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SUB PROJECT SUMMARIES

RICE

No-1 RICE GERMPLASM COLLECTION, CHARACTERIZATION AND CONSERVATION

PROJECT TITLE	RICE GERMPLASM COLLECTION, CHARACTERIZATION AND CONSERVATION
PROJECT CODE	RC-P01-2013
TYPE OF PROJECT	TECHNOLOGY GENERATION
LEAD COUNTRY	MOZAMBIQUE
LEAD INSTITUTION	INSTITUTO DE INVESTIGACAO AGRARIA DE MOCAMBIQUE (IIAM)
PRINCIPAL INVESTIGATOR	PAULINO MUNISSE
PROJECT PARTNER /PARTNERING COUNTRY	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI) / ZAMBIA
CO-PRINCIPAL INVESTIGATOR & ADDRESS	GRAYBILL MUNKOMBWE, ZAMBIA AGRICULTURE RESEARCH INSTITUTE, MOUNT MAKULU RESEARCH STATION, P/B 7, CHILANGA.
EMAIL ADDRESS	munkombwegraybill@gmail.com
PROJECT DURATION	3 YEARS
PROJECT START DATE (MONTH; YEAR)	2013
PROJECT END DATE (MONTH; YEAR)	2016
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: Muchinga, Eastern, Northern, Luapula, Western, Northwestern Provinces MALAWI: Karonga, Nkhata Bay, Nkhotakota, Salima, Dedza, Zomba, Chikwawa, Mangochi And Machinga Districts MOZAMBIQUE: Cabo Delgado, Niassa, Nampula, Zambezia, Tete, Sofala, Gaza, Maputo

Overall Objective

To minimize the loss of local genetic diversity of rice and through germplasm collection broaden the genetic base of rice genetic diversity for use in crop improvement to address the farmer needs for increased productivity, preference and crop resilience to changing environment.

Expected Results/Outputs

- Number of Rice germplasm accessions collected during targeted collection missions and safely conserved.
- Conserved rice germplasm accessions fully characterized at phenotypic and molecular levels;
- Hotspot sites of rice genetic diversity established

Major Activities

- Field surveys and germplasm collection;
- Ex-situ germplasm conservation;
- Field identification of sites for in-situ conservation;
- On-station germplasm characterisation;
- Undertake molecular characterisation of germplasm;
- Field identification of useful traits that address the farmer's needs and preferences;
- Training for farmers and Agricultural extension staff in plant genetic resources.

Achievements

- 103 germplasm collected and conserved
- 97 accessions properly characterised at phenotypic
- 30 accessions characterised at molecular level using SSR markers
- 2 on-farm rice management sites established in Western Province

No-2 DEVELOPMENT OF IMPROVED RICE VARIETIES

PROJECT TITLE	DEVELOPMENT OF IMPROVED RICE VARIETIES
PROJECT CODE	RC-P02-2013
TYPE OF PROJECT	TECHNOLOGY GENERATION
LEAD COUNTRY	MOZAMBIQUE
LEAD INSTITUTION	INSTITUTO DE INVESTIGACAO AGRARIA DE MOCAMBIQUE (IIAM)
PRINCIPAL INVESTIGATOR	HERMINIO ABADE – habade7@gmail.com
PROJECT PARTNER /PARTNERING COUNTRY	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI) / ZAMBIA
Co-PRINCIPAL INVESTIGATOR & ADDRESS	MUSIKA CHITAMBI, ZAMBIA AGRICULTURE RESEARCH INSTITUTE, MISAMFU RESEARCH STATION, Box 410055, KASAMA
EMAIL ADDRESS	nupyachitambi@gmail.com
TARGET # BENEFICIARIES	15,000 SMALLHOLDER RICE FARMERS
PROJECT DURATION	3 YEARS
PROJECT START DATE (MONTH; YEAR)	DECEMBER 2013
PROJECT END DATE (MONTH; YEAR)	OCTOBER 2016

GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: Western Province: Mongu District; Luapula- Mansa District; Eastern Province: -Lundazi District and Mambwe Districts; Muchinga Province: Chama And Chinsali Districts; Northern Province: Kasama and Mungwi
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Overall Objective

To develop, release, disseminate and make available abiotic and biotic tolerant and resistant rice varieties respectively, with preferred traits for consumers and suitable for irrigated, rainfed lowland and rainfed upland ecosystems.

Expected Outputs

- Increased availability of varieties with high and stable yield across different environments
- Basic seed of improved varieties multiplied
- Seed of commercial varieties purified

Major Activities

- Conduct a baseline in the target areas of the project
- Genetic material acquisition from farmers' field within the country and the region through local and regional networks. Other genetic material (males) will be acquired from other CGIAR.
- Crossing and screening using materials that have desired traits so as to incorporate resistant to pests and diseases as well as possessing traits that are preferred by producers, processors and consumers.
- Evaluation and selection of segregating populations using Participatory Variety Selection (PVS) on-farm to assess their acceptance by smallholder farmers as well as adaptability under farmer socio-economic conditions
- Conducting yield trials i.e. Stable lines will be subjected to yield evaluation trials
- Release of national varieties for certification.

Achievements

- At least one (1) improved advanced line identified
- Five (5) improved rice varieties have been submitted from pre-release to SCCI for national variety testing

No-3 ENHANCING PRODUCTIVITY OF RICE VARIETIES THROUGH DEVELOPMENT OF INTEGRATED CROP MANAGEMENT PRACTICES

PROJECT TITLE	ENHANCING PRODUCTIVITY OF RICE VARIETIES THROUGH DEVELOPMENT OF INTEGRATED CROP MANAGEMENT PRACTICES
PROJECT CODE	RC-P03-2013
TYPE OF PROJECT	TECHNOLOGY GENERATION AND DISSEMINATION
LEAD COUNTRY	MOZAMBIQUE
LEAD INSTITUTION	INSTITUTO DE INVESTIGACAO AGRARIA DE MOCAMBIQUE (IIAM)
PRINCIPAL INVESTIGATOR	MARCOS LANGA
PROJECT PARTNER/PARTNERING COUNTRY	ZAMBIA AGRICULTURAL RESEARCH INSTITUTE (ZARI) / ZAMBIA
CO-PRINCIPAL INVESTIGATOR & ADDRESS	CHRISANTUS MUTALE, ZAMBIA AGRICULTURE RESEARCH INSTITUTE, MONGU RESEARCH STATION, P. O. Box 910064, MONGU, ZAMBIA
EMAIL ADDRESS	mchrisantu@yahoo.com

TARGET # BENEFICIARIES	1,200 SMALL HOLDER FARMERS
PROJECT DURATION	3 YEARS
PROJECT START DATE (Month; YEAR)	2013
PROJECT END DATE (MONTH; YEAR)	2016
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: Western Province (Mongu & Kaoma) Luapula Province (Chembe, Samfya & Nchelenge)

Overall Project Objective:

To increase rice productivity through better crop and postharvest management practices.

Expected Results/Outputs

- At 2 new agronomic practices (1 technology package for irrigated, 1 for rain fed lowland).
- Not less than 50% of farmers will have been exposed to new knowledge & skills in agronomic and post-harvest technologies in target regions
- Training of 150, 100 and 60 public and private extension agents on Participatory technology selection (PTS) for Mozambique, Malawi and Zambia respectively will be done.
- Increased quantities and quality of marketed rice
- 100 posters, 1,000 brochures and 5,000 leaflets produced and distributed in three participating countries and 2 paper publications.

Major Activities

- Assembling of most promising varieties to be included in on-station and on-farm agronomic trials such as, crop establishment methods, planting dates, seed rates, weeding and fertilizer response in different rice growing environments of Mozambique, Malawi and Zambia.
- Farmer trainings
- Hold stakeholder meetings

Achievements

- Trained 34 extension staff on new rice technologies.
- 110 lead farmers participating in setting up demonstrations.
- The sub project in collaboration with DOA and JICA trained camp extension officers on the basic cultivation techniques of both lowland and upland rainfed rice.
- 10 Field days held
- Produced 500 brochures/leaflets

No-4 PROMOTION AND DISSEMINATION OF RICE IMPROVED TECHNOLOGIES FOR SUSTAINABLE PRODUCTION IN MALAWI, MOZAMBIQUE AND ZAMBIA

PROJECT TITLE	PROMOTION AND DISSEMINATION OF RICE IMPROVED TECHNOLOGIES FOR SUSTAINABLE PRODUCTION IN MALAWI, MOZAMBIQUE AND ZAMBIA
PROJECT CODE	RC-P04-2013
TYPE OF PROJECT	TECHNOLOGY DISSEMINATION
LEAD COUNTRY	MOZAMBIQUE
LEAD INSTITUTION	AGRICULTURE RESEARCH INSTITUTE OF MOZAMBIQUE (IIAM)

PRINCIPAL INVESTIGATOR	NILSA EMÍLIA MUNGUMBE – NILSAMUNGUMBE@YAHOO.COM.BR
PROJECT PARTNER/PARTNERING COUNTRY	DEPARTMENT OF AGRICULTURE / ZAMBIA
CO-PRINCIPAL INVESTIGATOR & ADDRESS	MWIYA MUKUNGU , DEPARTMENT OF AGRICULTURE, MONGU, ZAMBIA. MOBILE PHONE: +260979403803,
EMAIL ADDRESS	mwiyamukungu@gmail.com
TARGET # BENEFICIARIES	200 LEAD FARMERS, 3,200 FOLLOWER FARMERS, 19,200 BENEFICIARIES (30% FEMALE)
PROJECT DURATION	3 YEARS
PROJECT START DATE (Month; YEAR)	MARCH 2014
PROJECT END DATE (Month; YEAR)	DECEMBER, 2016
GEOGRAPHICAL AREA per COUNTRY	MUCHINGA PROVINCE - Chama, Chinsali And Isoka Districts NORTHERN PROVINCE - Chilubi, Kaputa, And Mungwi Districts WESTERN PROVINCE - Senanga, Kalabo, Limulunga And Mongu Districts

Overall Objective

Increased rice production through using innovative technologies and dissemination methodologies in participating countries and in the SADC Region

Expected Results/Outputs

- Increased use of improved rice technologies
- Increased linkages among players in the rice value chain through innovation platforms.
- Increased access to information, education and communication materials

Major Activities

- Conduct baseline study in each country on availability of rice technologies to understand the prevailing situation through the survey, literature review.
- Convene a national workshop to identify technologies including strategies for promotion and dissemination. The participants will be drawn from key stakeholders; i.e., farmers, millers, Universities, researchers, agro dealers, extension workers, CGIAR centres (IRRI) Agric NGOs and other players from the private sector.
- Conduct needs assessment for training and technology transfer through administering a survey to farmers, public and private extension staff and rice processors.
- Implement the strategies for promotion and dissemination of improved technologies
- Mapping of stakeholders and identifying their roles in dissemination of technologies
- Convene a national workshop to identify technologies and strategies for promotion and dissemination. Participants will include farmers, millers, researchers, agro dealers, extension workers and agriculture NGOs and other players from the private sector.
- Facilitate exchange visits between farmers and research institutions

No-5 STRENGTHENING RICE SEED DELIVERY SYSTEM FOR IMPROVED RICE PRODUCTION AMONG SMALLHOLDER FARMERS

PROJECT TITLE	STRENGTHENING RICE SEED DELIVERY SYSTEM FOR IMPROVED RICE PRODUCTION AMONG SMALLHOLDER FARMERS
PROJECT CODE	RC-P05-2013
TYPE OF PROJECT	TECHNOLOGY DISSEMINATION

LEAD COUNTRY	ZAMBIA
LEAD INSTITUTION	SEED CONTROL AND CERTIFICATION INSTITUTE (SCCI)
PRINCIPAL INVESTIGATOR & ADDRESS	NATHAN PHIRI, SEED CONTROL AND CERTIFICATION INSTITUTE (SCCI), P.O. Box 350199 MOUNT MAKULU CHILANGA, ZAMBIA, TEL NO. +260-211-278236, FAX NO. +260-211-278170,
EMAIL ADDRESS	nathpzm@yahoo.co.uk
TARGET # BENEFICIARIES	320 direct, 5000 indirect
PROJECT DURATION	3 YEARS
PROJECT START DATE (MONTH; YEAR)	FEBRUARY 2015 ZAMBIA,
PROJECT END DATE (MONTH; YEAR)	FEBRUARY 2018 ZAMBIA,
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: WESTERN PROVINCE: Mongu district- Kaande, Namaenya, Namushakendi, Mukangu Senanga district- Lukanda and Liangati camps EASTERN PROVINCE: Lundazi district, Chitungulu camp MUCHINGA PROVINCE: Chama district- Chama central camp

Overall Project Objective

The overall objective of the project is to bring about significant increases in the productivity and production of rice through quality seed provision.

Expected Results/Outputs

- Improved seed readily available to farmers
- Capacity for delivering improved and certified rice seed enhanced
- Functional seed delivery system based on agro-dealer model established
- Rice value chain promoted and initiated by linking farmers rice grain producers, seed producers and milling industry;
- More good improved rice varieties moved towards the farmers.
- Farmers trained on better agronomic practices for rice seed production and food production

Major Activities

- Production of basic seeds
- Production of Certified Rice Seed.
- Identification and Training of Agro-dealers /Agents
- Promotion of improved and certified seed
- Strengthen linkages between stakeholders in rice seed value chain
- Farmer mobilisation and facilitating formation of seed cooperatives/seed associations
- Training of farmers/Camp level collaborators
- Preparation of seed production manuals/pamphlets
- Seed crop monitoring and inspections
- Seed Processing (treating and packaging)

Achievements

- Reached 18475 farmers (322 Lead farmers out of which 153 were Female lead farmers)
- 2 rice varieties being made available to farmers and other end users
- Trained 2 extension agents and 322 farmers in rice seed production
- Produced 2 manuals

LEGUMES

No-1 IMPROVING BEAN PRODUCTIVITY IN LOW SOIL FERTILITY AND DROUGHT PRONE AREAS

PROJECT TITLE	IMPROVING BEAN PRODUCTIVITY IN LOW SOIL FERTILITY AND DROUGHT PRONE AREAS
PROJECT CODE	LG-P01-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	MOZAMBIQUE
LEAD INSTITUTION	INSTITUTO DE INVESTIGACAO AGRARIA DE MOCAMBIQUE (IIAM)
PRINCIPAL Investigator	MANUEL AMANE
PROJECT PARTNER/PARTNERING COUNTRY	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI) / ZAMBIA
Co-PRINCIPAL Investigator & ADDRESS	KENNEDY K. MUIMUI, ZAMBIA AGRICULTURE RESEARCH INSTITUTE, MISAMFU RESEARCH STATION, P.O. Box 410055, KASAMA.
EMAIL ADDRESS	kmuimui04@yahoo.co.uk
TARGET # BENEFICIARIES	150,000 (60% BEING WOMEN)
PROJECT DURATION	3 YEARS
PROJECT START DATE	APRIL, 2014
PROJECT END DATE	APRIL, 2017
GEOGRAPHICAL AREA PER COUNTRY	<p>ZAMBIA: Northern Province (Kasama, Mbala), Eastern Province (Chipata), Lusaka Province (Chilanga) Southern Province (Choma), Mchinga Province (Mpika)</p> <p>MOZAMBIQUE: Zambezia (Gurue, Milange), Tete (Angonia, Tsangano, Moatize), Niassa (Lichinga, Sanga),</p> <p>MALAWI: Southern Region (Zomba, Thyolo, Chikwawa), Northern (Rumphu And Mzimba), Central (Ntchisi, Kasungu, Lilon)</p>

Overall Objective

To improve bean productivity through the use of low soil fertility and drought tolerant varieties, and ICM technologies

Specific objectives

- To develop bean varieties tolerant to drought and preferred by farmers and consumers;
- To develop bean varieties tolerant to low soil fertility and preferred by farmers and consumers;
- To develop ICM technologies that address drought and low soil fertility;
- To improve farmers' and extension agents' capacities to manage ICM technologies;
- To create awareness of new varieties and ICM technologies;
- To strengthen linkages between researchers, seed producers, and other relevant stakeholders.

Expected Results/Outputs

- Bean varieties tolerant to drought and low soil fertility identified;
- ICM technologies addressing drought and low soil fertility identified;
- Farmers' and extension agents' capacity to manage ICM technologies improved;

- New varieties tolerant to drought and low soil fertility, and ICM technologies promoted and disseminated;
- Linkages between researchers, private seed producers, and other relevant stakeholders established.

Major Activities

- Assemble and screen bean genotypes;
- Conduct field evaluation and PVS;
- Identify, evaluate and validate ICM technologies;
- Develop training materials and conduct training for farmers and extension agents;
- Develop promotional material, conduct demo plots and field days to popularize the technologies

No-2 DEVELOPING BEAN VARIETIES FOR HIGH IRON (FE) AND ZINC (ZN) WITH RESISTANCE TO ANGULAR LEAF SPOT AND COMMON BACTERIAL BLIGHT

PROJECT TITLE	DEVELOPING BEAN VARIETIES FOR HIGH IRON (FE) AND ZINC (ZN) WITH RESISTANCE TO ANGULAR LEAF SPOT AND COMMON BACTERIAL BLIGHT
PROJECT CODE	LG-P02-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	ZAMBIA
LEAD INSTITUTION	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI)
PRINCIPAL INVESTIGATOR & ADDRESS	KENNEDY K. MUIMUI, ZAMBIA AGRICULTURE RESEARCH INSTITUTE, MISAMFU RESEARCH STATION, P.O. Box 410055, KASAMA.
EMAIL ADDRESS	kmuimui04@yahoo.co.uk
TARGET # BENEFICIARIES	45,000 (FARMERS, SCIENTISTS AND Students)
PROJECT DURATION	3 YEARS
PROJECT START DATE	2013
PROJECT END DATE	2018
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: Kasama, Kabwe, Chipata, Chilanga MALAWI: Chitedze, Mbawe and Vumbwe MOZAMBIQUE: Maputo, Chokwe and Lichinga

Overall Objective

To develop disease tolerant high micronutrient bean varieties for smallholder farmers in Zambia and the neighboring countries

Expected Results/Outputs

- 15 populations/inbred lines generated
- 10 -15 Fixed lines identified for use within the region

Major Activities

- Assembling of preferred germplasm

- Making desired crosses
- Selection for disease tolerance/resistance
- Testing for levels of Iron (Fe) and Zinc (Zn)
- On-farm evaluation of selected lines
- Eventual release of at least 2 high Iron and Zinc bean varieties

Achievements

- Ten (10) stable lines identified with resistance to ALS and CBB
- Five (5) lines with high iron and zinc identified

No-3 ADAPTATION AND PROMOTION OF BRUCHID RESISTANT BEAN VARIETIES IN MOZAMBIQUE, ZAMBIA AND MALAWI

PROJECT TITLE	ADAPTATION AND PROMOTION OF BRUCHID RESISTANT BEAN VARIETIES IN MOZAMBIQUE, ZAMBIA AND MALAWI
PROJECT CODE	LG-P03-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	MALAWI
LEAD INSTITUTION	DEPARTMENT OF AGRICULTURAL RESEARCH SERVICES (DARS)
PRINCIPAL Investigator	ARSONIA CHIMPHAMBA
PROJECT PARTNER/PARTNERING COUNTRY	ZAMBIA AGRICULTURE RESEARCH INSTITUTION (ZARI) / ZAMBIA
CO-PRINCIPAL INVESTIGATOR & ADDRESS	GILSON CHIPABIKA, ZARI, MT MAKULU RESEARCH STATION, P/ B 7, CHILANGA, ZAMBIA.
EMAIL ADDRESS	gilsonchipabika@gmail.com
TARGET # BENEFICIARIES	CREATE AWARENESS TO 10,000 SMALLHOLDER FARMERS
PROJECT DURATION	3 YEARS
PROJECT START DATE (MONTH; YEAR)	OCTOBER OF 2013
PROJECT END DATE (MONTH; YEAR)	DECEMBER 2017
GEOGRAPHICAL AREA PER COUNTRY	<p>Zambia: Kabwe Research Station, Msekera in Chipata and Misamfu in Kasama.</p> <p>Malawi: 3 Agricultural Development Divisions (ADDs) of Lilongwe, Blantyre and Kasungu.</p> <p>Mozambique: Lichenga and Sanga in Niassa province and Angonia, Macanga and Tsangano) in Tete province and as well as Milange and Gurue.</p>

Overall project objective

To improve household food security and cash income through availability and use of improved high yielding bean varieties in the three target countries, Malawi, Mozambique and Zambia.

Expected Results/Outputs

At least 3 varieties well adapted and resistant to bruchids identified and released in Mozambique and Zambia.

- At least 2 bean bruchids species identified in the three countries.
- Released bean varieties production technologies disseminated

- Awareness of new improved bean varieties in Malawi to farmers (10,000 farmers; ratio 1:1 for females to males) created.
- At least 2 innovation platforms strengthened in Malawi
- At least, 60 demos conducted in Malawi; at 40 in Zambia and Mozambique
- At least 1000 brochures and 2000 leaflets produced in Malawi, Zambia and Mozambique
- Field days conducted in Malawi, Zambia and Mozambique
- At least 5 seed companies in Malawi, Zambia and Mozambique

Major Activities

- Evaluation of bean lines for specific agro-ecological adaptation (set observation nurseries under both rainfed and irrigated conditions);
- Advance materials to preliminary, intermediate and advanced stages of field evaluation
- Develop seed production strategies and supply systems including breeder seed production and varietal maintenance activities
- Establish awareness creation and variety adoption strategies
- Testing bean cultivars for their canning qualities
- Integrated bruchid management strategies by combining resistance with other non-chemical methods
- Screening of bean lines for resistance to the two bruchid species (*Acanthoscelides obtectus* and *Zabrotes subfasciatus*)
- Validation of bruchid resistance under farmer storage conditions
- Conduct a baseline survey (information gathering) to determine the distribution and predominance of the two bruchid species in Mozambique and Zambia
- Conduct time of planting trial in order to establish commencement of bruchid infestation and species that start from the field.

Achievements

- Four surveys to establish the prevalence of Bruchid species conducted, identified one specie in the northern part of Zambia.
- Ideal time of planting beans to reduce Bruchid infestation identified.
- Ideal time of insecticide application identified to be at pod maturity for effective management of Bruchid infestation in beans.

NO-4 IMPROVING GROUNDNUT PRODUCTIVITY IN LOW SOIL FERTILITY AND DROUGHT PRONE AREAS OF MOZAMBIQUE, MALAWI AND ZAMBIA

PROJECT TITLE	IMPROVING GROUNDNUT PRODUCTIVITY IN LOW SOIL FERTILITY AND DROUGHT PRONE AREAS OF MOZAMBIQUE, MALAWI AND ZAMBIA
PROJECT CODE	LG-P04-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	MOZAMBIQUE
LEAD INSTITUTION	INSTITUTO DE INVESTIGACAO AGRARIA DE MOCAMBIQUE (IIAM)
PRINCIPAL INVESTIGATOR	AMADE MUITIA
PROJECT PARTNER/PARTNERING COUNTRY	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI) / ZAMBIA
CO-PRINCIPAL INVESTIGATOR & ADDRESS	KENNEDY KANENGA – ZAMBIA AGRICULTURE RESEARCH INSTITUTE, MSEKERA RESEARCH STATION, ZAMBIA

EMAIL ADDRESS	kkanenga@yahoo.com, msekera@zamtel.zm
TARGET # BENEFICIARIES	200,000 DIRECT BENEFICIARIES IN MOZAMBIQUE
PROJECT DURATION	3 YEARS
PROJECT START DATE (MONTH; YEAR)	APRIL, 2014
PROJECT END DATE (MONTH; YEAR)	APRIL, 2016
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: Kabwe, Chipata, Chilanga and Solwezi. MOZAMBIQUE: Zambezia (Moma, Angoche, Mogovolas, Murrupula, Erati and Rapale); Nampula (Mulevala, Gile,, Alto Molocue) and Cabo Delgado (Namuno and Balama) Provinces; MALAWI: Northern, Central and Southern Regions;

Overall Objective

Improve groundnut productivity through the use of low soil fertility, drought tolerant varieties, and integrated crop management technologies.

Expected Results/Outputs

- Four groundnut varieties tolerant to drought and low soil fertility identified
- Four ICM technologies (2 ISFM and 2 ISWM technologies) addressing drought and low soil fertility identified
- 3,000 farmers and 100 extension agents trained on PVS and ICM technologies
- 50% of farmers in the target regions aware of new technologies (varieties and ICM)
- At least 2 seed companies producing seed of improved varieties
- Four new varieties tolerant to drought and low soil fertility, and ICM technologies (2 ISFM and 2 ISWM) promoted and disseminated
- 100 posters, 1,000 brochures and 5,000 leaflets produced and distributed
- At least 2 papers published

Major Activities

- Assemble and screen groundnut genotypes;
- Conducted field evaluation and farmer participatory variety selection (FPVS);
- Identify, evaluate and validate ICM technologies;
- Develop training materials and conduct training for farmers and extension agents; and
- Develop promotional material, conduct demo plots and field days to popularize the technologies.

Achievements

- 2-3 drought tolerant varieties that were selected and advanced from the preliminary to advanced trials
- 1 drought tolerant groundnut variety was submitted for National Variety Testing for release with Seed Control and Certification Institute for evaluation
- 100 lead farmers and extension agents trained in ISFM technologies of Single Vs Double row plant populations.
- 11 Demonstration plots planted in Chipata, Katete and Lundazi

No-5 BREEDING HIGH YIELDING, MULTIPLE DISEASE RESISTANT GROUNDNUT VARIETIES SUITABLE FOR MOZAMBIQUE, MALAWI AND ZAMBIA

PROJECT TITLE	BREEDING HIGH YIELDING, MULTIPLE DISEASE RESISTANT GROUNDNUT VARIETIES SUITABLE FOR MOZAMBIQUE, MALAWI AND ZAMBIA
PROJECT CODE	LG-P05-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	ZAMBIA
LEAD INSTITUTION	ZAMBIA AGRICULTURAL RESEARCH INSTITUTE (ZARI)
PRINCIPAL INVESTIGATOR & ADDRESS	KENNEDY KANENGA, MSEKERA RESEARCH STATION, ZAMBIA
EMAIL ADDRESS	msekera@zamtel.zm, kkanenga@yahoo.com
TARGET # BENEFICIARIES	200,000 DIRECT BENEFICIARIES IN ZAMBIA
DURATION OF THE PROJECT	3 YEARS
PROJECT START DATE (MONTH; YEAR)	APRIL, 2014
PROJECT END DATE (MONTH; YEAR)	APRIL, 2016
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: Kabwe, Chipata, Msekera, Masumba MOZAMBIQUE: Zambezia (Moma, Angoche, Mogovolas, Murrupula, Erati and Rapale); Nampula (Mulevala, Gile,, Alto Molocue) and Cabo Delgado (Namuno and Balama) Provinces; MALAWI: Northern, Central and Southern Regions;

Overall Objective

The overall objective of the project is to improve groundnut productivity through accelerated selection, release and multiplication of superior elite groundnut varieties in the potential groundnuts producing areas of Mozambique, Malawi and Zambia.

Expected Results/Outputs

- least 2 varieties will be released that are tolerant to diseases and pest
- Grading standards for Zambia developed
- Breeder seed multiplication for the varieties to be released
- Linkages between researchers, private seed producers, and other relevant stakeholders established
- F1 to F5 segregating populations developed from disease parents
- Farmer access to new and improved seed
- Production of groundnuts expected to rise as a result of farmers using improved seed

Major Activities

- Fast-track release of superior groundnut varieties in the pipeline
- Assemble and screen groundnut germplasm
- Conduct Field variety release trials in different locations
- Seed increase of selected groundnut germplasm
- Advancement of progenies generated from Crosses made using Parents that are resistant to Rosette and early leaf spot from F1-F5 generation

Achievements

- 2.5ha of Breeder Seed under multiplication.
- 3 Varieties released
- 3 varieties tested on farm and submitted for pre-lease testing

No-6 STRENGTHENING FOOD LEGUME SEED DELIVERY SYSTEMS IN MALAWI, MOZAMBIQUE AND ZAMBIA

PROJECT TITLE	STRENGTHENING FOOD LEGUME SEED DELIVERY SYSTEMS IN MALAWI, MOZAMBIQUE AND ZAMBIA
PROJECT CODE	LG-P06-2013
PROJECT TYPE	TECHNOLOGY DISSEMINATION
LEAD COUNTRY	ZAMBIA
LEAD INSTITUTION	SEED CONTROL AND CERTIFICATION INSTITUTE (SCCI)
PRINCIPAL INVESTIGATOR & ADDRESS	NATHAN PHIRI , SEED CONTROL AND CERTIFICATION INSTITUTE, MINISTRY OF AGRICULTURE, P.O. Box 350199, CHILANGA, ZAMBIA TEL: +260-211-278236 MOBILE No. +260-973-500965
EMAIL ADDRESS	nathpzm@yahoo.co.uk
TARGET # BENEFICIARIES	10, 000
DURATION OF THE PROJECT	3 YEARS
PROJECT START DATE (MONTH; YEAR)	DECEMBER, 2013
PROJECT END DATE (MONTH; YEAR)	DECEMBER, 2016
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: Southern (Chikankata and Mazabuka), Lusaka (Chongwe, Chilanga), Central (Kapiri Mposhi, Kabwe and Mumbwa), and Eastern (Petauke and Lundazi) Provinces. MALAWI: Central (Kasungu, Ntchisi), Eastern Region (Machinga, Mangochi) and Northern Region (Rumphi, Mzimba) MOZAMBIQUE: Manica (Sussundenga, Barue, Manica), Tete (Angonia, Tsangano)

Objective

The overall objective of the project is to bring about significant increase in the productivity and production of five grain legume crops namely common bean, groundnut, cowpea, soybean and pigeon pea through quality seed provision.

Expected Results (Outputs)

- Improved production and supply of food legume seed to farming communities
- Improved productivity and production of legumes in the region
- Increased incomes, food and nutrition security of smallholder farmers
- Strengthening of seed production capacity of the Seed Growers, Associations and Cooperatives

Major activities

- Production of basic seeds
- Production of Certified Seed
- Identification and training of Agro-dealers/ Agents
- Promotion of improved and certified seed through Entrepreneurship development
- Strengthen linkages between stakeholders in the legume seed value chain
- Farmer Mobilisation and Facilitating formation of Seed Cooperatives/Seed Associations
- Training of farmers/Camp level collaborators

- Preparation of seed production manuals/pamphlets
- Seed crop monitoring and inspections
- Seed Processing (treating and packaging)

Achievements

- 59,740 smallholder farmers reached with legume seed technologies
- 420 farmers received training in seed production
- 340 metric tonnes of soybean, groundnuts, cowpea, beans, and pigeon pea produced with support from the project
- 11 metric tonnes of groundnut, common bean, pigeon pea, soybean and cowpea basic seed produced
- 345 seed growers in Zambia, Malawi, and Mozambique linked to markets



No-7 UP-SCALING IMPROVED SOYBEAN PRODUCTION AND UTILIZATION TECHNOLOGIES TO ENHANCE NUTRITION AND INCOME GENERATION

PROJECT TITLE	UP-SCALING IMPROVED SOYBEAN PRODUCTION AND UTILIZATION TECHNOLOGIES TO ENHANCE NUTRITION AND INCOME GENERATION
PROJECT CODE	LG-P07-2013
PROJECT TYPE	TECHNOLOGY DISSEMINATION
LEAD COUNTRY	ZAMBIA
LEAD INSTITUTION	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI)
PRINCIPAL INVESTIGATOR & ADDRESS	NDASHE KAPULU, ZAMBIA AGRICULTURE RESEARCH INSTITUTE, MT. MAKULU RESEARCH INSTITUTE, P/B 7, CHILANGA.
EMAIL ADDRESS	ndashekapulu@gmail.com / Jbanda2009@gmail.com
TARGET # BENEFICIARIES	5,000
DURATION OF THE PROJECT	3 YEARS
PROJECT START DATE (MONTH; YEAR)	DECEMBER, 2013

PROJECT END DATE (MONTH; YEAR)	DECEMBER, 2016
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: Kabwe, Chibombo, Mumbwa, Chipata, Katete, Monze, Choma, And Chikankata MALAWI: Salima and Mchinji districts MOZAMBIQUE: Malema, Alto Molocue, Chimbonila and Angónia districts

Overall Project Objective:

To upscale best agronomic practices for increasing soybean production and nutrition and increase household-level soybean processing and utilization for better nutrition and health among smallholder farmers in Zambia, Malawi, and Mozambique

Expected Results/Outputs

- 70% of the lead farmers in target areas made aware on improved soybean production, processing and utilisation technologies
- 10,000 smallholder householdes, of which 30% are female headed, benefit from access to information on improved soybean production, processing and utilisation technologies.
- 500 lead farmers and extension officers trained on soybean production, processing and utilisation.

Major Activities:

On-farm demonstrations

- Dissemination through electronic and print media
- Extension and farmer trainings
- Field days and food fairs

Achievements

- 797 farmers and 14 extension staff trained on 20 different soybean processing and utilization options
- 222 on-farm demonstration sites showcasing soybean production technologies established
- Two (2) food fairs on soybean recipes held in Mozambique
- More than 10,000 farmers reached with improved soybean production and utilization technologies

No-8. DEVELOPING HIGH YIELDING SOYBEAN VARIETIES THAT ARE RESISTANT TO MAJOR DISEASES AND ADAPTED TO ALL AGRO-ECOLOGICAL REGIONS, WITH PREFERRED MARKET TRAITS

PROJECT TITLE	DEVELOPING HIGH YIELDING SOYBEAN VARIETIES THAT ARE RESISTANT TO MAJOR DISEASES AND ADAPTED TO ALL AGRO-ECOLOGICAL REGIONS, WITH PREFERRED MARKET TRAITS
PROJECT CODE	LG-P08-2013
TYPE OF PROJECT	TECHNOLOGY GENERATION
LEAD COUNTRY	ZAMBIA
LEAD INSTITUTION	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI)
PRINCIPAL INVESTIGATORS & ADDRESS	MIYOBA N. MOONGA , KABWE RESEARCH STATION, P. O. Box 80908, KABWE, ZAMBIA CONTACT: mimimoonga@gmail.com +260979459537 DAVIES M. LUNGU , THE UNIVERSITY OF ZAMBIA, P. O. Box 32379, LUSAKA, ZAMBIA CONTACT: dlungu@unza.zm +260979549230

EMAIL ADDRESSES	mimimoonga@gmail.com; dlungu@unza.zm
DURATION OF THE PROJECT	3 YEARS
PROJECT START DATE (MONTH; YEAR)	2013
PROJECT END DATE (MONTH; YEAR)	2016
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: Kabwe, Msekera, Mochipapa, Mufulira, Misamfu, Masumba MALAWI: Chitedze, Bvumbwe, Chitala, Makoka, Baka and Mbawa MOZAMBIQUE: Lichinga, Namialo, Angonia, Mutuali and Gurue

Overall Project Objective

To increase income generation, food security and nutrition of the smallholder farmers in Malawi, Mozambique and Zambia.

Expected Results/Outputs

- Soybean varieties that are high yielding, disease tolerant and adapted to different agro-ecological regions identified and made available to farmers
- Soybean lines with market preferred traits such as large seeded, light coloured with high oil content identified
- Awareness of the availability of the improved varieties of soybean created
- Heat and aluminum toxicity tolerant soybean elite lines developed
- Molecular markers linked to aluminum toxicity and heat tolerance traits identified

Major Activities

- Germplasm acquisition.
- Screen and select lines with desirable traits.
- Conduct on – station / multi-location trials.
- Carryout lab analysis for oil content and pod shattering.
- Carryout a needs assessment survey to ascertain what farmers and other off-takers prefer.
- Conduct participatory on-farm evaluation and field days.
- Variety release. SCCI, SSU, NSS carries out DUS, VCU.
- Foundation and breeder's seed multiplication.
- Produce promotional aids like brochures, leaflets, fliers, Television and Radio programmes.

Achievements

Crosses have been made producing F1 and F2 generations respectively



NO-9 DEVELOPING HIGH YIELDING VARIETIES AND SUSTAINABLE MANAGEMENT PRACTICES FOR IMPROVED COWPEA PRODUCTION

PROJECT TITLE	DEVELOPING HIGH YIELDING VARIETIES AND SUSTAINABLE MANAGEMENT PRACTICES FOR IMPROVED COWPEA PRODUCTION
PROJECT CODE	LG-P09-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	ZAMBIA
LEAD INSTITUTION	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI)
PRINCIPAL INVESTIGATOR & ADDRESS	PATRICK CHIZA CHIKOTI, MT. MAKULU RESEARCH STATION, P/B 7 CHILANGA, ZAMBIA
EMAIL ADDRESS	chizachikoti@hotmail.com
PROJECT DURATION	3 YEARS
PROJECT START DATE (MONTH; YEAR)	OCTOBER 2013
PROJECT END DATE (MONTH; YEAR)	OCTOBER,2016
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: SOUTHERN, NORTHERN, WESTERN PROVINCES

Overall Objective

The overall objective is to improve cowpea productivity and production among smallholder farmers in Zambia, Malawi and Mozambique through use of improved varieties and management practices by introducing pest and disease resistance into cowpea cultivars that are also early maturing, high yielding, and drought tolerant

Expected Results/Outputs

- Producer and consumer preferences in cowpea identified
- Capacity of cowpea farmers, especially women, enhanced
- Number of cowpea lines with characteristics such as high yield, early maturity, disease and pest resistance, drought tolerant, large seed and pod size, and stay green identified
- Number of farmers and extensions awareness of new varieties with farmer preferences enhanced
- Number of agricultural research scientists, extension personnel, and farmers trained to develop and evaluate improved cowpea varieties

Major Activities

- Germplasm acquisition and characterisation
- Hybridisation
- Variety and agronomic evaluation
- Variety promotion
- Training on agronomic practices using demonstration plots
- Maintenance and multiplication of breeders seed

Achievements

- Three cowpea progenies showing tolerance to cowpea aphid-borne mosaic virus disease identified

No-10 DEVELOPMENT AND PROMOTION OF IMPROVED PIGEON PEA VARIETIES FOR INCREASED AND SUSTAINABLE PRODUCTION IN MALAWI, MOZAMBIQUE AND ZAMBIA

PROJECT TITLE	DEVELOPMENT AND PROMOTION OF IMPROVED PIGEON PEA VARIETIES FOR INCREASED AND SUSTAINABLE PRODUCTION IN MALAWI, MOZAMBIQUE AND ZAMBIA
PROJECT CODE	LG-10-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	MALAWI
LEAD INSTITUTION	DEPARTMENT OF AGRICULTURAL RESEARCH SERVICES (DARS)
PRINCIPAL INVESTIGATOR	ESNART YOHANE - nyirendaesnart@yahoo.com
PROJECT PARTNER/PARTNERING COUNTRY	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI) – ZAMBIA
CO-PRINCIPAL INVESTIGATOR & ADDRESS	KENNEDY KANENGA, ZAMBIA AGRICULTURAL RESEARCH INSTITUTE (ZARI) MSEKERA RESEARCH STATION, ZAMBIA
EMAIL ADDRESS	kkanenga@yahoo.com
PROJECT DURATION	3 YEARS
TARGET # BENEFICIARIES	10,000 DIRECT BENEFICIARIES
PROJECT START DATE (MONTH; YEAR)	APRIL, 2014
PROJECT END DATE (MONTH; YEAR)	APRIL, 2016
GEOGRAPHICAL AREA PER COUNTRY	MALAWI: Northern, Central and Southern Regions; MOZAMBIQUE: Nampula (Malema, Ribaue, Mogovolas, Murrupula); Zambezia (Ile, Alto Molocue) and Cabo Delgado (Mapupulo) Provinces; ZAMBIA: Kabwe, Chipata, Chilanga and Solwezi.

Overall Objective

To enhance production and use of improved pigeon pea varieties in Zambia, Malawi and Mozambique

Expected Results/Outputs

- A sustainable, effective and vibrant seed production and delivery system for pigeon pea based established
- At least 3 high yielding and farmer preferred pigeon pea varieties identified and released in Malawi, Zambia and Mozambique
- 60,000 households exposed to improved pigeon pea varieties in all the 3 countries
- At least 1 seed company in each of the participating countries producing seed of improved pigeon pea varieties
- 3,000 brochures and 6,000 leaflets produced and distributed in each of the countries
- At least 2 papers published

Major Activities

- Assemble and screen pigeon pea accessions;
- Conducted field evaluation and farmer participatory variety selection (FPVS);
- Identify, evaluate and validate IPM technologies;
- Develop training materials and conduct training for farmers and extension agents; and
- Develop promotional material, conduct demo plots and field days to popularize the technologies.
- Produce breeder and foundation seed
- Establish Vibrant seed delivery system for pigeon pea

Achievements

- The 5 promising pigeon pea varieties have been submitted into National Variety Release Trials in partnership with SCCI

- 643 farmers including extension agents were made aware of 5 promising pigeon pea varieties during the 2 pre-planting season's trainings
- 5 hectares of foundation seed was successfully planted by a partner private company ICONIC Ltd
- Awareness of pigeon pea research and crop created to more 800 participants

No-11 ENHANCED DISSEMINATION OF FOOD LEGUMES BASED TECHNOLOGIES FOR INCREASED PRODUCTION

PROJECT TITLE	ENHANCED DISSEMINATION OF FOOD LEGUMES BASED TECHNOLOGIES FOR INCREASED PRODUCTION
PROJECT CODE	LG-P11-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	ZAMBIA
LEAD INSTITUTION	DEPARTMENT OF AGRICULTURE
PRINCIPAL INVESTIGATOR & ADDRESS	PATRICIA KAOMA, MINISTRY OF AGRICULTURE, DEPARTMENT OF AGRICULTURE FIELD SERVICES, PO BOX 80434, KABWE. ZAMBIA +260977891760, +260966946897
EMAIL ADDRESS	pattie_kaoma@yahoo.com
TARGET # BENEFICIARIES	12,600
PROJECT DURATION	3 YEARS
PROJECT START DATE (MONTH; YEAR)	JANUARY 2014
PROJECT END DATE (MONTH; YEAR)	DECEMBER 2016
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: Mporokoso, Mpika, Chitambo, Kabwe, Chibombo, Kaoma, Sinzongwe, Chikankata, Katete, Chipata. MALAWI: Nthceu, Dowa, Rumphu, MOZAMBIQUE: Nampula (Mugovolias, Erati, Rapale, Murrupula and Monapo), Maputo(Bowani, Matutuine and Namaancha) and Gaza (Mabalani and Shoqwe).

Overall Objective:

To contribute to the adoption of improved food legume technologies among small holder farmers

Expected Results/Outputs:

- Improved linkages of farmers to existing innovative platforms
- Increased adoption & use of improved food legumes based technologies among smallholder farmers
- Increased awareness among smallholder farmers on legume based technologies

Major Activities

- lead farmers and extension officer trainings
- On-farm demonstrations
- Farmer field days
- Identification and Inventorising farmers practicing improved legume technologies
- Dissemination through radio, TV, field days, farmer field schools, brochures, posters, bill boards, booklets, leaflets, agricultural shows, and agricultural fairs

Achievements

- 400 demonstration sites established
- Two (2) television and six (96) radio programs aired
- 2000 brochures printed and distributed by the project
- One innovation platform meeting held with partners
- The project has reached a total of 13,380 farmers with legume technologies
- 32 legume technologies made available to farmers in Zambia and Malawi
- 30 districts and 60 field staff trained in demo implementation

MAIZE

NO 1 IMPROVING NUTRITIONAL QUALITY IN MAIZE IN MOZAMBIQUE, ZAMBIA AND MALAWI

PROJECT TITLE	IMPROVING NUTRITIONAL QUALITY IN MAIZE IN MOZAMBIQUE, ZAMBIA AND MALAWI
PROJECT CODE	MZ-P01-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	MOZAMBIQUE
LEAD INSTITUTION	INSTITUTO DE INVESTIGAÇÃO AGRÁRIA DE MOÇAMBIQUE (IIAM)
PRINCIPAL INVESTIGATOR	Pedro Fato - fatopedro@hotmail.com
PROJECT PARTNER/PARTNERING COUNTRY	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI) / ZAMBIA
CO-PRINCIPAL INVESTIGATOR & ADDRESS	KABAMBA MWANSA , ZAMBIA AGRICULTURE RESEARCH INSTITUTE, GOLDEN VALLEY AGRICULTURAL RESEARCH TRUST, CHISAMBA
EMAIL ADDRESS	mwansakabamba@yahoo.com
TARGET # BENEFICIARIES	45,000 (FARMERS, SCIENTISTS AND STUDENTS)
PROJECT DURATION	3 YEARS
PROJECT START DATE	2013
PROJECT END DATE	2018
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: Chisamba, Kabwe, Nanga,

Overall Objective

To contribute for improved nutritional status in communities using maize as their main staple food by making available maize varieties with improved protein quality and enhanced levels of beta-carotene, Iron and Zinc.

Expected Results/Outputs

- technologies produced: 3 QPM and 3 beta-carotene rich maize hybrids;
- technologies made available: 5 bio-fortified maize lines;

- new knowledge: 500 families aware about the nutritional benefits of beta-carotene rich maize grain;

Major Activities

- Assessment on acceptability of orange maize grain in Mozambique, Malawi and Zambia
- Germplasm acquisition and exchange
- Assembling and screening of maize germplasm for adaptability and beta-carotene, iron, and zinc contents
- Development of bio-fortified pure lines
- Inbred line seed increase
- Assessment of combination ability of the readily available inbred lines
- Generation and large-scale testing of three-way cross hybrids

Achievements

- Two Quality Protein Maize Hybrids (GV682P and GV687P) releases and licensed to SANGONDOLA Seed Company for commercialization
- Three Pro-vitamin Maize Varieties (GV 671A, GV 672A and GV 673A) in 2015 released with an average provitamin A content of 12ppm. (GV 671A has been licensed to ZAMSEED while GV 72A and GV 673A have been located to Afriseeds and Advanta Seed company.

NO-2 DISSEMINATING IMPROVED MAIZE VARIETIES AND AGRONOMIC PRACTICES AMONG SMALLHOLDER FARMERS

PROJECT TITLE	DISSEMINATING IMPROVED MAIZE VARIETIES AND AGRONOMIC PRACTICES AMONG SMALLHOLDER FARMERS
PROJECT CODE	MZ-P02-2013
PROJECT TYPE	TECHNOLOGY DISSEMINATION
LEAD COUNTRY	ZAMBIA
LEAD INSTITUTION	DEPARTMENT OF AGRICULTURE
PRINCIPAL INVESTIGATOR & ADDRESS	ELIZABETH CHUMA, MINISTRY OF AGRICULTURE, DEPARTMENT OF AGRICULTURE FIELD SERVICES, PO BOX 80434, KABWE. ZAMBIA +260977891760, +260966946897
EMAIL ADDRESS	anchikomola@yahoo.com
TARGET # BENEFICIARIES	9,100 (ZAMBIA 5,200 AND MALAWI 3,900)
PROJECT DURATION	3 YEARS
PROJECT START DATE (MONTH; YEAR)	2013
PROJECT END DATE (MONTH; YEAR)	2016
GEOGRAPHICAL AREA PER COUNTRY (INDICATE up to the lowest level possible)	ZAMBIA: Provinces: Northern (Kasama); Muchinga (Mpika); Central (Mkushi, Kabwe, Chibombo and Mumbwa); Eastern (Chipata and Katete); Southern (Choma and Monze) MALAWI: Regions: Northern (Mzimba); Central (Dedza, Mchinji and Ntchisi); Southern (Zomba and Phalombe)

Overall Project Objective

To enhance food and nutrition security and income generation among smallholder farmers

Expected Results/Outputs

- Improved maize production knowledge and skills among Extension staff/Farmers

- Increased farmer awareness on improved maize production management practices
- Increased maize productivity
- Enhanced collaboration between research and extension agents

Major Activities

- Inception/Sensitization Workshop
- Needs assessment
- Seed production
- On-Farm/on-station crop demonstrations
- Soil sampling and analysis
- Training extension staff and farmers
- Field days, Farmer Exchange Visits
- Agricultural Shows
- Information Dissemination
- Innovation platforms and Review Meetings
- Field Monitoring and Backstopping

Achievements

- 365 demonstration established
- 15 Field Days Conducted
- The project has created awareness on improved maize based technologies to over 5,000 (2,469 male and 3,157 female) farmers through on-farm demonstrations, field days and agricultural shows. In Zambia, 3,664 out of which 2,220 female beneficiaries were reached.
- The project has created awareness on the nutritive value of pro-vitamin A Orange Maize Varieties to over 4,000 Lead and Follower farmers.
- 1 brochures printed and distributed by the project



The Lead Farmer, Mrs Winfridah Chintu explaining to farmers on the maize technologies and demo plot management at the field day in Finkuli Camp, Mpika district.

No-3 DEVELOPMENT & IMPROVEMENT OF INBRED LINES TOLERANT TO MAJOR STORAGE PESTS

PROJECT TITLE	DEVELOPMENT & IMPROVEMENT OF INBRED LINES TOLERANT TO MAJOR STORAGE PESTS
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PROJECT CODE	MZ-P03-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	ZAMBIA
LEAD INSTITUTION	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI)
PRINCIPAL INVESTIGATOR & ADDRESS	KABAMBA MWANSA , ZAMBIA AGRICULTURE RESEARCH INSTITUTE, GOLDEN VALLEY AGRICULTURAL RESEARCH TRUST, CHISAMBA
EMAIL ADDRESS	mwansakabamba@yahoo.com
PROJECT DURATION	3 YEARS
PROJECT START DATE (MONTH; YEAR)	NOVEMBER 2013
PROJECT END DATE (MONTH; YEAR)	OCTOBER 2016
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: Golden Valley, Kabwe, Chipata, Chilanga MALAWI: Chitedze

Overall Project Objective

The overall objective is to reduce post-harvest losses of maize in storage due to maize weevils (*Sitophilus zeamais*) and larger grain borer (*Prostephanus truncates*).

Expected Results/Outputs

- At least 6 inbred lines and 2 hybrids will be developed at the end of the project.
- There will be reduction in consumption of contaminated maize, which poses a health hazard.

Major Activities

- Selection of germplasm
- Breeding methodology
- Crossing of donor lines to National Adapted Lines to form F1's.
- Development of inbred lines
- Acquisition of S2 and S3 bulks for advancement
- Evaluation and increase of seed of donor lines for adaptation.
- Screening double haploid lines
- Test cross formation
- Evaluation of experimental hybrids or test crosses
- Genotyping by sequencing
- Rearing of insect colonies (weevils and larger grain borer)
- Laboratory evaluation of lines and hybrids for storage pest resistance
- Maintenance of insect colonies at Mt. Makulu
- Pre-released varieties
- On-farm trials
- Seed increase

Achievements

- Developed 315 complete homozygous lines
- Identified 115 three way cross hybrids with better agronomical traits.

No-4 IMPROVEMENT OF CROP-DAIRY INTEGRATED PRODUCTION SYSTEMS

PROJECT TITLE	IMPROVEMENT OF CROP-DAIRY INTEGRATED PRODUCTION SYSTEMS
PROJECT CODE	MZ-PO4-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	MALAWI
LEAD INSTITUTION	LILONGWE UNIVERSITY OF AGRICULTURE AND NATURAL RESOURCES (LUANAR)
PRINCIPAL INVESTIGATOR	ANDREWS CONNEX LEONARD SAFALAOH
PROJECT PARTNER/PARTNERING COUNTRY	GOLDEN VALLEY AGRICULTURAL RESEARCH TRUST (GART) / ZAMBIA
CO-PRINCIPAL INVESTIGATOR & ADDRESS	SIMUNJI SIMUNJI, GOLDEN VALLEY AGRICULTURAL RESEARCH TRUST, ZAMBIA
EMAIL	simunji@yahoo.com
TARGET # BENEFICIARIES	6,000
PROJECT DURATION	3 YEARS
PROJECT START DATE (MONTH; YEAR)	2013
PROJECT END DATE (MONTH; YEAR)	2016
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA - GART – Chisamba, Magoye, Batoka

Overall Project Objective

To identify suitable and adoptable maize –legume based production systems that would enhance dairy integration in subsistence agriculture while caring for the environment

Expected Results/Outputs

- Increased adoption and utilization of legume forages that contribute to increased maize and dairy production.
- Increased utilization of technologies or strategies of maize residues and legume utilisation among the smallholder farmers.
- Increased milk yield from Dairy cow grades and herd size suitable for smallholder dairying utilising inputs from maize-legume production systems.
- Enhanced integration of maize and dairy enterprises in subsistence agriculture in Sub-Saharan African region.
- Increase access to dairy and maize extension services through SMS based ICT system which will also facilitate technology dissemination and adoption
- Increased participation of smallholder farmers in dairy and maize extension through lead farmer concept to ensure sustainability

Major Activities

- On-station and on farm experiments
- Capacity Building
- Validation of technologies
- Technology promotion and information dissemination

Achievements

- Most nutritive legume specie identified, however evaluation is still on going.

NO-5 IMPROVEMENT OF POST-HARVEST MANAGEMENT PRACTICES IN MAIZE

PROJECT TITLE	IMPROVEMENT OF POST-HARVEST MANAGEMENT PRACTICES IN MAIZE
PROJECT CODE	MZ-P05-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	MALAWI
LEAD INSTITUTION	CHITEDZE RESEARCH STATION
PRINCIPAL INVESTIGATOR	CHARLES SINGANO: EMAIL: chasinga2001@yahoo.co.uk
PROJECT PARTNER/PARTNERING COUNTRY	ZAMBIA AGRICULTURE RESEARCH INSTITUTION (ZARI) / ZAMBIA
CO-PRINCIPAL INVESTIGATOR & ADDRESS	MABLE MUDENDA, ZAMBIA AGRICULTURE RESEARCH INSTITUTE, P/B 7, CHILANGA +26097
EMAIL	banji.mudenda@gmail.com
TARGET # BENEFICIARIES	30,950 (For All Countries)
PROJECT DURATION	3 YEARS
PROJECT START DATE (MONTH; YEAR)	JANUARY 2014
PROJECT END DATE (MONTH; YEAR)	DECEMBER 2018
GEOGRAPHICAL AREA PER COUNTRY	

Overall Objective

To contribute towards eradication of extreme poverty and hunger through improved crop postharvest management thereby increasing food security and incomes of rural communities in Malawi, Mozambique and Zambia.

Specific objectives

- To review improved crop postharvest technologies, test and validate with farmers, extension staff and traders/processors
- To build capacity of MoA staff, farmers, and NGOs in postharvest management of grain and estimating maize postharvest losses (cereals and legumes)
- To ensure safe, high quality and market-attractive maize flour for human consumption

Expected Results/Outputs

Expected impact on target groups

- Improved crop postharvest technologies reviewed, tested and validated with farmers, extension staff and traders/processors.
- Capacity of MoA staff, farmers, and NGOs in postharvest management of grain (cereals and legumes) built through training programmes, development of resource materials, and awareness campaigns.
- Improve and build capacity for estimating maize postharvest losses as a key indicator to measure progress achieved during and after project implementation and as a major input in the analysis of domestic food gap as well as gross domestic product i.e. Malawi's economy being heavily dependent on agricultural production
- Modified hammer mills and hardened beaters, it is anticipated that farmers and consumers will be consuming safe food stuffs.
- Safe, high quality and market-attractive maize flour for human consumption
- Ensured food safety in maize flour production and marketing which in turn will encourage optimal maize productivity among the smallholder farmers.

- Due to ensured maize flour safety, consumers are assured of reduced disease risks caused by metal contamination.
- Furthermore, it is also being expected that the successes in design and training of artisans for mass production, will bring means for employment.

Major Activities

- Institutional Framework and Coordination (Sharing of project implementation status on semi-annual basis through PI)
- Officer Training on Crop Postharvest Management
- Training of Front line Staff
- Postharvest loss assessment
- Development of training and extension material
- Conduct On-station evaluations using the modified hammer mills
- Dissemination

NO-6 DEVELOPMENT OF MAIZE VARIETIES RESISTANT TO MAJOR DISEASES IN MOZAMBIQUE, MALAWI AND ZAMBIA

PROJECT TITLE	DEVELOPMENT OF MAIZE VARIETIES RESISTANT TO MAJOR DISEASES IN MOZAMBIQUE, MALAWI AND ZAMBIA
PROJECT CODE	MZ-P06-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	MOZAMBIQUE
LEAD INSTITUTION	INSTITUTO DE INVESTIGAÇÃO AGRÁRIA DE MOÇAMBIQUE (IIAM)
PRINCIPAL INVESTIGATOR	EGAS JEREMIAS NHAMUCHO
PROJECT PARTNER/PARTNERING COUNTRY	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI) / ZAMBIA
CO-PRINCIPAL INVESTIGATOR & ADDRESS	VICTORIA NDEKE, ZAMBIA AGRICULTURE RESEARCH INSTITUTE, MT MAKULU RESEARCH STATION, P/B 7, CHILANGA. +260966725959
EMAIL	victoriambewe@yahoo.com
PROJECT DURATION	3 YEARS
PROJECT START DATE (MONTH; YEAR)	NOVEMBER 2013
PROJECT END DATE (MONTH; YEAR)	OCTOBER 2017
GEOGRAPHICAL AREA PER COUNTRY	MOZAMBIQUE: Maputo, Gaza, Manica, Nampula, Cabo Delgado, Niassa and Tete MALAWI: Central region (Dedza, Ntcheu) and Southern region {Mulanje, Thyolo and Phalombe) ZAMBIA: Golden Valley, Kabwe, Mt. Makulu, Msekera, Mpongwe, Nanga

Overall Objective

The overall objective of this project is to improve the smallholder maize farmers' productivity through development and dissemination of high yielding, stable and disease resistant maize varieties, especially maize lethal necrosis (MLN), downy mildew (DM), Ear rot (ER) and leaf blights in Mozambique, Malawi and Zambia respectively.

Expected Results/Outputs

Improve their livelihood due to the use of multiple disease resistance maize varieties adapted to their agro-ecologies and production systems. This will reduce the losses that farmers use to have due to disease stress.

- 5 multiply disease resistant maize hybrids released
- 5 multiple disease resistant maize lines
- MLD Resistant germplasm available for the maize breeding programs
- Research papers and reports published

Major Activities

- Testing of Downy mildew, Ear rot and leaf blight hybrids using the readily available and adapted inbred lines
- Promotion of Downy mildew, Ear rot and leaf blight hybrids using the readily available and adapted inbred lines;
- Development of multiple disease resistant (Maize Lethal Necrosis, Downy mildew, Ear rot and Leaf blight) maize pure lines and hybrids
- Training of farmers and extension technicians on disease identification and management

No-7 SCREENING AND PROMOTION OF STRIGA TOLERANT MAIZE VARIETIES IN MALAWI MOZAMBIQUE AND ZAMBIA

PROJECT TITLE	SCREENING AND PROMOTION OF STRIGA TOLERANT MAIZE VARIETIES IN MALAWI MOZAMBIQUE AND ZAMBIA
PROJECT CODE	MZ-P07-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	MALAWI
LEAD INSTITUTION	DEPARTMENT OF AGRICULTURAL RESEARCH SERVICES (DARS) - CHITEDZE RESEARCH STATION
PRINCIPAL INVESTIGATOR	CYPRIAN DOKA WATSON MWALE
PROJECT PARTNER/PARTNERING COUNTRY	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI) /ZAMBIA
CO-PRINCIPAL INVESTIGATOR & ADDRESS	MUKOBE N. ABRAHAM, ZARI, KABWE RESEARCH STATION, P.O. BOX 80908 KABWE
EMAIL	mukobeabraham@yahoo.com
TARGET # BENEFICIARIES	312
PROJECT DURATION	3 YEARS
PROJECT START DATE (MONTH; YEAR)	2014
PROJECT END DATE (MONTH; YEAR)	2017
Geographical area per country	KABWE, CHIBOMBO, KAOMA, MONGU, CHIPATA AND MAMBWE

Overall Objectives

To contribute to improving food security in smallholder households in *Striga* infested areas where maize is the main staple food.

Expected Results/Outputs

- Increase in food security and incomes of male and female households and economic development in each country and the region

- From the survey, base line knowledge about socio-economic status of households, agronomic practices, yields of maize, varieties grown, and prevalence of Striga in each country will be generated. Opportunities that exist in each country will also be revealed.
- Results and experiences from the research will be transferred beyond the research areas by multi-national agribusiness firms, international NGOs, research organizations and governments operating in each country.
- Publications and other expected outputs (technologies produced, technologies made available, new knowledge, publications, strengthened capacity)

Major Activities

- Assessment of Striga prevalence in Malawi, Mozambique and Zambia
- Requesting, evaluating and screening of tolerant/resistant varieties
- Developing new tolerant/resistant lines/varieties
- On- farm testing for 3-way crosses for yield and adaptation
- Seed production and promotion

Achievements

- Survey conducted in Eastern and Western provinces and data have been analyzed and being prepared for publication
- Primarily 5 hybrids and 6 OPV varieties have been identified as tolerant maize varieties to *Striga*

No 8 MAIZE GERMPASM COLLECTION AND CHARACTERIZATION FOR CLIMATE CHANGE ADAPTATION

PROJECT TITLE	MAIZE GERMPASM COLLECTION AND CHARACTERIZATION FOR CLIMATE CHANGE ADAPTATION
PROJECT CODE	MZ-P08-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	MALAWI
LEAD INSTITUTION	DEPARTMENT OF AGRICULTURAL RESEARCH SERVICES (DARS) - CHITEDZE RESEARCH STATION
PRINCIPAL INVESTIGATOR	NOLIPHER KHAKI MPONYA
PROJECT PARTNER/PARTNERING COUNTRY	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI) / ZAMBIA
CO-PRINCIPAL INVESTIGATOR & ADDRESS (1)	GRAYBIL MUNKOMBWE, MT. MAKULU RESEARCH STATION, P/BAG 7, CHILANGA +260966880490
EMAIL	munkombwegraybill@gmail.com
PROJECT DURATION	3 YEARS
PROJECT Start DATE	2013
PROJECT END DATE	2017
Geographical area per Country	MALAWI: Karonga, Nkhata Bay, Nkhotakota, Salima, Dedza, Zomba, Chikwawa, Mangochi and Machinga districts ZAMBIA: Central (Serenje, Luano), Southern (Kalomo, Kazungula) and Eastern Provinces (Katete, Petauke) MOZAMBIQUE: Cabo Delgado, Niassa, Nampula, Zambezia, Tete, Sofala, Gaza, Maputo

Overall Objective

To improve climate change adaptation in drought prone areas of Malawi, Mozambique and Zambia and the entire SADC region through identification and promotion of climate change ready germplasm of maize.

Expected Results/Outputs

- Drought tolerant genotypes identified
- On farm and ex situ conservation of drought tolerant genotypes conducted.
- Wide diversity of maize germplasm safeguarded in National, Regional and Global gene banks as well as in Natural Environments Core gene pool of maize for drought tolerant breeding established
- On farm participatory research effectively applied. Farmers' preferred genotypes identified and promoted in the SADC region
- Capacity for breeders and germplasm users improved through promoting and increasing the availability of fully characterized maize germplasm accessions.
- The status of the conserved maize germplasm at National Gene Banks updated and enhanced

Major Activities

- Eco-geographic survey of maize.
- Collect germplasm to fill the existing gaps
- Conserve the collected germplasm in National and Regional Gene banks.
- Establish national on farm conservation sites in areas with high diversity of maize
- Characterize conserved germplasm to establish core collections
- Screen germplasm for drought tolerance in a field and a glasshouse or screen house (pre-breeding).
- Conduct multi-location trials in drought prone areas of the drought tolerant genotypes for yield performance and other agronomic traits (pre-breeding)
- Conduct participatory variety selection of the drought tolerant genotypes
- Conduct field days, on-farm demonstrations, and develop promotional materials

Achievements

- Two hotspot sites for management of genetic diversity in Zambia identified
- One gap filling collection mission undertaken that yielded 43 seed samples of maize landraces.
- Collected and conserved germplasm has been duplicated to SADC Plant Genetic Resources Centre for safety conservation.
- 150 germplasm accessions of maize from the genebank have been characterized at phenotypic level.

No-9 IMPROVING WATER USE EFFICIENCY IN MAIZE PRODUCTION

PROJECT TITLE	IMPROVING WATER USE EFFICIENCY IN MAIZE PRODUCTION
PROJECT CODE	MZ-P09-2013
PROJECT TYPE	TECHNOLOGY GENERATION
LEAD COUNTRY	MALAWI
LEAD INSTITUTION	DEPARTMENT OF AGRICULTURAL RESEARCH SERVICES (DARS)
PRINCIPAL INVESTIGATOR	DR ISAAC R FANDIKA – fandikai@yahoo.co.uk
PROJECT PARTNER/PARTNERING COUNTRY	UNIVERSITY OF ZAMBIA (UNZA) / ZAMBIA
CO-PRINCIPAL INVESTIGATOR	ELIJAH PHIRI, DEPARTMENT OF SOIL SCIENCE, SCHOOL OF AGRICULTURAL SCIENCES, UNIVERSITY OF ZAMBIA, P.O Box 32379, LUSAKA, ZAMBIA
EMAIL	ephiri@unza.zm

TARGET # BENEFICIARIES	4,000 SMALLHOLDER IRRIGATION FARMERS, 50 TO 100 IRRIGATION LEAD FARMERS AND 75 TO 100 PUBLIC AND PRIVATE EXTENSION WORKERS INVOLVED IN IRRIGATED MAIZE
DURATION	3 YEARS
PROJECT START DATE	APRIL, 2014
PROJECT END DATE	MARCH, 2017
GEOGRAPHICAL AREA per COUNTRY	MALAWI: Nsanje, Chikwawa, Dedza, Salima and Karonga Districts ZAMBIA: Lusaka, Chongwe and Kafue Districts MOZAMBIQUE: University Of Eduardo Mondlane, Sabie and Chokwe Agricultural Research Stations

Overall Objective

Enhance maize productivity through improved water management and selection of maize varieties which are efficient in water use

Expected Results/Outputs

- Increased use of improved maize varieties with high water use efficiency under irrigation.
- Increased number of innovative and efficient irrigation scheduling techniques combined with nitrogen management for farmer use in irrigated maize production.
- Increased capacity in efficient irrigation management among irrigated maize growers, extension service providers and researchers.

Major Activities

- Organise and convene regional and national annual collaborative meetings with national partners
- Conduct baseline survey and final evaluation study on available irrigation management technique
- Conduct annual soil sampling and analysis in targeted irrigation schemes.
- Sensitise district/schemes staff on the WUE project
- Orient extension workers working in the project to the project protocols
- Conduct fast track evaluation of maize varieties and accession for WUE at on Station for two seasons
- Conduct participatory variety selection (PVS) at station level Mount and manage demonstrations on selected maize varieties at 5 irrigation schemes using Mother – Baby Approach.
- Mount and Manage irrigation water and nitrogen management OFDs at 5 irrigation scheme using Mother – Baby Approach
- Hold Local and National Field Days and Train lead farmers and farmers in efficient irrigation water management
- Attach MSc students to the project research and Organize field tour for farmers and Extension Workers

Achievements

- 30 maize varieties from 7 seed companies based in Zambia have been characterized for water use efficiency
- One (1) Masters dissertation
- Three (3) scientific journal articles submitted for publications

SORGHUM

NO-1 PROMOTING THE ADOPTION OF IMPROVED MANAGEMENT PRACTICES FOR INCREASED SORGHUM PRODUCTION IN ZAMBIA

PROJECT TITLE	PROMOTING THE ADOPTION OF IMPROVED MANAGEMENT PRACTICES FOR INCREASED SORGHUM PRODUCTION IN ZAMBIA
PROJECT CODE	SG-P01-2013
PROJECT TYPE	TECHNOLOGY DISSEMINATION
LEAD COUNTRY	ZAMBIA
LEAD INSTITUTION	ZAMBIA AGRICULTURE RESEARCH INSTITUTE (ZARI)
PRINCIPAL INVESTIGATOR & ADDRESS	JOSEPH MWANAMWENGE, KABWE RESEARCH STATION, BOX 80908, KABWE ZAMBIA. +0026 0969 499 399,
EMAIL ADDRESS	mwanamwengejoseph@yahoo.com
PROJECT PARTNER	MARTIN MUYUNDA, PRINCIPAL EXTENSION METHODOLOGIST, DEPARTMENT OF AGRICULTURE HQ. ZAMBIA. 260971002886
TARGET # BENEFICIARIES	ZAMBIA: 1440,
PROJECT START DATE (MONTH; YEAR)	OCTOBER 2013
PROJECT END DATE (MONTH; YEAR)	OCTOBER 2017
GEOGRAPHICAL AREA PER COUNTRY	ZAMBIA: Rufunsa, Sinazongwe, Kazungula, Chitambo, Kabwe and Kaoma

Overall Project Objective

To increase productivity of sorghum among small-scale farmers through promotion and subsequent adoption of improved varieties and management practices

Expected Results/Outputs

- Increased adoption of improved varieties and management practices
- Increased production of sorghum
- Improved household food security
- Increased number of farmers using improved varieties
- Increased incomes through increased farmers access to markets we expect that farmers will have more money in the pockets

Major Activities

- Preparation of training materials
- Farmer selection and site selection
- Sensitization meetings
- Conducting surveys
- Conducting staff and farmer training
- Participatory evaluation of available technologies through demonstrations and field days and
- Report writing.

Achievements

- The project reached 262 farmers through 6 field days
- 240 farmers and extension officers trained on sorghum production techniques
- Two radio and TV programmes produced in Tonga and Nyanja