

AZTREC OPV seed review and planning report

Report compiled by AZTREC

Report submitted to DADA

Introduction

The success or failure of any given environmental conservation program is closely linked to the sustainability of the agricultural practice that each particular community is practicing. Food production has remained an issue in East and Southern Africa. The poverty datum line has remained below expectation with some individuals surviving on less than one US Dollar per day. The Association of Zimbabwe Traditional Environmental Conservationists (AZTREC) target communities mostly situated in ecological region IV of Masvingo Province have realized that the first step towards effective conservation is the achievement of food security hence the promotion of sustainable indigenous Agriculture. Indigenous sustainable Agriculture is commonly a practice that is based on the use local resources to produce health food. Health food is organically produced and production is focused on the use local biological seed diversity. Local biological seed diversity is natural and is nutritionally balanced and its production, bulking and exchange have been a common practice amongst the indigenous small holder farmers of Zimbabwe. In Zimbabwe agriculture is contributing 15% of the GDP, representing 65% of the total income of rural households and with more than 50% of the total labor force being directly in agricultural activities. Securing reliable and viable markets for agricultural produce is therefore imperative for attainment of sustainable development, food security and food sovereignty and improved small holder Farmers livelihoods. The issue of farmers rights defined in 1989 by FAO as rights arising from the past, present and future contributions of farmers in conserving, improving and making available plant genetic resources, particularly those in the centers of origin/diversity and the influence of AZTREC, the shortage of seed to the farmers in Zimbabwe during 2008/09 crop production season led to the initiative of collecting, exchanging and bulking of local open pollinated seed varieties.

AZTREC belief system

Indigenous African people have been crop producers for centuries dating back our pre colonial epoch. While indigenous people applaud their baptism on the Green Revolution and the advent of conventional agriculture for improving yields due to use of fertilizers, hybrid seeds and mechanized agricultural implements, they resent the destructive effects of these intruding innovations to the sustainability of the environment. For instance mechanized agricultural production has contributed to massive soil erosion that has resulted to siltation of major rivers, chemical fertilizers are destructive to soil microbial activity that is important towards soil ecological conservation and biological diversity.

AZTREC experience and knowledge is that some farmers world over have become so addictive to artificial production methods to the extent that they ignored natural organic soil fertilization methods that are ecologically sustainable, that maintain a good soils structure, that promote plant diversity leading to production of a diverse health food and enhance livelihoods security. Conventional agricultural politics advocated for a production system which in the minds of many small holder farmers

was a solution to their labor demand and high production level issues based on mono cropping and use of hybrid seeds. Hybrid seeds are addictive since one has to buy each planting season. In Zimbabwe, with the previous escalating economic hardships and increases in the prices of basic commodities, external input agriculture became very expensive and unfound to most resource poor indigenous small holder farmers leading to perpetual food and seed insecurity. It is important to note that small holder farmers do not only use seeds but are key players in the conservation and improvement of plant biological diversity and their varieties. Small holder farmers have rights on the protection of their local seed varieties and these rights are a method of acknowledging the invaluable contribution of these farmers to the conservation protection, utilization and enhancement of these plant genetic resources. Unlike the formal plant breeder, who conducts his/her research under detailed knowledge of the environment in which they practice their farming, natural selection occurs by the action of environmental stress on inherent variation caused by gene recombination and mutation. AZTREC believe that biodiversity is the variety of all life, from genes and species to ecosystems. It is intimately linked to the Earth's climate and, inevitably, to natural ecosystems influencing both climate change and people's ability to cope with some of its damaging impacts and in their turn climate change, as well as people's responses to it. Biodiversity is key to how well people can adapt to climate change, how effectively landscapes absorb and store carbon, and how effective vegetation and ecosystems are reducing the adverse impacts of climate change. It is clear that conserving and managing biodiversity can help natural systems and vulnerable people cope with a shifting global climate. Loss of biodiversity and decline of ecosystems services as a barrier to achieving the Millennium Development Goals (MDGs). Indigenous small holder farming is based on existing knowledge of the local people, especially on systems of optimal adaptation to the local environment. Food security is therefore linked to good and sufficient local seed supply and intrinsically associated with good biological diversity as well as sufficient soil and water management systems.

Thus AZTREC undertook civic education campaigns to educate local communities on the importance of organic farming, small grains production and reliance on Open Pollinated Varieties (OPVs) for economic and sustainability factors. AZTREC over the past two decades has been working with natural farmer innovators who have defied capitalism and high external input agriculture and so continued with experiments based farmer innovations on indigenous and organic farming practices. Thus during the most difficult time of the economic crisis in Zimbabwe, AZTREC has managed to facilitate the conservation local seed biological diversity amongst the communities of Zimuto (wards 1 and 2) and Shashe (ward 6)- Masvingo North constituency, Charumbira (ward 12)-Masvingo South Constituency, Chivi (ward 21)-Chivi South Constituency, Nerupiri (wards 30 and 31) and Mupata (ward 22) Gutu South and Bikita (ward 14) Bikita West Constituency.

OPV seed distribution process

Given the unavailability of seed maize and that being the major staple food crop to small holder farmers in the above mentioned areas during 2008/09 planting season AZTREC contacted DADA on the need for support towards providing these farmers with OPV seed maize variety. DADA agreed to support AZTREC target communities with ZM521 seed maize variety. Major objective was to develop a seed bank of this variety and compliment other OPV crop varieties which the farmers had. A total tonnage of 1000kg was

provided to AZTREC for distribution. DADA also provided fuel and food for AZTREC officers who distributed the seed. Below is a summary table of the seed distributed to farmers:

Area	Quantity delivered	Number of farmers issued seed
Shashe	300kg	23
Zimuto	200kg	20
Nerupiri	100kg	10
Mupata	100kg	10
Chivi	100kg	10
Charumbira	100kg	10
Bikita	50kg	2

A total number of 85 farmers were issues with seed at an average allocation per of 10kg. AZTREC remained with 50kg of ZM521 seed maize in stock. This seed is targeted to be planted at AZTREC in late July 2009 in order to test whether this variety can be planted under irrigation.

Project monitoring data

AZTREC carried out a monitoring process of the project in March 2009 to determine yield estimates. It appeared that in all areas farmers completed planting in late January 2009 and generally the crop was expecting to produce an average yield of 2 000kg per hectare per area because the rainfall pattern was evenly distributed to all the areas that received the seed. Of importance to note was that ZM521 is a very short season variety that takes 40days to reach taselling, 70-80days soft dore and 110 to 120 days hard dore. Below is a summary of the yield estimate results:

Area	Quantity Delivered	Number of farmers issued	Yield estimates (tonnes)
Shashe	300kg	23	24
Zimuto	200kg	10	8
Nerupiri	100kg	10	8
Mupata	100kg	10	8
Charumbira	100kg	10	8
Chivi	100kg	10	8
Bikita	50kg	2	4
Total yield estimate			68 tonnes

Purpose of the review and planning meetings

In March 2009 AZTREC and DADA held visits to Shashe and Zimuto to access the process of the project. It was noticed that most of the crop areas visited had reached maturity stage and some farmers had already harvested their crop. The need to select quality was raised in a meeting that was later held between AZTREC and DADA which later determined to organize and hold review and planning meetings. Below is a summary of objectives for the rormaeview and planning meetings:

- To discuss with farmers in AZTREC target communities the need for OPV seed bulking.
- To discuss post harvesting methods on produced ZM 521 seed maize.
- To develop an action plan for 2009/10 season on OPV seed production.
- To compile a report for the project that must be submitted to DADA in order to incorporate this information in AZTREC Website.

Summary of review and planning meetings proceedings

AZTREC developed a schedule and program for the review and planning meetings as follows:

Meetings program schedule

Area	Date	Time
Zimuto	15/06/09	10.00am
Shashe	16/06/09	10.00am
Nerupiri	02/07/09	10.00am
Mupata	03/07/09	1.00pm
Bikita	11/07/09	12.00pm
Chivi	12/07/09	1.00pm
Charumbira	15/07/09	11.00am

Meetings program

Item	Activity	Responsible person
1	Welcome address and prayer	Local Chief
2	Introductions	Local Chief/Project Chair
3	Meetings Objectives	AZTREC
4	Discussion on OPV seed production	AZTREC and Farmers
5	Review on OPV ZM 521 seed maize production	AZTREC and Farmers
6	Developing Action plan for 2009/10 OPV seed production	AZTREC
7	Any other business	Project Chair
8	Vote of thanks	Local Chief
9	Closing prayer	Farmer

Meetings procedure

General all meetings were well attended by all invited people. The Chairpersons of all the unions made the invitations as advised by AZTREC. Gender balance was observed in Chivi (40% women & 60%men), Mupata (70% women & 30% men), Nerupiri (56% women & 40% men) and Shashe (26% men, 50% women & 24% youth. AGRITEX represented Government in all the meetings and advised the farmers on how seed must be collected, selected and stored. In Shashe the farmers agreed to organize and hold a seed and food fair which was held on the 17th of July 2009. In other unions suggestions and recommendations were made as explained below.

Meeting attendance register

Area	Farmers issued seed	Farmers who attended meeting
Zimuto	10	30
Shashe	23	70
Nerupiri	10	25
Mupata	10	38
Bikita	2	15
Chivi	10	29
Charumbira	10	40

Summary of findings

- Small holder farmers in AZTREC have a very high diversity of open pollinated seed varieties which they have been growing. The only problem which these farmers have been encountering was on OPV seed maize of which AZTREC introduced 1 tonne of Zimbabwe Maize 521 variety during 2008/09 planting season.
- Seed exchange is a common practice among small holder farmers of Zimbabwe of which the introduction of seed and fair among these farmers further strengthened this practice.
- The issue of developing seed bank amongst small holder farmers which we are promoting as AZTREC is a dream that may come true suppose these farmers are provided with construction material resources at Small Farmer Organization (SFO) level.
- Value addition is one other development AZTREC noticed in its that we have strengthen because there some efforts which are being done by farmers at SFO level e.g. sunflower cooking oil, peanut butter, local beer just to mention but a few.
- The relationship between AZTREC and Government Extension officers in above mentioned areas in as far as their collaborative effort towards strengthening the production of a diverse health food is commendable even though there some challenges on policy issues between Government and NGOs.

Summary of recommendation from farmers

The farmers recommended the following issues:

- The need to carry out in depth research on all available crop seed varieties in their areas and asked AZTREC to extend this project to other Clusters in Zimbabwe through linkages with PELUM Zimbabwe and ZIMSOF.
- The need to establish seed banks at farmer level and centers of excellence.
- To facilitate exchange and marketing of OPV seeds through organizing and holding seed fairs.

- To lobby and advocate for farmers rights in terms of multiplication and conservation of local biological seed diversity.
- To develop training programs for OPV seed production, storage, packaging and marketing in line with the PELUM College training syllabus.

Case of Shashe seed and food fair

Shashe block of farms are situated in ward 6 of Masvingo Rural District Council (MRDC) in Masvingo Province, close to Mashava business center occupied by asbestos and gold mining activities. The block is an area of 15 020ha, resettled +/- 500 small holder farming families. The block is characterized by sand loam to heavy clay soils

production. Due to poor region IV and the influence small holder farmers in the became the a major cash produced by the majority 2007/08 crop production the sense that cotton by the majority of the commendable yield more The market environment a lot of inflation and experienced in Zimbabwe



ESAFF Chairperson providing typing services to the local farmers towards developing the seed and food fair program

suitable to a diverse crop rainfall pattern in ecological of conventional extension to block, cotton production crop being promoted and of the farmers. The case of season was an eye opener in production was given priority farmers producing than 20 000 tonnes of cotton. that period was influenced by highest food insecurity ever e.g. 200kg bail of cotton seed

sold to Cotco, Cargil or Taraffin in 2007/08 season failing to buy a 20kg bucket of maize or any other cereal grain. Instead the farmers ended losing livestock in exchange of food crops. Come 2008/09 cropping season, seed was never found anywhere due to local politics which had tarnished the emerge of Zimbabwe and where it was available it was beyond reach of the majority. As local farmers we had to organize ourselves, use my experiences from the regional farmers and elsewhere in the world and find quick fix solutions which could solve our seed shortage crisis. The only getaway factor we agreed and considered was collection, sharing, propagation and management of available seed resources. Thank God, DADA provided ZM 521 seed maize and 2008/09 season was very good in terms of rainfall on crop production even though rivers could not flow with the amount of rainfall we received. Average and diverse yields were achieved per individual farmer who participated on this initiative giving the momentum to share experiences on the propagation of these local seed varieties through organizing and holding a seed and food fair which was then held on the 17th Of July 2009.

Summary proceedings of seed and food fair



Chairperson of the seed and food fair Mr T Mawire calling the gathering farmers to in order to provide welcome and introductory remarks



Chairperson of the event making introductions of invited guests that included Government Extension officers who judged and advised farmers of the importance of seed bulking.



Open pollinated seed varieties displayed by the farmers for competition, exchange and marketing



Sunflower cooking oil displayed by the farmers, demonstrating the importance of value addition to local produce.

Conclusion

In all the areas the farmers concluded the meetings on a high note, wishing other meetings or workshops of a similar nature to be held annually in order to guarantee seed security. This would facilitate the re-adoption of abandoned indigenous agricultural knowledge systems while on the other hand not side lining the relevant and appropriate conventional approaches to agriculture. All in all a

robust seed base is needed to guarantee the sustainability of the small holder farmer agriculture industry and to ensure efficient seed provision as the seasons come and go. Just as a crop requires a proper soil in which to grow, seed enterprises will only thrive in an appropriate environment. Seed security and food security both in normal and disaster years is a prerequisite for increasing food production, improving farmers' income, alleviating poverty and ensuring food security at household levels.

Detailed statement towards DADA contribution to AZTREC- May 2009

Fuel

Destination	Announcement	Pick-up (km)	Workshop (km)	Return (km)
Masvingo-Mupata	260km	120	260	120
Masvingo-Nerupiri	85km	120	80	120
Masvingo-Chivi	120km	120	120	120
Masvingo-Charumbira	60km	120	60	120
Masvingo-Bikita	200km	120	200	120
Masvingo-Zimuto	-	120	60	120
Masvingo-Shashe	-	120	120	120
Totals	720km	720km	900km	720km
Total fuels	120l	120l	150l	120l

Explanation

All the planned destinations were covered according to fuels contributed by DADA. Given the economic situation of Zimbabwe in terms of the problems affecting NGOs such as AZTREC, as an organization AZTREC and the target farmers would like to thank DADA for its contribution to make the trips successful.

Payment for meetings

The amount of USD 710 Dollars that DADA contributed to AZTREC officers to able to facilitate the meetings as planned was spent accordingly. Stationary was distributed to the farmers during the meetings. Even though initially AZTREC had indicated that its vehicle had broke down efforts were made to secure the resources as agreed and carried the planned meetings.