



Report from a fact finding mission: Women, Gender and Conservation Agriculture in Zambia



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Executive summary

In December 2010 a gender team¹ from Norad undertook a study trip to Zambia in order to learn about women, gender and conservation agriculture. Conservation agriculture is central in climate adaptation. For 2011, GoN has earmarked NOK 100 million from the “gender budget line” for climate adaptation, with a focus on women and gender issues. Below, follow some general findings and recommendations from the study tour.

Conservation agriculture (CA):

CA has many benefits for women. It reduces and spreads women’s workload over time and reduces women’s burden on fetching water. It enables early planting of crops: makes women less dependent on oxen or mechanical tillage equipment, increases crop productivity and production of different crops, and increases production of food-security crops. Women farmers maintain that their work within agriculture has become more planned and systematic (including planting, use of fertiliser and crop rotation). Women manage to improve the welfare of their families because of CA.

At present, there exists political support for conservation agriculture in AU/NEPAD, due to the challenges related to climate change and food security. In May 2010, Ministers of Gender in the 19 COMESA countries gave their support to women and gender issues in conservation agriculture.

There are opportunities for women’s organisations and CBOs to work hand in hand with the Conservation Farming Unit (CFU) and other organisations to spread CA. Women’s organisations can bring up issues, support female farmers through the first hard years of CA, make it easier to reach women farmers with information and agricultural inputs, empower women and enable them to take more control over resources and income from the fields they cultivate.

Recommendations

CA benefits women and should therefore be supported as part of the follow-up to the Norwegian strategy for women’s rights and gender issues.

Norway should strengthen its focus on women and gender issues in conservation agriculture, through promoting equal access to technology and input and access to decision making. It should be ensured that report mechanisms are appropriate for the concerns of women’s empowerment in the conservation agriculture sector.

Norway could support COMESA’s gender unit in order to strengthen regional work on conservation agriculture.

Norway should facilitate and support cooperation between women’s organisations, and organisations like the Conservation Farming Unit in the spreading of CA.

¹ Director of FLID Bjørg Skotnes and Senior Adviser Bodil Maal

1. Women, Gender and Conservation Agriculture

1.1 Introduction

Climate adaptation has received increased attention in the Norwegian development budget for 2011. Climate adaptation includes support for sustainable agriculture, food security and water management. Women play a central role in all these sectors. Due to different gender roles and patriarchal power relations, climate change in these sectors has different effects on women and men. In the coming year the Norwegian Government intend to strengthen women's role and influence in the management of exposed and endangered natural resources. GoN has earmarked up to NOK 100 Million of the budget-line for "women and gender" to climate adaptation in 2011. Conservation agriculture (CA) is one of the central climate adaptation strategies.

In order to learn more about conservation agriculture, and women and gender roles in conservation agriculture, a team from Norad went on a study tour to Zambia in December 2010. The purpose of the study trip was to study farming practices and try to identify obstacles to poor farmers, especially women's participation in conservation agriculture. The purpose of the trip was also to visit organisations that support conservation agriculture and to learn about how they work on gender issues.

The team visited Chongwe, Nyimba, Katete and Petauke in Eastern Zambia. In these districts we met with local chiefs, farmer organisations, female and male farmers, staff and members of women's organisations, trade organisations and the Conservation Farming Unit (CFU).

In addition to the study trip, reports and documents on women, gender and conservation agriculture were reviewed.

The report is divided into 4 parts:

Part 1 explains some of the technical issues related to conservation agriculture, since this is not a commonly known concept.

Part 2 presents the ways in which conservation agriculture benefits women and men. The information is based on our field visits and information obtained from various reports.

Part 3 reviews the obstacles that exist for women small holder farmers to take up CA, and we present some possible areas of intervention for the Embassy on how to support women and gender issues in conservation agriculture.

Part 4 presents the recommendations to the Embassy.

Conservation agriculture (CA) is a comprehensive agricultural practice. A report like this has its limitations, but we hope that it can serve as a first introduction into this important sector for staff inside Norad/MFA and Norwegian embassies that work on gender issues within CA.

1.2 Background

Women play a critical role in agriculture in Africa; they make up the majority of the smallholder farmers and produce up to 80 percent of the food that is consumed locally². Nearly 75% of the earth's 1.4 billion poorest live in rural areas and support themselves with agriculture. In the coming years agriculture must undergo a significant transformation in order to meet the related challenges of food security and climate change, especially in African countries.

Conservation agriculture (CA) is a farming practice that benefits farmers in different ways; it manages the soil fertility, improves the efficiency of inputs, and increases the production and last, but not least, it reduces women's workload.

1.3 What is conservation tillage and farming?

In Zambia, the first efforts to spread conservation agriculture started in 1991.³ At present there are 1.3 million farmer households in Zambia. It is estimated that 200,000 households have adopted CA practices.

Adoption of conservation agriculture has been strongest in the semi-arid parts of the country,, that is, areas with annual rainfall of 650-1000 mm.⁴ Farmers in these regions depend on mixed crop livestock systems and cultivate mainly maize, groundnuts and cotton.

The conventional tillage method inverts the soil and destroys its structure, and has led to increasing land degradation and deforestation in Zambia. The method involves digging the whole field with a hoe, and is usually performed by women after the first rain has softened the soil.

Maize mono-cropping (planting maize in the same field year after year), combined with the use of acidifying fertilisers and conventional tillage, is a recipe for disaster. Organic material is oxidised, soil water holding capacity declines, hard pans develop, acidity increases and fertility declines. Farmers cultivating degraded soil are particularly vulnerable to the threat of climate change.⁵ In the common system of farming, the crop residues are burnt and manual weeding remains the practice.

When the top soil becomes exhausted in the field, the farmers move to virgin land and the process of degradation starts once again.

Conservation Tillage, on the other hand, refers to a number of practices that in combination conserve soil, moisture, save fertiliser, seeds, energy, time and money. The farmer only has to use the "chaka-hoe" on parts of the field. It is estimated that 70 per cent less soil is disturbed

² The toughest job in the world –Facts from Swedish Cooperative Centre , no 9, Dec 2010 page 7

³ FAO Baudron et al : Conservation agriculture in Zambia 2007

⁴ FAO Conservation study in Zambia –case study from Southern Province 2007

⁵ CFU: Conservation Farming and Conservation Agriculture – Handbook for Hoe farmers.. 2007

with Conservation Tillage techniques. The farmer digs small basins/holes, instead of inverting the whole field.

With minimum tillage the farmer:

- Protects the soil from damage caused by rain splash;
- The basins/holes reduce run off and keep more of the rain on the fields, this is called rain harvesting;
- Makes the best use of costly fertiliser and seeds;
- Finishes land preparation well before the rains come, so they are ready in good time.

Conservation farmers use Minimum Tillage methods to establish their crops, but they also grow legumes in rotation with their other crops. Legumes, depending on the varieties grown, fix nitrogen, improve fertility, break soil pans and are an excellent source of protein for the family. Conservation farmers recognise the value of nitrogen fixing trees. (See appendix for more detailed technical information on CA).

2. Why does Conservation Agriculture benefit women farmers?

2. 1. Reduction and spread of women's workload over time

Subsistence farming, in the conventional manner, implies extensive tillage. Usually a married woman has to perform tillage on both her husband's cash crop field and her own food security field. Conventional land preparation corresponds to the period when labours are reduced and weak, due to food scarcity and higher incidents of malaria.

For adopters of CA, the entire farming calendar is shifted and moved towards the dry season. Land preparation can start soon after harvesting when the land is not too hard. It is maintained that CA takes away the "panic" in the agriculture sector, since the basins can be prepared months before actual planting. It is also maintained that the CA method means that women use 60% less energy on the preparation of the field, since they only invert parts of the field with the "chaka hoe". The activity calendar becomes more flexible for women and children. It makes it easier for woman to combine work in the field with all the other household duties, since a line of planting basins can be prepared both in the morning and evening. Women the study team met with said that they spent less time both on land preparation, and on weeding.

However, roaming cattle tend to destroy basins dug during the dry season, obliging farmers to clear the basins at the beginning of the rainy season.

➤ Reduces women's burden on fetching water

It is maintained that conservation agriculture (CA) saves the time women have to use for fetching water for irrigation of the field. Farmers explained that CA entails a form of "water harvesting".

➤ **Weeding**

If you replace inversion tillage using a plough, with minimum tillage, weed pressure is greatly increased.. However, a conventional hand-hoe farmer (who digs planting basins, but does not invert soil on the entire surface of the field), will not experience any increase in weed pressure by digging the basins. That means that women with small fields face fewer problems with weeds than farmers with larger fields, who perhaps would need to use herbicide. The CFU recommends that farmers do early and continuous weeding, with the objective of decreasing the seed weed bank over time. The challenge of weeds is less for women farmers with smaller plots. However, different case studies have different conclusions related to weeding.

➤ **More systematic work and planning**

The women farmers told the study team that CA had taught them to be more systematic in terms of how much they plant, and how much is received in yield. The systematic planting and handling of inputs makes it possible to plan. When planting maize, for example, people are taught to place four seeds in every basin. When the female farmers told the study team how much they planted and how much they yielded – all the women were cheering.

➤ **Make women less dependent on oxen and mechanical tillage equipment**

When a woman practices CA, she is not dependent on oxen or mechanical tillage equipment, and can plant earlier.

In conventional agriculture, woman smallholder farmers who rent oxen or mechanised tillage equipment, have experienced problems in planting on time. Women farmers without oxen, often plant too late, since farmers owning oxen prioritise their own fields.

A woman who belongs to a household that owns oxen or mechanised tillage equipment, will often not be able to do the ploughing herself. Ploughing is considered to be men's work, and therefore, women who plough are seen to bring shame on the household. To do tillage with a hoe, however, is considered acceptable for women. These strict gender roles related to ploughing are found in many places in Africa.

2.2 Food security and production

➤ **Family welfare**

A 'good' wife has to prioritise work on her husband's field. When the first rain starts the wife must first till her husband's land. In conventional agriculture this has meant that the woman's field, where the food security crops are grown, has had to wait. With CA she can prepare her own field months before the rain sets in. The planting of her own field is therefore less delayed, and early planting means that she can benefit more from the rain. It is estimated that for every day that planting is delayed after the first possible planting date, the maize yield

falls by 1-2%. The results for CA however, show that the production of food security crops increases because planting can take place earlier, and benefit more from the rain.⁶

➤ **Conservation Agriculture improves the crop yields**

In FAO's case study of CA in Zambia, it was found that a sample of 125 hand-hoe farmers using CA were found to produce 1.5 tonnes more maize, and 460 kg more cotton, per hectare than farmers practicing conventional ox-plough tillage (Haggeblade and Tembo, 2003). Studies of farmers using rippers and farmers using hand-hoes have shown that hand-hoe farmers perform better. Usually the hand-hoe farmers are women.

The study team was presented with different figures concerning the increase in production in the area of Petauke. It was maintained that the farmers would not experience an increase during the first year. However, from the second year an increase started to show in the yield. The increase has many positive impacts for women, including the improved nutritional status of household members, and in addition, the sale of surplus production. Female farmers told the team that the increase in yield had helped them to support schooling for their children, buy clothes and agricultural inputs. Ms. Mumba said that her household used to harvest 50 bags of maize on four limas (one hectare), and after adopting CA they manage 120 bags from two limas. Ms. Mumba had trained her husband in CA. At first her husband refused her permission to do conservation agriculture, but she managed to change his attitude, and now it is he who teaches her about CA. (The wife was the change agent!)

Case study: Agnes is 49 years old and has grade 4 from school. Her husband left her some years back. She has 6 children; four of them are married off. She carries a heavy burden of responsibility for her family and is considered as a very successful woman farmer. She cultivates her father's land and has given some of the land over to her previous husband.

She is a hardworking woman and says that from May to October, she spends 8-12 hours per day preparing the field. She plants groundnut, cotton and maize. She planted maize on 2 December. She underlines that the work is easier now than before. Previously she needed to plough and sow at the same time, whereas now she can spread the work, and production has increased.

She cultivated three limas last year (one hectare is equivalent to four limas). She managed to harvest 24 bags of maize from one lima, three and a half bell of cotton from half a lima and 12 bags of ground nut from one lima. She sold six bags of ground nut for 270,000 kwacha (approx NOK 270). In addition she sold cotton for 585,000 kwacha. She earned in total 850,000 kwacha. In addition to her field she cultivates vegetables, has two cows, chickens, goats and six pigs. She is considered as a well-to-do woman locally.

⁶ Baudron et al. Conservation Agriculture in Zambia 2007



Her four grown-up daughters (17, 20, 23 and 25 years old) live with their husbands, close to her house. In total she has eight grandchildren. At present Agnes supplies all her children, even the grown-ups, with maize. The daughters are married, but they do not have enough food. Agnes has tried to involve the daughters in her work in the field, but in vain. She tells us that she has supplied her daughters with chickens and piglets in order to help them to help themselves. Agnes will cultivate two

limas of maize this year to provide for her big family.

Agnes wants her two youngest children, who are eight and 12 years old, to go to secondary school.

Spending of income

With the use of 425,000 kwacha (50% of the money she has earned on sale of crops) she buys four bags of fertilizer and seeds as input to the next season in agriculture. In addition, she pays the school fees, buys clothes and some food. She has no other cash income than the income from agriculture.

3. Obstacles for women farmers in Conservation Agriculture – possible areas of intervention for the Embassy

3.1. Regional support for CA

It is estimated by FAO that 30 percent of the population living in Sub-Saharan Africa (SSA) suffers from hunger and undernourishment. Agriculture is decisive for the achievement of the first Millennium Development Goal, and African researchers estimate that the African continent as a whole would need investments of at least 20 per cent per year in order to achieve this goal.⁷ In addition to increasing the food production there is need to adapt to the climate change in SSA. The African Union (AU) and the New Economic Program for Africa (NEPAD) have decided to scale up efforts to adapt climate change under the CAADP. CA is one of the main pillars of this effort.

➤ Political backing for women farmers in CA from COMESA

COMESA consists of 19 countries. There is an increasing interest for CA in member countries like Ethiopia, Uganda, Kenya, Zimbabwe and South Africa.

⁷ SCC The toughest job in the world No 9, December 2010

COMESA established its own gender unit in 2009. In May 2010 all the Ministers of Gender from member countries gathered in a conference on Gender and Climate Change in Malawi. In this conference a directive was given that 80% of the beneficiaries of programs in conservation agriculture should be women farmers.

It was underlined by the director of the Gender unit in COMESA that, 70-80% of the work in agriculture is conducted by women, and therefore, 70-80% of the resources should be channelled towards the female farmers.

COMESA also has a small unit working on CA. However, in order to get more focus on gender and CA, the Embassy could support a position inside the Gender Unit of COMESA that could follow-up on gender and CA. Increased support to gender and CA could start out by reviewing how gender issues have been taken on board in the national agriculture plans (CAADP) of member states in COMESA. Lessons learnt from such a review could be shared with Gender ministries in COMESA's member countries. In that way, the Gender Unit in COMESA could support cross-cutting work between Gender ministries and ministries working on agriculture in COMESA's member countries.

3.2. Women farmers' impact in the agriculture sector

Women farmers have little impact in the decision making structure of the agriculture sector. The Government of Zambia has created a nationwide structure for extension work. Zambia is divided into agricultural blocks, and each block is divided into 12 "camps". Each camp has its own agriculture extension worker paid by GoZ. We were informed that 45 per cent of extension workers are women and that all the camp extension workers in the GoZ/FAO project have received training in CA by CFU.

The GoZ/FAO project covers 28 out of 72 districts. In the GoZ/FAO camps the extension workers receive motorbikes and a maintenance fund. At camp level there is a **selection committee** consisting of twenty persons, who selects the lead farmers. Since the members in the selection committee need to own land, the committees usually consist of men. The committee decide on the 28 lead farmers in the camp. Each lead farmer thereafter recruits 15 participating farmers. The lead farmers receive bicycles in order to be able to visit each of the participating farmers twice per month. In order to be a lead farmer, the farmer must be a landowner. The lead farmers are trained by the Conservation Farming Unit (CFU) and need to practice conservation agriculture for one year before beginning to teach the participating farmers. The lead farmers usually have a plot to demonstrate the CA method.

The government system for selection of participating farmers in CA has an impact on the number of female farmers that are trained. In the household, it is usually the men who receive the training. We also learnt that some women are not permitted by their husbands to attend CA training if the lead farmer is a man.

So, even if 80 per cent of the work conducted in agriculture is done by women, it is estimated **that only 30- 40 percent of the selected participating farmers today in the GoZ/FAO program are women, while the CFU programs reach some 50 percent women.** This is due to men's control over property, resources and decision making structures.

Case study:

In Petauke District the team met with a male camp extension worker who had been active in the selection process in his camp. He had picked eleven women and seventeen men as lead farmers. We were told by staff from FAO that this camp was a special case and that usually women were very seldom picked as lead farmers. This indicates that individuals can have an influence on who is selected as a lead farmer. Having more lead farmers will have a positive impact on the number of female farmers participating. Many women are denied permission to participate in CA training by their husbands, if the lead farmer is a man.

Male lead farmers



FAO staff maintain that it is possible to issue a guideline stating that, for example, 60 per cent of participating farmers should be women in the FAO/GoZ program.

➤ **Membership in cooperatives**

Farmers also need to own their land in order to be eligible for membership to the farmers associations and co-operatives. As a member of a co-operative they may receive support from government programs. Since female farmers usually do not own the land they cultivate, they also fail to access support from GoZ's different support schemes for their food-security field. (Through one of the programs, poor households receive 10 kilos seeds worth 250 000 kwacha, but women smallholder farmers usually do not qualify for this support).



3.3. Women's position in society and in the household

➤ Ownership of land

Women and men usually lack title deeds and control over land. Generally they only possess user rights. The land they cultivate is usually recognised as the property of the husband, father or brother. Control over land varies between patrilineal and matrilineal societies, but even in the latter case, it is by and large the male relatives of a deceased woman who determine land allocation. Grabbing property from widows is a problem for women in Zambia, as it is in other African countries. Planting of the fertilizer tree: *Faidherbia albida*, is difficult for women who do not own the field, since the planting of a tree means that you own the tree, and this is problem when you do not own the field.

Women's asset control is a challenge both concerning land and water. According to women, if they use CA and produce more on their plot, the chief might then take over the plot. In Zambia it is said that: *"a woman is a part of your property, and property cannot own property."*

Access to land is a strategic gender need for woman that is important to address. If women get more control over land, this will increase their control over their personal life and possibility to plan ahead, as well as give them access to other resources like training and government subsidy programs etc. (see appendix about practical and strategic gender needs).

➤ Women's access to decision making

"Women are disempowered", we were told by staff of women's organisations⁸. Most women wish to have control over their own bank account and their marketing, but they need to be mobilised and supported by women's organisations to manage this.

There are no real areas in which women can make decisions, not even regarding the number of children to have. The men are the planners and decisions-makers; at best wives are consulted, but more often they are told what to do. The husband usually sees the woman in her traditional role as wife and mother. Some female farmers told the team that their husbands had been negative about taking up CA, but that they had managed to convince them. However, some women had not managed to change their husband's mindset concerning conservation agriculture.

➤ Women lack access to information

Women often lack access to information about conservation agriculture and about resources from which they could benefit. Many female farmers are illiterate.

➤ Women lack access to agriculture supplies

⁸ NGOCC and Katete District Women's Development Committee

A central component of the approach to promoting CA has been providing extension to farmers, and Government input subsidies, whether free or on credit, including seeds, fertilizers and lime. **Unfortunately, most agriculture support programs are targeted at the male dominated cash crop field.**

The study team was told that farmers need to own their land in order to be eligible for membership to farmers associations and co-operatives.

➤ **Women cannot afford agriculture supplies**

Women smallholder farmers cannot afford to buy seeds and fertilizer. We learnt from Agnes (the case study) that she had used 50% of her cash income from the sale of maize, groundnuts and cotton, for buying supplies for agriculture. Usually, poor women farmers cannot raise this money.

Even when poor smallholder farmers receive input from GoZ, they still have problems paying their share. A farmer needs to raise 50,000 kwacha to pay the joining fee for the farmers association, as well as 30,000 kwacha in transport fees for the agricultural supplies. Women farmers said that many women work other farmer's fields in order to try to earn money to pay their household share. Often though, women experience that their husbands spend the saved money on drinking.

➤ **Agriculture supplies from GoZ are provided too late**

We learnt from the farmers that the inputs from GoZ are usually provided too late in the season for the farmers. The farmers sell their surplus maize to the GoZ, but they receive the payment so late that they have problems buying the inputs on time for planting. The voucher system that has been introduced should help with this. According to poor farmers, since the introduction of the voucher system, the agro dealers have started to raise the price on seeds, as they now know that those farmers have money

The extension workers encourage the smallholders to keep small livestock that can be sold in order to buy inputs. In order to be self sustainable, and not dependent on buying inputs like chemical fertilizer, farmers are also trained in organic farming, including how to select and store seeds, and prepare manure.

➤ **Labour requirements**

In FAO's case study of Zambia (2007), it is stated that conservation farming using basins almost doubles the weeding effort, as compared with the conventional ploughing system. Similarly, it increases labour requirements for land preparation during the first year. Generally, it is recommended that six weedings are carried out per year, but in FAO's case study, those who adopted conservation farming only carried out two or three weeding operations during the cropping season. Increased weed pressure is a problem both for hand-hoe farmers and rippers. However, those promoting CA argue that the labour demand decreases year by year. Labour required during the first year (to dig basins) is halved after five years, if the basins remain from one season to the next.

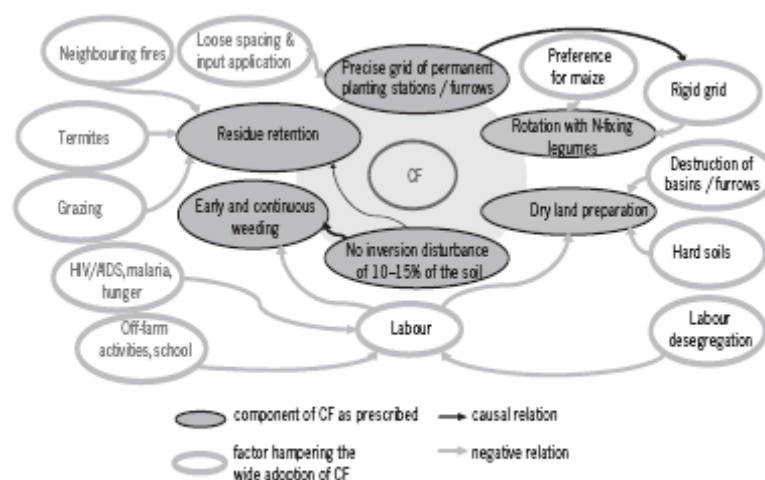


Figure 4. Components of conservation farming (CF) as recommended and related constraints.

Female farmers, and research, state that the first year of CA is hard. In the first year the tilling of the permanent basins and the extensive weeding is a challenge. In addition, the production of crops does not increase greatly during the first year. Also, female headed households that lack access to additional labour will struggle during the first year. Methods on how to ease the first years of CA should be considered. For example, assistance may be given to female headed households, herbicides may be used in order to decrease the demand for weeding, and cultivation of cover-crops to stop weeds and so forth, could be considered.

If women farmers are organised in groups and followed up closely by extension workers, it is possible that those choosing to return to conventional agriculture after the first year, could be reduced. The authors of this report also believe that preparing women by providing information about the challenges during the first years of CA would be important in reducing the drop-out rate.

3.4 Models of spreading Conservation Agriculture

Many institutions and organisations, principle Ministry of Agriculture and Co-Operatives (MACO) and CFU, but also to a lesser extent a variety of NGOs, have been adopting and disseminating conservation farming technologies with support from multilateral and bilateral partners. A variety of smallholder conservation farming related activities have already begun to receive support, since 1991.

The study team met with different programs, however, only one of the programs we learnt about had a clear focus on women smallholder farmers and gender issues.

➤ Conservation Farming Unit (CFU)

A series of actors emerged in the late 1980's and early 1990's to confront the twin problems of damaged soil, and radically altered production incentives. Leading players in technology development and dissemination included the Conservation Farming Unit (CFU) of the Zambia National Farmers Union. In addition to its technology development and testing, the CFU has engaged in direct extension efforts since its first full season of operation in 1996/97. They have conducted between 800 and 1,000 demonstrations and trial plots annually between 1997 and 2001. The number of adopters of CA has increased gradually since 1996, and at present, approximately 200,000 households have adopted CA.

CFU has a total of 150 staff, out of which 20 per cent are women. CFU decides who the lead farmers will be, and thereafter each lead farmer chooses 30 contact farmers. The lead farmers are paid through electronic vouchers for their work as extension agents.

CFU works on technical training in CA and has no special competence on gender issues, even though approximately 50 percent of those trained by CFU were female farmers.

➤ **Cooperation between CFU and the trade organisation COMACO**

COMACO (Community Markets for Conservation Agriculture) focuses on food security and has 40,000 households as members all over Zambia. COMACO is organised into 18,684 producer groups, and the staff at COMACO maintain that 50 per cent of the members in these groups are women. Staff at COMACO informed us that they have not focused on women in their work, but that rural women have focused on the organisation. COMACO supports farmers to sell their products, and it buys products from the farmers and adds value before the product is sold.

COMACO has cooperated with CFU, which has trained members of COMACO in conservation agriculture. The infrastructure of COMACO, the producer's groups, has been used as a vehicle for training in conservation agriculture.

Linking women farmers to trade organisations in order to enable them to sell their products directly, and not through male members of the household, would also benefit the women. *Cooperation between COMACO and CFU should be encouraged. The Embassy should ask for gender sensitive reporting from the cooperation.*

➤ **Cooperation between Women's organisations and CFU**

Katete District Women's Development Committee has 1,547 members belonging to 82 local groups. The organisation targets women, and 20 per cent of the members in the groups come from female headed households. Each group should also include men, and at present, there are usually three men in each group. The organisation works on "**property grabbing**", home-based care, livelihood, entrepreneurship and conservation farming.

Representatives from 15 of the 82 groups, ten women and 5 men, have received training in CA from CFU. The agricultural supplies was distributed throughout these 15 groups. The Katete organisation is now looking for funding from development partners in order to

disseminate knowledge on CA to more women. The organisation has contact with traditional leaders and tries to secure title deeds for widowed women farmers, in order to provide security for their children.

Katete District Women's Development Committee is a member organisation of NGOCC. Fifty-three members of NGOCC are community based organisations that work directly with their communities, and NGOCC has an infrastructure that could be used as a tool for training and follow-up on poor women smallholders in CA.

Women's organisations with member groups consisting of women farmers can cooperate with CFU. The women's organisations have a more holistic view on gender issues in the agriculture sector, and deal with advocacy for women. When women are organised into women's groups we believe that they will achieve more asset control over fields and water. Perhaps the women's organisations could also support the women to get control over income from their crops. If women were more well organised it would also be easier to reach them with different support. Member organisations of female farmers in the villages can agree to use peer pressure for follow-up on CA. Starter packs of agricultural supplies could be distributed through women's organisations.

4. Recommendations

The following recommendations might be considered by the Embassy:

1) Continue to support women and gender issues in CA as a follow-up to the Norwegian strategy for women's rights and gender equality, and a way of putting women, gender issues and CA on the climate change agenda.

In programs and partnerships

2) RNE should support the cooperation between women's organisations and CFU. Women's organisations usually also focus on strategic gender needs like land rights, and will thus be a support for women on this difficult issue. The women's NGOs could facilitate and follow-up the female farmers who receive training in CA. **The Embassy in Lusaka should follow-up on the cooperation between NGOCC and CFU in order to facilitate more cooperation between member organisations of NGOCC and CFU at district level.**

3) At present there are no sex-disaggregated data or baselines from the districts in Zambia where CA has been introduced. In order to be able to monitor the effects inputs and activities have on women and men, there is a need for some baseline values. When scaling up CA to new districts of Zambia, sex-disaggregated baseline values should be collected by the RNE supported programs, in order to monitor how these programs work with women and men farmers. **RNE should recommend that CFU establish a sex-disaggregated baseline in new districts, and contact women's organisations and CBOs in order to cooperate on the spreading of CA technologies to women.**

4) RNE should include objectives and indicators on women's participation in their present support to CA. Support to the GoZ/FAO program, for example, could have a target of 60-70% female farmers participating in training.

5) The study team was told that two Zambian Phd students from UMB/Norway are doing their research on CA in Zambia. However, the gender dimension in CA is not a part of their research in Zambia, even though they are collecting some sex-disaggregated information. It should be recommended to students that studies of conservation agriculture should have a gender perspective in their research.

We were also informed that a Zambian consultancy firm is following several thousand households that are engaged in CA; we are unsure if the firm has included a gender perspective in the work. **The Norwegian Embassy in Lusaka, which is one of the main donors to CFU, could encourage more focus on women and gender issues inside CA in the research.**

In general

Review of national agriculture plans (CAADP)

6) In COMESA there is a political will for supporting women and gender issues in CA both inside Zambia and regionally in the 19 member countries. **Norad and RNE should support a gender review of agricultural plans (CAADP) in COMESA countries with interest for conservation agriculture.** This could be the first step in a process of getting women and gender issues in CA higher on the agenda. It will also be a follow-up of the recommendations from the Ministers of Gender in the COMESA countries.

Studies

7) While it is becoming clear that CA is a cost effective way of adapting dry land farming systems to climate change, as well as being beneficial for women in agriculture, there are few studies that document the benefits for women. In order to improve the understanding of climate change, conservation agriculture and gender relations in conservation agriculture, there is need for more analysis. These analyses are needed in order to develop interventions within conservation agriculture that have a gender perspective. **Norad and RNE could initiate a study on how CA benefits women and how more gender sensitive interventions could be developed.**

7) Norway is supporting CA for smallholder farmers in Zambia and Malawi.

Information and discussions on gender and CA from these countries can be shared with other Norwegian Embassies / Norad and MFA through the WEB-site: *Women's rights and Gender Equality in International Development Cooperation*
http://osnospf01/womens_economic_empowerment/default.aspx



Look –conservation farming pays (demonstration field)

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**Norwegian Embassy – Environment and Natural Resources Section
Program for Visiting Gender Team from Norad
6th to 10th December 2010
“Mainstreaming Gender in Climate Change Related Programs”
Conservation Farming and Community Markets for Conservation (COMACO)**

Date	Time	Activity	Venue
06.12.10	06.30 hours	Visiting Team Arrives Airport Pick Up	Airport Embassy Car
06.12.10	10.30 to 11.30 hours	Visiting Team Meets Management	Ambassador’s Office
	12.30 to 13.30 hours	Embassy Perspective on Gender – LARS, LMI, JANS	Fish Pond Coffee Area
	14.00 to 16.00 hours	Overview of Gender Issues in Zambia by NGOCC	Small Conference Room
07.12.10	07.30 hours Departure for the	Visit CF Farmers, COMACO Trading	Chongwe and Nyimba

	Field trip	Centre	Night Stop in Petauke Rift Valley Lodge
08.12.10	08.00 hours Field Trip Continued	Visit NGOCC Women Groups Visit Conservation Farmers of CFU Visit Conservation Farmers of FAO/MACO	Katete Petauke Night Stop Petauke Rift Valley Lodge
09.12.10	07.30 hours Return to Lusaka	Discussions whilst Travelling - Field Observations	Cars
10.12.10	09.00 to 11.30 hours 12.30 to 14.30 hours 18.00 to 21.00 hours	Round Table Dialogue and Wrap up Visiting Team Relevant Embassy staff FAO/ MACO CFU COMACO NGOCC COMESA GIDD PELLUM Gender specialist Diakonia Suggestions for Embassy's Next Steps by Visiting Team Dinner by Invitation Card	Embassy Big Conference Room Big Conference room All Development staff invited Thai Restaurant at Eco Bank Premises Arcades
11.12.10	06.30 hours Visiting Team Returns to Norway	Travel to Airport	Airport Embassy Car

Appendix 1:

The procedures that are followed in conservation agriculture:

- A rope is used to mark out where to dig the holes/basins and to ensure the accurate spacing. The distance between the planting basins should be approx 70 cm along the rope. The farmers return to the same basins every year. To use permanent basins reduces the labour requirement by 35-40% after 4 years.

- The permanent basins should be prepared before the onset of rains in the dry season. The basins should be 20 cm deep, 30 cm long and the same width as the blade of the “chaka hoe”. According to the manual from CFU three adults can dig 500 basins in 3 hours. In this way, 1 hectare with 15,000 -19,000 basins can be completed within 4 weeks.
- Seeds and other inputs such as lime, fertilizer, manure or compost are precisely placed in the basins. Therefore inputs are available for the crop to use efficiently, as they are placed close to the plant, where they are most required. The farmers also learn when to plant, and how to do crop rotation.

In Petauke, a female farmer informed the study team that she saved a small edge around the basin in order to prevent rainwater and irrigation water drain away. She also told us that the rotten leaves and straws from the different crops keep pests, like termites, away from new plants. Farmers have experienced less damage to their new crops after taking up CA.

The chaka-hoe

The “**chaka hoe**” is developed from women’s most used tool in agriculture in Africa: the hoe. The new “chaka-hoe” has been developed for digging the basins/ holes for planting. With larger agricultural fields a donkey can be used as draught power in **ripping**. The next stage in the CA method is to use a tractor and do **direct seeding**.



Promotion of crop rotation and tree planting

The farmers are encouraged to diversify the crop production and practice crop rotation in order to build up the soil fertility. The farmers are also taught to integrate fertilizer trees like *faidherbia* into the cropping system. These trees improve soil fertility by drawing nitrogen from the air and transferring it to the soil through their roots and leaf litter. With enough water, it is possible with CA, to plant three crops per year in the same basins.

Appendix 2

EXAMPLES OF INDICATORS FOR A CA PROGRAM

What is an indicator?

An indicator is a pointer. It can be a measurement, a number, a fact, an opinion or a perception that points at a specific condition or situation, and measures changes in that condition or situation over time. In other words, indicators provide a close look at the results of initiatives and actions. For this reason, indicators are front-line instruments in monitoring and evaluating development work.

A gender sensitive indicator captures gender related changes in society over time.

Their usefulness lies in their ability to point to changes in the status and roles of women and men over time, and therefore to measure whether Gender equity is being achieved.

When using indicators, objectives must be clearly articulated. Objectives should be determined in relation to baseline studies, against which results can be measured.

1) **Input indicators**

Also called "resource" indicators, these relate to the resources devoted to the project or program, for example funding, human and non-human resources, infrastructure, institution building, and other means by which a program or project is put into effect. They play an important role in flagging potential problems and identifying their causes, but input indicators alone will not reveal whether or not the project or program will be a success.

2) **Process indicators**

Also called "activity" indicators, these reflect delivery of resources devoted to a program or project on an ongoing basis. As such, they are the best indicators of implementation and are used for project monitoring. However, while they reflect achievement of results, they should not displace measures of distal outcomes. In an agriculture project, process indicators include number of women and men participating, or amount of stipend disbursements.

3) **Output indicators**

Output indicators are often used in project evaluations, but are less useful than outcome indicators as they do not track distal results. This is because output indicators measure intermediate results concerning products and services that are delivered when a program or project is completed, but not longer-term results.

One of the most important tasks in use of indicators is to carry out evaluation at the outcome as well as the output level.

In an agriculture project, output indicators might include, the number of women farmers trained.

4) **Outcome indicators**

Outcome indicators concern the effectiveness, often long-term, of a program or project

as judged by the measurable change achieved in improving the quality of life of beneficiaries. They are also known as "impact" indicators. **In most cases, the primary emphasis in using indicators should be on outcome, because this best measures results.** An example of an outcome indicator might include the amount of money a woman might earn and have control over as a result of an agricultural project. The income of an agriculture project may impact on women's empowerment.

Many program and project evaluations use input or process indicators rather than outcome indicators. Reasons for this include, lack of resources devoted to evaluation and a lack of institutional capacity for evaluation. Use of outcome indicators will often involve long-term tracking of participants and in-depth qualitative analysis. But these should not be regarded as strong arguments against using outcome indicators. **The cost of using outcome indicators will not normally be prohibitive, and will be repaid at a later date if the intensive lessons learned from the use of these indicators can be applied in other programs or projects.**

The other key point to remember is that indicators should cover all stages of monitoring and evaluation, through the project cycle.

G E N D E R - S E N S I T I V E I N D I C A T O R S

Criteria for the selection of indicators

- Indicators should be developed in a participatory fashion, including all stakeholders wherever possible.
- Indicators must be relevant to the needs of the user, and at a level that the user can understand.
- All indicators should be sex-disaggregated.
- Both qualitative and quantitative indicators should be used.
- Indicators should be easy to use and understand.
- Indicators must be clearly defined.
- The number chosen should be small. A rule of thumb is that up to six indicators can be chosen for each type of indicator (input - outcome).
- Indicators should be technically sound.
- Indicators should measure trends over time.
- The ultimate focus should be on outcome indicators.

Examples of gender sensitive indicators in Conservation Agriculture Projects

The gender indicators in the CA programs should show how and if gender equity is reached, and the effectiveness of the approach used. The target is set against the baseline.

INPUT	Input indicator	target
More female extension workers in CA in order to reach	- Number of female extension workers in the different CA- programs. (Baseline at the start of the program was 5 women extension worker out of 12 extension workers)	Increase – 20 %

more female farmers		
PROCESS	Process indicator	
Information campaign on women's rights and access to land	Number of women and men reached by the campaign	10,000
OUTPUTS	Output indicator	
Women's NGOs that can support poor female farmers in program area identified	4 Women's NGOs working on CA in the program area identified with the assistance of NGOCCs	Support approved
Improved monitoring of gender issues in CA	- Gender sensitive evaluations and semi-annual progress report, including gender sensitive indicators and monitoring tools produced - Lessons learnt from monitoring fed back into the planning system.	4 reports
- Formulation of a gender strategy for the CA program at national, regional and local level.	Strategy has been approved.	Approved
Strategies concerning women-headed farmer households in CA	Percentage of extension officers that are aware of and are practising the strategy	Increase 40%
Increased awareness among women and men farmers of gender equity in regard to control over income and	Percentage of target population who are aware of women's rights to control income and agricultural products.	Increase 40%

<p>products</p> <p>Government officials practising gender sensitive extension methodologies and promoting gender sensitive technologies</p>	<ul style="list-style-type: none"> - Percentage of spot checks in which extension is found to be gender sensitive. - Number of women reached with training, inputs, seeds and fertilizers in comparison with men in CA-programs . 	<p>Increase 60%</p>
OUTCOME	Outcome indicators	Target
<p>Women's Empowerment</p> <p>Increased women's control over income and agricultural products</p> <p>Increased productivity of women controlled cash and non-cash crop</p> <p>Women's ownership of land</p> <p>- Increased number of title deeds with both husband's and wife's name</p>	<ul style="list-style-type: none"> - Percentage of women who have control, or joint control, over family income and farm products - Percentage increase in production of food security crops - Percentage increase in production of vegetable - The percentage of certificates including women's name, out of the total number of certificates issued in the district. - Number of law suits related to women's rights to land 	<p>Increase 20%</p> <p>20% (Year 2)?</p> <p>30% (year 3)?</p> <p>10%</p>

2) Practical and Strategic gender needs

Practical Gender Needs (PGNs) are those needs that have been identified by women within their socially defined roles, as a response to an immediate perceived necessity (e.g., inadequacies in living conditions such as water provision, healthcare, and employment). They do not challenge gender divisions of labor and women's subordinate position in society. In contrast,

Strategic Gender Interests (SGIs) vary by context and are identified by women as a result of their subordinate social status. They tend to challenge gender divisions of labor power and control, as well as traditionally defined norms and roles (e.g., legal rights, domestic violence, equal wages, and women's control over their bodies). Strategic Gender Interests/needs relate to women's position in the society, while Practical Gender Needs relate to women's living conditions.

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