, Yao, Chichewa and Tumbuka, but not printed. The Chitedze Research Station and Farmer's World requested soft copies of the manuals to disseminate to farmers.
Output 7: MBS and ARET are able to assess the feasibility and sustainability of providing local accredited testing and certification services for exporters	Based on the international consultant's advice that the laboratory could not be established within a 2 year timeframe and the budgetary constraints on this project, the business plan was not developed. However, recommendations from the international consultant were fed into the larger EU-UNDP-UNIDO Trade Capacity Building project and the NORAD-UNIDO project for Malawi.

VII

Issues with Regard to a Possible Next Phase

Despite, the lack of empirical evidence, the UNIDO Capacity Building for Aflatoxin Control and Management in Groundnuts project, has been seen to be effective in training farmers and traders in good farming and stock management processes that minimise the risk of aflatoxin contamination at different stages along the value chain. The training offered to targeted beneficiaries has been very positively evaluated by all stakeholders and participants and has been effective in convincing targeted beneficiaries to adopt good practises in the production and management of the groundnut crops. It is therefore recommended that Trademark SA release funds for Phase 2 of the project. If Trademark SA is unable to fund the project, UNIDO should attempt to mobilise the necessary funds from other sources.

The project manager should investigate the possibility of linking Phase 2 of the project to the Norwegian Agency for Development (NORAD)funded Market Access and Trade Capacity Building Support for Agro-Industrial Products in Malawi Project. This project is being implemented by the Trade Capacity Building unit of UNIDO and has accessed Euro 2 million from NORAD, with the potential to access a further Euro 4 million from the European Union and UNDP. The project seeks to build capacity in the national quality conformity assessment infrastructure within the MBS and to link this to international quality infrastructure. The project also seeks to assist selected microenterprises operated by NASFAM farmer associations to gain quality accreditation, thereby increasing their access to regional and international markets. According to the Ministry of Trade and Industry representative, who is also the UNIDO Focal Point within the Ministry, the entire budget on this project has not yet been allocated, therefore offering the opportunity for the Capacity Building for Aflatoxin Management and Control project to leverage the budget based on complementarities between the two projects.

UNIDO should use NASFAM as the Counterpart agency/Hosting agency for Phase 2 of the project. As indicated in this report, NASFAM has been instrumental in the implementation of Phase 1 of the project, for example, in the delivery of training to the trainers (extension staff) and traders/processors. This included the training of trainers who would service farmers who are not NASFAM members, as well as the training of traders/processors who are potential competitors to NASFAM. NASFAM's contributions and level of professionalism during project delivery, in addition to their continued commitment to training their member farmers in aflatoxin management indicate that chances of project sustainability would be greatly increased if NASFAM is given a more

central responsibility in the implementation of Phase 2 of the project. This would allow NASFAM to take ownership of the project in a more empowered fashion and would allow the organisation to further build its own capacity and profile as a central agency in promoting the control and management of aflatoxin contamination in Malawi.

In order to promote the adoption of good practises in aflatoxin management by actors all along the groundnut value chain (especially small farmers) in Malawi, it is important that Phase 2 of the project vigorously promotes the adoption of the technologies that were recommended by the international consultant, if testing deems that it is appropriate to the Malawian context.

The testing of the decorticators has been carried out by NASFAM and it has been judged to be appropriate for use in Malawi, once the hole size on the sieves have been changed to accommodate for the larger varieties of Malawian groundnuts. These sieves can either be fabricated locally or the larger sized hole can be specified at the time of purchasing the machine from the foreign supplier (if the machine in its entirety is not able to be fabricated by local factories).

The recommended multi-purpose tiller and lifter (the Sante) should be procured and tested for use in Malawi as a matter of priority in Phase 2. Moreover, the project documentation reported that the 'package' of appropriate equipment for groundnut farmers, which includes the tiller and the decorticator, would be priced between USD 200-300. The documentation acknowledges that this price is not tenable for Malawian groundnut farmers and suggests 'communal ownership' of this equipment as a means of expediting access. UNIDO (together with NASFAM and other stakeholders familiar with local customs) should work out the details of the proposed 'communal ownership' arrangement and facilitate the implementation of the model with local farmers.

Given the public health dimensions to aflatoxin contamination, it is important that the proposed national media campaign to create general awareness be undertaken as a matter of priority in Phase 2 of the project. Once local consumers understand the effects of consuming aflatoxin contaminated nuts on human and animal health, this will create a local demand for aflatoxin free nuts, thereby pushing farmers and traders to bring aflatoxin free product to the local market.

If the project is to re-open international markets to Malawian groundnuts by addressing the quality issues related to aflatoxin contamination; it cannot run the risk of the detection of aflatoxins in *any* groundnuts being exported from Malawi. The project therefore needs to build the capacity of groundnut farmers within Malawi as a whole, rather than targeting selected farmers. The quality and the perceptions of quality of the Malawian groundnut crop as a whole will have to be addressed in order to gain re-entry and retain access to international markets. The project will therefore have to scale up training to reach a higher proportion of extension officers (and therefore farmers) and traders. The project should analyse the numbers and develop a model of training delivery that will allow the project to reach as close to one hundred percent of farmers marketing surplus groundnuts as possible.

Phase 1 of the project used the membership list of the Grain Traders and Processors Association (GTPA) as the basis on which to issue invitations to aflatoxin training workshops for traders and processors. In the interests of equity and inclusivity, Phase 2 of the project should offer training for traders and processors more widely and include those that are not associated with the GTPA.

If the quantum of funding that is mobilised will allow it, UNIDO should include the producers of other commodities that are susceptible to aflatoxins within the ambit of the project. It would be especially important to include maize producers within the project (since it is the staple that makes up the bulk of the Malawian diet, aflatoxin contamination of this product is likely to have a disproportionate effect on national health). Paprika and macadamia nuts are other products that should be included in the project, given the fact that they have been targeted by the Malawian government as important crops for export diversification.

The needs to be reviewed regarding capacity for aflatoxin testing and monitoring in order to determine whether all the issues have been addressed or will be addressed via the current and planned projects underway within the public and private sectors. Laboratory capacity for aflatoxin testing is increasing within the private sector through investments by companies like Valid Nutrition and associations like NASFAM. Donor funding from USAID has increased testing capacity at the Chitedze Research Station, where the laboratory is now becoming operational. Personnel from MBS have benefitted from training provided by the EU funded SADC/SQAM project. MBS will also benefit from equipment and capacity building services to be provided by the EU-UNDP-UNIDO Trade Capacity Building project and the NORAD-UNIDO project for Malawi.

The Capacity Building for Aflatoxin Control and Management project should review the intent and/or outcomes of these initiatives in order to ensure that sufficient capacity for aflatoxin testing and monitoring is available within the system; and to determine if any further action might be necessary currently or in future.

VIII

Recommendations

Recommendations to UNIDO

- UNIDO should update the project document and resubmit to ComMark Trust/Trademark SA by May 2012 in order to access funding for Phase 2. If Trademark SA is unable or uninterested in funding the second phase, UNIDO should attempt to raise the necessary funds elsewhere and should attempt to begin the implementation of Phase 2 by July 2012.
- The updated project document for Phase 2 should focus on:
 - Designating NASFAM as the counterpart/host agency that is primarily responsible for the delivery of the project. The national consultants hired should be located at NASFAM's office and NASFAM should adopt a more primary role in project management, in order to allow for greater ownership and sustainability of the project;
 - Enabling the uptake and adoption of recommended equipment by farmers. This would require that UNIDO & NASFAM define the communal model/s of ownership and use rights in conjunction with local stakeholders;
 - The implementation of a more proactive monitoring system in order to track the prevalence of aflatoxin contamination and offer farmers in-field advice on how to manage any outbreaks;
 - The implementation of the national media campaign that highlights health risks associated with the consumption of goods contaminated by aflatoxins;
 - The scaling up of training offered to traders, extension workers and therefore farmers.
- The project should establish a Monitoring and Evaluation system that measures the outputs, outcomes and impact of the project, at the outset of Phase 2. In order to ensure that the effectiveness of Phase 2 of the project is demonstrable, UNIDO should establish a baseline for the current levels of aflatoxin contamination of the groundnut crops of targeted beneficiaries. Since effectiveness will be demonstrated by measuring the change engendered by the project in this baseline, it is important that the methodology is properly defined and repeated at the end of Phase 2.
- UNIDO should consider the inclusion of a control group of groundnut farmers and traders, who do not receive project benefits, within the baseline exercise. This would allow the effect of the project intervention to be more rigorously established and would address the issue of attribution more clearly. Since the inclusion of this control group

will increase the cost of the baseline exercise, UNIDO should weigh the costs of this addition against the benefits to be gained.

- UNIDO should include the monitoring of the OVIs related to the outcomes and outputs, as defined in the logframe, as discrete activities within the project budget and project schedule in order to integrate these activities into the implementation of the project.
- Given the high staff turnover within government organisations in Malawi, the national consultant and/or the counterpart organisation (if this is NASFAM in Phase 2) should manage this risk by assuming partial responsibility for handover of project duties to new incumbents. Thus, PSC members and other representatives of government departments should be encouraged to inform the project of their imminent departure and to get their organisations to designate an official as a replacement before their departure. The departing official should then facilitate an introductory meeting between the new official and the national consultant for the project. The meeting should brief the new official on all aspects of the project and the status of particular activities and should involve the handing over of a project file from the old official to the new. This 'system' should be instituted at the beginning of Phase 2 and should be included in the Terms of Reference for the PSC and any smaller group that is involved in the implementation of the project.
- UNIDO should make electronic copies of the training manual (in English and the three local languages) available to the Chitedze Research Station for use in ASWAp training. The documents should be mailed to Dr. Makumba at the e-mail address: wilk.makumba@gmail.com as soon as possible.
- UNIDO should use Farmers World and the 'collection centres' established by other groundnut trading companies to disseminate the local language manuals and to undertake awareness raising activities for farmers. Farmers World indicated that they would like the electronic copy of the local language manuals, so as to facilitate dissemination of the information regarding aflatoxin management. UNIDO should insert a watermark of the documents saying 'Not for Sale' and e-mail PDF versions to Farmers World at the address: ashif@farmersworld.net as soon as possible.

Recommendations to Government

- Given the congruence of the project with the objectives and strategies of the government of Malawi, government departments should take greater ownership of the project and lead the project implementation more vigorously. While the project is a fairly small project in terms of funding, it seeks to address an issue, aflatoxin contamination, which is serious enough to hinder the government's drive to commercialise agricultural production, diversify agricultural exports and fight malnutrition within Malawi.

It is therefore in the country's and the government's best interests to take a more instrumental role in overseeing and directing this project, in order to ensure synergies with ongoing extension systems; and to ensure that the extension system internalises the ability to control and manage aflatoxin contamination in groundnuts.

During the project evaluation, the representative from the Ministry of Trade and Industry (MIT) indicated that MIT should lead a Project Task Team, which included NASFAM, the Ministry of Agriculture, Chitedze Research Station and UNIDO, in order to lead project implementation in Phase 2. This proposal is motivated by MIT's designation as the general counterpart to UNIDO given both organisations' focus on industrial development. However, MIT should then ensure that the Department of Agricultural and Extension Services engages fully and proactively with the project in order to internalise aflatoxin management capacity within the extension system.

Recommendations to Trademark SA

- Given the fact that the Capacity Building for Aflatoxin Control and Management in Groundnuts in Malawi project has been effective in delivering a highly regarded training product that has effectively built capacity and promoted the adoption of good practises along the groundnut value chain, it is recommended that Trademark SA make funding available for the second phase of the project, subject to the submission of a revised project document that incorporates the recommendations in preceding sections. Given the lapse of time since the end of Phase 1, it is imperative that the funding agreement be expedited and that the implementation of Phase 2 starts as soon as is possible, preferably by July 2012.
- The second phase of the project should focus on:
 - Scaling up the training provided to traders, extension workers and farmers;
 - Promoting the adoption of good practise in terms of the package of equipment recommended;
 - Undertaking the national media campaign regarding the effect of aflatoxins on human health;

More importantly however, Phase 2 should focus on the institutional arrangements that will ensure the sustainability of the project intervention. This means that the project should focus on ensuring that government:

- Internalises aflatoxin control and management capacity within the extension system
- Develops a proactive monitoring system that monitors farming practise and aflatoxin contamination in-field and advises farmers on how to manage these incidents.

IX

Lessons Learnt

- A well designed and adequately resourced project M&E system is essential in order to measure and demonstrate the project outcomes and the project impact, a matter of critical importance in justifying project performance and securing further funding from donors. Each project should translate the OVIs reflected in the logframe into a project M&E system at the project inception stage.
- Short and often erratic contracts undermine commitment and ownership of a project, and are likely to encourage unnecessary changes in project personnel, thereby undermining project implementation in the long run. If project activities warrant, UNIDO should offer national consultants or 'in-country' project implementation staff contracts that mirror project timeframes, so that project continuity is ensured. Consecutive short term contracts unnecessarily compromise commitment to the project and present consultants with bad incentives.

Contracts with consultants should include 'probation periods' in order to allow UNIDO to judge whether an individual is capable of undertaking the necessary work. UNIDO should utilise performance management systems to manage performance on contracts, rather than merely issuing short contracts as a means to incentivise good performance.

- The contract terms of international experts (not Chief Technical Advisors) are usually quite limited in period and this time should be focused on technical matters rather than expecting international consultants to offer project management support or logistical/organisational support to project managers who are geographically removed from the project.
- Maintaining stakeholder interest and involvement requires, at the minimum, the demonstration of continued project momentum. This requires frequent communication to all local stakeholders about the status of project activities and developments, especially when the project manager is not present locally. A project mailing list with bi-monthly or monthly updates on the progress of 'unseen' activities like procurement and the transfer of funding from funders, could be a quick and effective means of keeping stakeholders engaged and allowing them to feel as if they still retained a measure of 'control' over activities from which they are effectively excluded by contractual arrangements.
- In situations where counterpart organisations and government stakeholders have low capacity and high staff turnover, it is important for the project to formalise processes for handover of project activities for PSC members or members of any smaller group, like a Project Task Team. The national consultant could therefore assume co-responsibility for 'induction' of new members onto the project.

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ANNEX A

Terms of Reference

Independent Terminal Evaluation of the UNIDO Project:

TEMLW08001

“Capacity Building for Aflatoxin Management and Control in Groundnuts in Malawi”

I. BACKGROUND

Context

An evaluation of the aforementioned project “Capacity Building for Aflatoxin Management and Control in Groundnuts in Malawi” was requested by the donor, Trade Mark South Africa (or ComMark Trust South Africa, established in 2003 with funding from DFID), prior to deciding to commit its support to a second phase.

Aflatoxins in Groundnuts and Paprika

Aflatoxins are among most known carcinogenic substances. It contaminates a wide range of agro produce and is, therefore, a global food safety and quality issue, hence, also a barrier to trade. Aflatoxins are a part of larger group of toxins, the naturally occurring mycotoxins, Mycotoxins are metabolic wastes of fungi species that grow on agro commodities under suitable conditions of humidity and heat.

The Food and Drug Administration (FDA) in the USA considers aflatoxins poisonous and deleterious substances and regulates them according to the Food, Drug, and Cosmetic Act. Section 402(a) (1), which defines adulterated food as food that contains “any poisonous or deleterious substance which may render it injurious to health. To reduce the public health risk from consumption of contaminated foods and feed, constant monitoring of the toxins in food and feed is thus essential along the commodity value chain as infestation with the molds that produce aflatoxins before harvest or during storage.

There is a higher risk of exposure to mycotoxins in underdeveloped countries than developed ones. Many developing countries including Malawi lack the capacity to monitor and to regulate mycotoxin levels in foods.

Groundnuts, a commodity of economic importance in Malawi, are highly prone to aflatoxin contamination. They are produced mainly in the central region of Malawi largely by small-scale farmers. Approximately, 20% of all Malawian farmers grow groundnuts. 85% of the groundnut production is carried out under low-cost conditions. Most of the production is subsistence in nature but substantial surplus quantities are sold both to the domestic, regional and international market. The Ministry of Agriculture/Crop Production estimates 273,757 metric tons of groundnuts and 1,917 MT of paprika were produced in 2006/07 season.

Contamination of groundnuts with aflatoxin occurs under pre-harvest, post-harvest and during handling and storage. The main factors leading to aflatoxin contamination include:

- Use of damaged and loose shelled kernels as seed
- Delayed harvesting after physiological maturity
- Retention of high quantities of moisture in pods
- Inadequate protection from rain pests and diseases
- Handling and storage practices.

Aflatoxin management starts in farmer's fields with proper crop production, post-harvest storage and processing and marketing conditions. Biological and physical factors that promote the infestation of commodities with molds along the commodity supply and value chain have to be controlled. Further, social economic factors that affect farmer behaviours and ability to adopt recommended best practices need to be addressed.

After the production and handling issues are addressed, it is expected that both the quantity and quality of groundnuts in the project target region will reach levels required by export markets.

Origin of project

The ability of Malawi to participate in global groundnut supply chains is hampered by her inability to meet standards and technical regulations set by target importing countries. In response to Malawi's requirement to build the critical mass of human resource and technology know how necessary for the control and management of aflatoxins in commodities with special focus on groundnuts and paprika, UNIDO formulated the current project.

Counterparts

Government coordinating Agency: Ministry of Trade and Industry and Ministry of Agriculture

Counterparts:

Ministry of Trade and Industry

Malawi Bureau of Standards (MBS)

Agricultural Research and Extension Trust (ARET)

ComMark Trust South Africa (established in 2003 with funding from DFID)

6 major exporters of groundnuts:

NASFAM: encompasses ±100,000 farming families, which belong to 42 associations

ICRISAT: Research institute/station

Rab Processors
 Transglobe
 Moody Brothers
 Farmers World
 Tambala

Main objectives, outcomes, main outputs

The project was aimed at building the national capacity and critical mass of human resource competence necessary for aflatoxin control and management in the central region of Malawi, where most of the groundnuts are produced.

Overall objective of the project is to improve the management of groundnut supply and value chain in the central plateau of Malawi in view of reducing aflatoxin contamination and safety of the commodity.

Expected outcome is the built up capability of the targeted farmers, traders and processors to effectively control and manage aflatoxin contamination in groundnuts and reduce the loss of commodities due to aflatoxin contamination by 25% after phase I (and by 50% after phase II).

Aimed outputs were as follows:

1. The counterpart organizations (ICRISAT, Ministry of Agriculture and NASFAM) are able to carry out regular monitoring to identify problem areas/regions based on a mapping methodology and baseline study
2. 40 extension staff is trained and disseminating skills in management and control of aflatoxin in groundnuts
3. Farmers in selected areas are able to carry out recommended best practices for aflatoxin control in pre and post-harvest activities.
4. Traders and all actors along the groundnut/paprika supply chain (including selected enterprises processing groundnuts) are using best practices in handling and storage and utilization of the commodity to minimize aflatoxin contamination.
5. Awareness is created on a national scale on aflatoxin contamination and its management.
6. Field manuals are developed and translated in the various local languages on aflatoxin management and control and are being used effectively by the stakeholders.
7. A cost-benefit analysis for the establishment of an accredited testing laboratory will be undertaken and business plans developed.
8. MBS and ARET are able to assess the feasibility and sustainability of providing local accredited testing and certification services for exporters.

II. BUDGET INFORMATION

Project No.	Budget Phase I (as of project document, excluding support cost)	Total Allotment (EURO) (excluding support costs)	Total Expenditure & Obligations (EURO)	% Total Implemented	Source of funds
TEMLW08001	221,239	221,239	190,275	86%	ComMark Trust, South

					Africa
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Source: UNIDO Info base, 21 September 2011.

III. PURPOSE

The purpose of the independent evaluation is to enable the donors, UNIDO and the government to:

- Assess the outputs produced and outcomes achieved as compared to those planned and to verify prospects for development impact and sustainability.
- Assess the efficiency of implementation: quantity, quality, cost and timeliness of UNIDO and counterpart inputs and activities.
- Provide an analytical basis and recommendations for the focus and design for the possible continuation of the project in a next phase (if applicable).
- Draw lessons of wider application for the replication of the experience gained in this project in other projects/countries.

IV. METHODOLOGY

The evaluation is conducted in compliance with UNIDO evaluation policy as an Independent Evaluation, which attempts to determine as systematically and objectively as possible the relevance, efficiency, achievements (outputs, outcomes and impact) and sustainability of the project. The evaluation assesses the achievements of the project against its key objectives, as set in the project document, including re-examination of the relevance of the objectives and of the design. It also identifies factors that have facilitated or impeded the achievement of the objectives.

The evaluation will be carried out through analysis of various sources of information including desk analysis, survey data, interviews with counterparts, beneficiaries, partner agencies, donor representatives, programme managers and through the cross-validation of data.

The thorough analysis of the relevant facts includes the review of inputs used, activities carried out, management mechanisms applied (in particular planning, monitoring and self assessment) and project specific framework conditions (in particular policy environment, counterpart capacities, related initiatives of Government, donors and the private sector). The analysis of these facts is essential part of the evaluation work and provides the evidence base for the assessment of the project.

While maintaining independence, the evaluation will be carried out based on a participatory approach, which seeks the views and assessments of all parties. It will address the following issues:

Project identification and formulation

The extent to which:

- (i) A participatory project identification process was instrumental in selecting problem areas and counterparts requiring technical cooperation support.
- (ii) The project had a clear thematically focused development objective and immediate objective and/or outcomes, the attainment of which can be determined by a set of verifiable indicators.
- (iii) The project/programme was formulated based on the logical framework approach and included appropriate output and outcome indicators.
- (iv) A logically valid means-end relationship has been established between the project objective(s) and outcomes and the higher-level programme-wide or country level objectives.

Ownership and relevance

The extent to which:

- (i) The project was formulated with participation of the national counterpart and/or target beneficiaries.
- (ii) The counterpart(s) has (have) been appropriately involved and were participating in the identification of their critical problem areas and in the development of technical cooperation strategies and are actively supporting the implementation of the project approach.
- (iii) The outputs as formulated in the project document are relevant and sufficient to achieve the expected outcomes and objectives.

Efficiency of implementation

The extent to which:

- (i) UNIDO and counterpart inputs have been provided as planned and were adequate to meet requirements.
- (ii) The quality of UNIDO inputs and services (expertise, training, methodologies, etc.) was as planned and led to the production of outputs.

Effectiveness

Assessment of:

- (i) The relevance of the outputs produced and how the target beneficiaries use the outputs.
- (ii) The outcomes, which have been or are likely to be realized through utilization of outputs.

Impact and sustainability

(i) Identify what long term developmental changes (economic, environmental, social) have occurred or are likely to occur as a result of the intervention and how far they are sustainable.

Project coordination and management

The extent to which:

- (i) The national management and overall field coordination mechanisms of the project have been efficient and effective.
- (ii) The UNIDO HQ based management, coordination, quality control and technical inputs have been efficient and effective.
- (iii) Monitoring and self-evaluation was carried out effectively, based on indicators for outputs, outcomes and objectives and using that information for project steering and adaptive management.
- (iv) Changes in planning documents during implementation have been approved and documented.
- (v) Synergy benefits can be found in relation to other UNIDO activities in the country.

Recommendations for next phase (if applicable)

The extent to which proposals put forth by the project team for the next phase:

- (i) are relevant to Government priorities in the future;
- (ii) compatible with currently available implementation capacities;
- (iii) are based on logically valid means-ends relationships and take into consideration factors to mitigate likely risks.

V. EVALUATION TEAM and TIMING

The evaluation team will be conducted by one independent international evaluation consultant, preferably from the African region. A national evaluation consultant will be recruited to support the international evaluator if necessary.

UNIDO evaluation group will be responsible for the quality control of the evaluation process and report. It will provide inputs regarding findings, lessons learned and recommendations from other UNIDO evaluations, ensuring that the evaluation report is useful for UNIDO in terms of organisational learning (recommendations and lessons learned) and its compliance with UNIDO evaluation policy and these terms of reference.

All consultants will be contracted by UNIDO. The tasks of each team member are specified in the job descriptions attached to these terms of reference.

The members of the evaluation team must not have been directly involved in the design and/or implementation of the project.

The UNIDO Field Office in South Africa will support the evaluation team.

The evaluation is scheduled to take place in the period October 2011 – December 2011. The field mission for the evaluation is planned for November 2011. The final version of the evaluation report will be submitted 6-8 weeks after the debriefing, at the latest.

VI. REPORTING

The evaluation report shall follow the structure given in annex 1. Reporting language will be English.

Review of the Draft Report: The draft report will be shared with ComMark Trust South Africa, the Malawian Government and the UNIDO Project Manager for initial review and consultation. They may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. The consultation also seeks agreement on the findings and recommendations. The evaluators will take the comments into consideration in preparing the final version of the report.

Quality Assessment of the Evaluation Report: All UNIDO evaluations are subject to quality assessments by UNIDO Evaluation Group. These apply evaluation quality assessment criteria and are used as a tool for providing structured feedback. The quality of the evaluation report will be assessed and rated against the criteria set forth in the Checklist on evaluation report quality (annex 2).

ANNEX B

List of Interviewees for Project Evaluation

ORGANISATION	PERSON/DESIGNATION
UNIDO AND UNIDO RELATED PROJECT STAFF/CONSULTANTS	
UNIDO	Kawira Bucyana, UNIDO Project Manager
ANARMAC	Ian Kumwenda, National Consultant; Samuel Mingu, Project Assistant
DONOR	
ComMark Trust	Jennifer Rathebe,
STAKEHOLDERS IN MALAWI	
NASFAM	Joseph Maruwo, Quality Control Officer; Fraser Mataya, Farm Services Officer; Aleander Chikapula, Commercial Manager; Aubrey Chinseu, Agro-Processing Manager
ICRISAT	Ethel Chilumpha, Senior Research Technician; Dickson Mbughi, Research Technician
Ministry of Trade and Industry	Clement Phangaphanga, Deputy Director of Industry
Agricultural Research and Extension Trust (ARET)	Ernest Bauleni, Senior Laboratory Technician; Bryce Chinkhadze, Senior Laboratory Technician; Dr. Ibrahim Phiri, Director and Chief Executive
Chitedze Research Station	Dr. Makumba, Director
Export Trading Company	Mahesh Ghedia, Director of Malawi Operations; Henry Kaunda, Food Manager (Quality)
Mpingu Agricultural Extension Planning Area	Freda Chadunga, Extension Officer
Valid Nutrition	Andrew Chinguwo, Factory Manager
Transglobe	Irfan Moosa, Manager
Mulli Brothers	Mr. Muhango, Purchasing and Logistics Manager
Farmers World	Seko Sichinga, Assistant Warehouse Manager Overton Mkwich, Stock Controller
Ministry of Agriculture	Dr. Charles T. Kisjombe, Assistant Director of Agricultural Research Services. Appointed as Project Co-ordinator for UNIDO Project (now retired)
Mchinji Agricultural Extension Planning Area	Timothy Kainja, Extension Officer
Department of Health	Samuel Kapangana, Assistant Environmental Health Officer
Mchinji Agricultural Extension Planning Area	Mike Sakala, Extension Officer
Malawi Bureau of Standards	Isaac Chirwa, Quality Controller

Farmers Interviewed in Mpingu EPA
1. V.H. Chikadzula
2. V.H. Msenda
3. Chatewa Naison
4. Flyson Jeputala
5. Fedia Banda
6. Slick Mlinga
Farmers Interviewed in Mchinji EPA
Matias Falioji
2. Chimombo Vitchetche
3. Lawrence Lyson
4. Loveness Alick
5. Nataliya Goliyati
6. Dorophy Banda
7. Consulata Godfuly