

## Responses at the project level (parallel sessions)

# Saving Labour through Conservation Agriculture\*

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### *Abstract*

#### Background:

African agriculture is characterised by low land and labour productivity. The same is valid for other tasks of rural households. People work hard but gain little for their work. Labour is always short and becomes even shorter due to outmigration of youths and men and to HIV/AIDS. Especially women are overburdened with food production and homework. The high workload increases further through care taking of HIV/AIDS infested persons and orphans, and last not least by sickness and death of family members.

Low labour productivity coupled with low income is a main reason for out-migration of youths and men. There is a striking discrepancy between new technologies in other sectors and ancient farming practices. Main coping strategies adopted by rural households are reduced acreage, late planting, late and poor weeding resulting in poor yields, food insecurity and finally increased vulnerability.

Traditionally most time consuming tasks are collection of fire wood (fuel), collection of water, land preparation and weed control. New tasks gaining importance are taking care of HIV/AIDS infested persons, orphans and participation in funerals. There is an urgent need for labour saving technologies. Any new technology promoted must increase labour productivity, i.e. lead to reduced time, reduced drudgery, thus making it also more attractive to younger people.

#### Labour saving technologies:

Potential solutions addressing the major tasks are rainwater harvesting, fuel-efficient stoves and conservation agriculture.

Fuel-efficient stoves reduce the time requirement for wood collection by at least halve. Women report that they go less often. In addition cooking is faster, allowing in many cases for two meals per day instead one, only. Added is the health effect: less smoke means less respiratory diseases and there is less risk of accidents of children.

Conservation agriculture - no or minimum tillage, soil cover and crop rotations – leads to major labour savings. This is the main reason for farmers to adopt this new farming system. As labour is becoming short and expensive, CA results in a remarkable reduction of production costs. Labour is saved and eased for land preparation, allowing for timely planting, a precondition of good yields. Labour is saved for weed control by a permanent ground cover of crop residues and cover crops. Data from Tanzania show a 50% labour reduction after a learning and transition phase of 3-4 years. The weed pressure may, however, increase during the transition period leading to an increased labour demand. Various farm implements are available for the different power sources: relative cheap jab planters for manual labour, rippers and direct planters for draught animals and direct planters for tractor power.

Despite these positive effects adoption rates are still low. Main constraints as for all new technologies are that small farmers hesitate to invest in agriculture and that access to information, markets and credit is lacking. In addition, adopting CA means changing the farming system completely, farmers have to learn how to adopt the principles of CA to their conditions. Groundcover maintenance and weed control constitute major challenges, especially in dry regions.

Driving forces for adoption of CA are increased labour shortage and increased costs of hired labour, need for AIDS widows to reorganise farm household and finally the increased risk of drought due to changing weather conditions and soil degradation. CA can increase the rainwater productivity (crop per drop) by the factor 3-4. Adoption is supported by flexible dissemination approaches such as farmer field schools, availability of credit for purchase of farm implements and cover crop seeds, eased access to information, training of extension staff and farmers. Training of women in processing of cover crop seeds for food and feed – protein rich diet for sick persons – helps to make CA more attractive. And last not least the government has to adopt supportive agricultural policies.

#### Conclusions:

CA has the potential to mitigate the impact of HIV/AIDS through easing and saving labour; and to increase food security through increased and more stable yields, through improved soil health and increased rainwater productivity.

\* Prepared together with Josef Kienzle, FAO