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3 BRIEF REVIEW OF ACTIVITIES

### 3.1 General observations

There is generally an improvement in the performance of the farm compared to earlier years.

Main improvements can be seen in management and organization in general. An example of this is the well prepared budget which was presented by the farm manager and served as the base for the discussions between the farm management and the consultants concerning next years budget.

It is encouraging to note the progress in training and the increased interest for agricultural training among ANC members and the subsequent increase of persons involved in different training activities.

Progress is also seen in the soil conservation activities where recommendations made by the soil conservation consultant has been implemented. The critical situation two years ago regarding soil erosion has now been addressed and a positive development can be observed. However, soil conservation activities are still needed in years to come. The bank account operated by the farm manager has worked with only small problems up to date. However, the future may be more problematic as it seems that new signatories are not always appointed when earlier signatories move away from Mazimbu. This could very well develop into a critical situation where signatories are not present at Mazimbu for proper handling of the bank account and thereby have a negative impact on the farming operations. At present, authorized signatories are staff at the treasury or former staff at the treasury, who have left Mazimbu.

A new incentive scheme is worked out and is planned to be implemented as replacement of the former system.

Earlier recommendations to introduce and maintain records for different enterprises have been implemented except for the goats and poultry and could for the first time serve as information for a evaluation of the performance in the most important enterprises.

The piggery and the dairy is well managed and achieving good production results. The dairy realized a margin over direct costs with some 6.9 Million TShs while the corresponding figure for the piggery was 1.8 Million TShs in 1990 calendar year.

The poultry lacks proper records for inputs and output and leaves more to be desired concerning management.

The field crops continue to give very low yields and last crop yielded lower than before. The yields are so low and the costs of inputs, mainly machinery, so high that the economic result is far below what should be accepted. There does not seem to be any scope for improvement of such a magnitude that would be needed to make the field crops profitable.

Horticulture Section has suffered from problems concerning the irrigation facilities. A plan for its rehabilitation is worked out and implementation has started. Plans for future production as well as for training activities in cooperation with Sokoine University of Agriculture have been worked out with the assistance of an external trainer/consultant. Earlier recommendations concerning the goat herd have not been implemented. No improved management practices are applied in the goat herd.

The workshop is serving its purpose and the machinery and equipment are working. However, the costs for the machinery and the workshop are too high compared to production at the farm. Present set-up of machinery is well above what would be economical for future suitable crop production at Mazimbu.

One main constraint in improving the performance in the production enterprises is the high turn-over of ANC staff in management positions. High turn-over of ANC staff is the major problem in all enterprises except the piggery, where one ANC staff has stayed for six years and has achieved very good production results. See further comments in Appendix 1. It is noted with concern that the farm is still increasing its staff though there is not any expansion in the activities. Overstaffing seems to be the rule rather than exception in all enterprises. From an economic point of view this practice is unsound and does not only put heavy burden on the budget, but is also negatively affecting work performance and work morale.

More information on technical and economical aspects of the different enterprises are found in Appendix 1.

### 3.2 Comments to budget utilization

The farm presented a well prepared budget follow up chart covering the first half of the budget year.

Implementation is well underway for most of the items with expected overexpenditures for some of the items.

Overexpenditures are expected for running costs for the farm, especially for livestock feeds following the poor crop

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yield last year and for increased costs for locally bought spare parts and inputs for field crops as well as for soil conservation.

Budget for imported items like spares, lorry and the planter will follow budget.

The budgeted garden tractor will not be procured as it has been possible to repair existing ones.

There will be substantial overexpenditure on training within SADCC. This can at least partly be met as less costs are experienced for training arranged from Lusaka.

The budgeted study trip to Sweden will not materialize and the budgeted amount is recommended to be used to cover for some of the overexpenditures for Training within SADCC.

Training/consultancy services have been given in farm management, horticulture, soil conservation and livestock production according to plan.

Books (53 titles) have been delivered to the Farm Library and more books and other training material is ordered and on its way.

Procurement and shipping of goods from abroad has progressed as planned, but it seems that clearing in the harbour is delaying the arrival of the goods to the project.

### 3.3 Recommendations

i) Continue to give high priority to training aspects in all activities.

ii) Continue the promising work started in soil conservation.

iii) Implement the planned training activities in horticulture in cooperation with the Sokoine University of Agriculture.

iv) Urgently look into the question of cash availability at the farm as signatories for the farm account are not present at Mazimbu.

v) Reduce the area under field crop and put more emphasis on production of forage for the livestock.

vi) No investments in or replacement of machinery and equipment for field crop production is recommended.

Recommendations of more technical nature are found under the evaluation of the different enterprises in Appendix 1.

## 4 PROPOSALS FOR SIDA-SUPPORT 1991/92

The Farm Management at Mazimbu presented a well prepared budget proposal for the next budget year. It is the first time such a well prepared budget proposal from the Farm Management has been worked out and the Farm Manager must be commended for this.

Most items in the proposal from the farm management appears unchanged in the budget proposal in this document except for machinery and inputs for crop production under the subheading for projects.

The recommended changes are the result of the economic evaluation carried out during the visit and presented in Chapter 3 and in Appendix 1. '

It is not recommended that reinvestment is done in a tractor and a harrow due to the poor result in the field crop.

Further is the area under field crop recommended to be reduced from 190 ha this season to 50-60 ha next season in order to avoid future heavy losses in the field crop production, therefore the proposed amount for inputs is reduced. The reason not to abolish the field crops altogether is the need of facilities for training purposes. The recommendation to reduce area under field crops and not to reinvest in machinery for crop production is based on the opinion of the consultant.

Feedstuff for the livestock is recommended to be bought on the open market during harvest time and stored in the existing grain silos. The recommended change in production pattern will greatly reduce future losses.

Budgets for projects and for training are presented separately as two different accounts are used by SIDA for these expenditures. A total of SEK 1.8 Million is proposed for projects which is the same as last year. SEK 1.975 Million is proposed for training, which is an increase from last year mainly due to doubled budget for training within SADCC and inclusion of salary for the the Farm Manager. The budget is further separated in two parts; one to be disbursed from DCO in Dar-es Salaam and the other from SIDA HQ in Stockholm. Budget follow up of items 1 to 4 can be done by the farm manager, while the other budget items can only be followed by SIDA in Dar-es Salaam and Stockholm respectively.

In principle, as much as possible of goods and services are recommended to be acquired and bought locally. Outside assistance should only be sought when the items or services are not locally available. The fact that a budget item appears under the heading for disbursement from SIDA in Stockholm does not mean it must be acquired from abroad, it only indicates that the item is not likely to be locally available and therefore budgeted for importation.

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#### Projects

Due to the economic results in the field crop production a decrease in the area under field crops is recommended, which results in decreased budget for inputs for field crops. In order to feed the livestock it is recommended that the budget is increased for purchase of feedstuff as production of homegrown feedstuff will not meet the demand.

Investments in machinery like tractor and harrow for field crop production can not be recommended given the poor economic result of the field crops.

##### 4.1 Spares and workshop material

This budget item becomes more and more vital as most of the machinery is getting old. A total of SEK 225000 is suggested for different spares and workshop material. Specifications must be worked out before material is ordered from abroad.

##### 4.2 Breeding stock

New breeding stock, mainly males, are continuously needed in the livestock enterprises.

##### 4.3 Pasture establishment and improvement

Increased area is recommended under forage production in order to substitute as much as possible for the reduction in grain production. Establishment of new pastures and forage production as well as improvements of existing pastures is proposed. Costs will appear for seeds, spreading of manure and other preparations of the land.

##### 4.4 Running costs

A total of SEK 1065000 is budgeted for running costs for the farm activities which is an increase from last year's budget. Main increases are proposed in budgets for feedstuff for the livestock as grain production for that purpose is recommended to decrease with subsequent decrease in budget allocations for inputs for crop production. Increase is recommended in the budget for the incentives to the staff, where a new system has been worked out and is about to be implemented.

The same arrangement for disbursements as last year is recommended and it is the farm manager who shall take the initiative to utilize these budget for the farm operations. It is recommended that DCO in Dar-es-Salaam continues to make quarterly disbursements for this items to the bank account operated by the farm.

#### 4.5 Miscellaneous imported items

SEK 150000 is budgeted for unforeseen and urgent procurements, which cannot be planned in details. The material can be ordered by the farm manager from Sweden and/or Kenya and the following arrangements are recommended. Requests shall be forwarded as follows;

For procurements from Sweden:

Josef Jonsson Consulting AB

Valthornsvagen 64 S-75650 Uppsala Sweden

Telephone 4 46 18 40 28 05 Telefax T 46 18 40 28 55

For procurements from Kenya:

Tricon Consultants and Secretaries P.O. Box 53692 Nairobi

Telephone Nairobi 335034/335152. Telex 22087 KITE KE.

Telefax 331756 Nairobi Att: Y. Kalyan/Palkite

All requests with copy to DCO Dar-es-Salaam.

#### 4.6 Planning, evaluation and backstopping

This is the services rendered by the consultant in support of the projects both by the yearly evaluation and planning mission as well as various supporting activities in Sweden.

#### 4.7 Soil conservation

The soil conservation activities have been successful in the last two years with a positive result. Expenses have been incurred on material, labour and transport for the activities with approximately SEK 35000 in the last 12 months. However the need of soil conservation is still there in years to come and funds to meet the expenditures are necessary.

The activities shall be carried out according to recommendations given by Mr. Arne Eriksson, Nairobi, who will monitor and supervise the activities by visits to Mazimbu Farm.

Direct cost for Soil conservation is budgeted to SEK 35000 and another SEK 65000 is budgeted for the use of a bulldozer to maintain and repair storm drains and water ways under the supervision of Mr. Eriksson.

#### 4.8 Slaughtering facilities

The existing slaughter facilities at Mazimbu is situated near the manure pit and waste output from the piggery, which is less satisfactory from a hygienic point of view. The question of new and improved slaughter facilities has been discussed for many years and the cost for improved facilities have been included in the SIDA-budget for some years up to including 1989/90 budget without being utilized. Instead the existing facilities have been used for many years and has filled it's purpose, therefore arguments can

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be put forward both in favour of new facilities based on hygienic reasons and it can also be argued that the existing can serve its purpose in the future as it has done in the past.

However, in order to make the facilities at Mazimbu complete, it would be needed to improve the slaughtering facilities.

It is recommended that a new slaughter slab is constructed using the roofing material from the existing one. The new slab shall be located just west of the pig fattening house. The place must be cleaned and levelled and the slaughter slab shall be the simplest possible with concrete floor with working platforms, walls made of cement and wire mesh and the roof made of iron sheets from the existing slab. Devices for hanging the carcasses from the roof will be installed. Water and/or electricity will not be installed, water being provided by hosepipe from the piggery on the days of operation only.

SEK 80000 is recommended to be budgeted for this improvement of the slaughtering facilities.

Training

The training activities have increased considerably in the recent years with increasing demand on resources and funds. This is a positive development and is recommended to be given substantial support.

The proposed budget is the same as the budget prepared by the farm management at Mazimbu.

4.9 Training within SADCC

There has been an encouraging increase in the interest for agricultural training and funds allocated last year will not be sufficient to meet the demand.

Funds allocated under this heading are intended for courses for students from Mazimbu farmias well as for other students who are undergoing agricultural training within SADCC countries.

A substantial increase from last years SEK 360000 to SEK 720000 is recommended, which includes the estimated cost for the initiated training programme in horticulture.

4.10 Study tours within East Africa

Funds allocated for study tours have been utilized in a positive way and it is suggested that similar study tours are continued to be arranged for staff at the farm.

4.11 On the job training

Increased training activities among the farm staff has also resulted in increased movement among the staff with following high turnover on important posts in the production, which is an unavoidable cost of the training. This has to a certain extent been balanced by on the job training. Experience of earlier on the job training is positive and with the high turn-over of staff at the farm it is recommended that this activity is continued.



Considering the level of activities and the limited number of qualified staff together with the anticipated staff turnover at Mazimbu in the coming year it seems necessary to maintain the level of in service training in order not to experience a decline in activities and production. It is not possible to draw a clear line between training and consultancies and flexibility between the two is necessary in order to achieve good results. Flexibility is also necessary from the trainer/consultants side concerning different tasks and support to different activities and production sections.

#### Farm management

It is recommended that the management at the farm be assisted by a farm management adviser/trainer at least during certain periods of the year.

Terms of reference are found in Appendix 2.

#### Horticulture

The horticultural section has been assisted by a qualified horticulturist to draw up a training programme in horticulture in cooperation with Sokoine University. A plan for rehabilitation and improvements of the irrigation facilities has also been prepared.

It is recommended that these plans are implemented and the section be assisted by qualified horticulturists. One specialist from Sokoine University is recommended to give advice weekly and one horticulturist to visit and follow up' planned activities three times per year.

Terms of reference are found in Appendix 3.

#### Livestock production

Considering the large scale livestock production and the termination of the technical assistance from SCC to the dairy production it is recommended that assistance is given to the livestock enterprises in'form of on-the job training. Flexibility is of great importance concerning which livestock enterprise should be supported as staff position may change the present picture fast and radically.

Terms of reference are found in Appendix 4.

#### Soil conservation

Though the soil conservation activities have been successful in the recent years with good result, there still remains work to be done. Soil conservation activities must become a continuous concern for maintenance and improvement of achieved results. There is need for consultancies and training in the coming budget year and three periods with a total of 4 weeks are suggested.

Terms of reference are found in Appendix 5.

Training material

There is likely to be a need of training material and SEK 50000 is budgeted.

#### 4.12 Salary for Farm Manager

The question of salaries to the farm staff has been discussed at different occasions. It is recommended that competent Farm Managers are paid salaries corresponding to their qualifications, experience, responsibilities and duties of the post held. The figure of SEK 165000 is proposed from the farm and it is felt that no comments on the salary level should be given in this context.

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 5 SUMMARY OF PROPOSED BUDGET FOR SIDA SUPPORT 1991/92 TO  
 MAZIMBU FARM TANZANIA  
 SEK 000  
 Projects  
 1. Spares and workshop material  
 2. Breeding stock  
 3. Pasture establishm. & improvement  
 4. Running costs  
 Fertilizer  
 Seeds  
 Fuel, electr. water etc  
 Feedstuff  
 Chemicals  
 Minerals, vitamins & vet supply  
 Labour and incentives  
 Chickens  
 Miscellaneous  
 5. Miscellaneous imported items  
 6. Planning, evaluation & backstopping  
 7. Soil Conservation & bulldozer hire  
 8. slaughtering facilities  
 Total projects  
 Training  
 9. Training within SADCC  
 10. Study tours within East Africa  
 11. On the job training  
 Livestock and Farm management  
 Horticulture  
 Soil conservation  
 Training material  
 12. Salary for Farm Manager  
 Total training  
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## Appendix 1 (1)

### ECONOMIC ANALYSIS OF SOME ACTIVITIES AND ENTERPRISES AT MAZIMBU FARM

#### BACKGROUND

The agricultural activities at Mazimbu has been going on for many years but there has not been any economic analysis of the different enterprises as the value of inputs and outputs have not been systematically and continuously recorded.

Thanks to improved record keeping and management in general, records are now available to facilitate preliminary evaluations of the different enterprises.

The objective of these exercise is to try to calculate and estimate the economic result of the farming activities and not to audit. The result of the exercise can be used for planning of the future farming activities in an economic way and for budgeting purposes.

However, as records are available for only one year one has to be careful to draw far reaching conclusions and it must be realized that the presented results are not claiming to be the exact truth, it is rather an indication of the magnitude of the profit or loss.

As an example, all figures in the summaries are rounded to thousands and certain overhead costs are distributed to the respective enterprises after estimations and not according to detailed records. Another uncertain factor is the opening and closing balances which have not been looked into in all details.

Investments and development has been financed by many different donors over many years cost of depreciation and interest on such investments are therefore not included in these calculations.

All calculations are presented exclusive services given by donors in terms of advisory services, consultants, procurement services etc.

When discussing the results one must keep in mind and I consider the special situation under which the production has taken place. The staff have other commitments outside the farm which takes time and energy and one objective of the farm is to give training opportunities for the ANC members. All these circumstances do affect the farming activities which must be recognized.

All figures are given in '000 Tanzanian Shillings (TSh).

#### COSTS FOR SUPPORTING ACTIVITIES

Certain expenditures are not possible to directly allocate to a specific activity, and are therefore proportionally allocated to concerned enterprise which is the case with costs for machinery and workshop and miscellaneous. Soil Conservation is accounted separately but could as well have been accounted under field crops as that is the concerned enterprise and has caused the costs in soil conservation.

Costs for electricity, water and telephone is not billed separately to the farm and is therefore not included in the calculations.

#### TRANSPORT AND WORKSHOP COSTS

Item in the records

Fuel 3852

Locally bought spare parts 2992

Imported spare parts (Estimated) 3400

Building material 95

Insurance (Estimated) 800

Personnel 1572

Total 12711

Rounded in Millions 12.7

The costs for the workshop is very high. The capacity of the machinery and the workshop is well above what is really needed for the operations at Mazimbu. However, there is not much that could be changed and the most important thing is not to invest or reinvest in machinery or equipment as the there is already overcapacity.t"1

#### MISCELLANEOUS COSTS

Item in the records

Road Charges 8

Meals 1013

Accommodation 678

Miscellaneous 563

Incentives 1328

Labour 118

Total 3708

Rounded in Millions 3.7

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Costs for the workshop and miscellaneous (Incentives, Road charges, Meals, Accommodation and Miscellaneous from the records) have been allocated to the different enterprises as indicated below.

#### DISTRIBUTION OF OVERHEAD COSTS

Workshop Miscel-  
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Enterprise % TSh % TSh

Field-crop 65 8255 15 555

Soil Cons. 5 635 5 185

Horticulture 2 254 5 185

Dairy 10 1270 20 740

Poultry 2 254 10 370

Goats 1 127 10 370

Piggery 10 1270 20 740

Training 5 635 15 555

TOTAL 100 12700 100 3700

#### SOIL CONSERVATION

Progress and Achievements

The soil conservation activities have been implemented according to the recommendations given by the consultant on soil conservation. Improvements have been achieved compared to the critical situation two years ago. The trend is now positive with reduced erosion and stabilization of the different soil conservation measures.

Costs

Item in the records

Labour and material 1087

Share of workshop costs 635

Share of miscellaneous costs 185

Total cost 1907

The costs for the soil conservation activities should be allocated to the field crop costs as that is the reason for the need for soil conservation

## Problems

The soil conservation activities can never be regarded as finalized and must therefore continue as a permanent activity. An example is the situation at field 13 which is now experiencing soil erosion as a result of planting crop along lines up and down the slope on the field.

Achieved results must be guarded and constructed measures reinforced and maintained.

## Recommendations

- 1) Continue to work along recommendations made by the consultant in Soil Conservation Mr. A. Eriksson and it is recommended that he visits the farm at least twice a year.
- 2) Hire a bulldozer for reinforcement of certain structures under the supervision of Mr. A. Eriksson in July/August 1991.

## COST / BENEFIT ANALYSIS FOR SOME ENTERPRISES

Cost benefit analysis are presented for the most important enterprises with comments of the result and potential of the future. The calculations are presented with estimated market prices for produce and actual prices paid for inputs. All calculations are based on sales and purchase figures as they appear in the books and on 1990 calendar year except for crops which is presented for the 1989/90 crop season. Costs for water and electricity is not included in the calculations as these items are not paid by the farm and are not measured or recorded separately anywhere.

No calculations are made for depreciation of any equipment unless explicitly stated. The reason is that investments have been financed by different donors over a long time not always after consultations with the farm management. For some of the investments there are no recorded costs.

## A CROPS

### Progress and Achievements

Approximately 190 hectares of field crops have been grown in the last season. The breakdown on different crops are 132 ha maize, 7 ha sorghum, 8 ha rice and 28 ha beans.

The yields have decreased compared to earlier years. Maize yield was only some 800 kg per ha which is far below what is necessary for a satisfactory return to costs. Sorghum is doing better than maize, but the yield was limited to some 1700 kg per ha.



#### Costs and benefits

Total production value 3921

#### Direct costs

Seed -274

Fertilizer -55

Chemicals -907

Labour -1124

Total direct costs -2360

Gross Margin -1561

#### Overhead costs

Machinery and Workshop -8255

Miscellaneous -555

Total overhead costs -8810

Operational result of the year -7249

Costs for Soil Conservation -1907

Machinery depreciation -(7800)

(Only relevant when  
considering reinvestments)

#### Problems

The main reason for the high loss is low maize yield per ha (10 bags) and high machinery costs. The low yield per hectare is not a new experience, the yields at Mazimbu the year before was 16 bags per ha. Maize is the most unprofitable crop, hardly covering the direct cost for material, while sorghum gives a small contribution to the machinery cost, but not at all near the real cost.

In the long run machinery depreciation must be added to the overhead costs for crop production in the range of 8 Million TSh per year in 1990 value.

To maintain a machinery set up of the needed size for present production would need approximately SEK 350000 per year in replacement cost. No machinery depreciation cost has been included this year as most of the machinery are gifts of unknown cost and are not exactly what is needed for the enterprise.

In order to make a profit the maize yield must be at least 50 bags per hectare as average, even including poor years. It is not realistic to anticipate that this is possible at Mazimbu and one must calculate with a loss in the crop production.

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#### Recommendations

1) Limit the hectarage of crops to what is needed for training purposes for example 50 hectares of different crops in order to limit the loss and reduce the costs in the future.

2) Sorghum should be the main crop instead of maize as at present.

#### B HORTICULTURE

##### Progress and Achievements

The section presented records for all production during 1990.

A plan for rehabilitation of the irrigation system has been worked out and production targets have been set for the main vegetables.

Training in horticulture has been planned for 5 ANC staff in cooperation with the Sokoine University of Agriculture, SUA. SUA will support the horticulture section by visits every week for training and advisory sessions.

The potential for increased production is substantial and the demand for the products is high.

##### Costs and benefits

Total value of production 2744

##### Direct costs

Seed -170

Chemicals -150

Other material -180

Labour -1800

Total direct costs 'tV-2300

Gross Margin 444

##### Overhead costs

Machinery and Workshop -252

Miscellaneous -185

Total overhead costs -437

Operational result of the year 7

##### Problems

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The enterprise covers the direct costs but not anything else like investment in infrastructure, irrigation or equipment of any kind.

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#### Staff position

The number of staff (18 permanent and 26 casual) is far above what is appropriate for the size of the operations. A total of 15 to 20 persons would be appropriate including the expansion already planned for.

#### Recommendations

- 1) Rehabilitation of the irrigation facilities according to plan.
- 2) Implement the planned production programme with set targets.
- 3) Implement the planned training programme in cooperation with Sokoine University of Agriculture.
- 4) Identify students and arrange for long term training at suitable training institutions in Africa.
- 5) Promote the interest for training in Horticulture among the ANC cadres.

#### C DAIRY

##### Progress and Achievements

The dairy herd numbers 105 animals (February 1991), consisting of 4 breeding bulls, 32 milking cows, 16 dry cows, 31 heifers, 11 bulls and 11 calves of both sexes. The breeding of the herd appears to be medium- to high-grade crosses between European (mostly Ayrshire, Jersey and Guernsey) and indigenous (probably Sahiwal and Boran) breeds. During 1990 there was an increase of 26,564 litres of milk over the volume recorded in 1989, worth some Tsh. 6.1 million?????. The average number of cows milking/month in 1990 was 35 vs. 25 in 1989 with an average of jvst over 8 litres/cow/day in both years. From the records .ailable, the calving interval is an impressive average of 390 days.

##### Costs and benefits

Total value of production 8.12528

##### Direct costs

Feed -2778

Labour -799

Fertilizer for pasture -62

Total direct costs -3639

Gross Margin 8889

##### Overhead costs

Workshop

Miscellaneous

59%

Total overhead costs -2010

Operational result of the year 6879

Rounded in Millions 6.9

Staff position: 3 ANC and 17 (7 permanent and 4 casual)

Tanzanians work in the dairy which number could be reduced to 12 persons in all meaning an reduction by 40%.

Problems

1) High turn- over rate of ANC staff, resulting in lack of continuity and the necessity to train new staff all the time.

2) ANC staff lack essential skills and are in need of short up-grading courses.

3) Breeding bulls are not available locally and arrangements have been made to buy new bulls from Kenya.

4) Erratic supply of feedstuff.

5) Feeders in the milking parlour are not working.

Recommendations

1) The number of staff could be reduced by 40%.

2) Seriously consider hiring a full time animal health person for routine veterinary matters to reduce the dependence on outside services, which is not promptly available.

3) Change the present milk- recording system to one using weekly byre sheets and individual recording cards for each cow. The system in use pays more attention to herd performance vs. individual cow performance. Supporting staff could be sent to Mpapwa for a two- -week practical training.

4) Vaccination vs. important diseases should be strictly adhered to, according to the manufacturer' 5 recommendations. Should always have a stock of Berenil (curative only for Trypanosomiasis and Babesiosis) and Samorin for injection every three months. At no time should Berenil be injected if there is no evidence of the blood parasites.

5) The entire herd should be screened once annually for Brucellosis and Tuberculosis (TB), both of which are important zoonoses, i. e. diseases common to man and animals. This is especially important because milk is delivered raw from the dairy. The Animal Diseases Research Institute, Dar-

es-Salaam should be requested to carry out regular screenings.

6) Increase roughage production and improve its quality as much as possible in order to reduce the need of concentrate. Arrange water in the paddocks in order to increase grazing and roughage intake by the cows.

## D PIGGERY

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### Progress and Achievements

The piggery unit has the most complete and reliable records of all units. It has a maximum capacity of 100 sows with followers, but the total number of pigs has fluctuated between 1300

present herd

41 lactating

kg), and 319

This unit

Tanzania,

- Average

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- Average

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is

as

and 1500 over the last several years?????. The

numbers 1423 pigs, consisting of 38 pregnant,

and 2 dry sows, 15 boars, 983 fatteners (20-80

piglets.

probably the largest and best managed in all of

evidenced by the following figures:

number of live piglets at birth: ' 8.41 per

number of dead piglets at birth: 2.30 per

number of piglets dying to weaning: 2.23 per

number of piglets weaned: 5.74 per

- Slaughter weight (80-100kg) is reached at 8-10 months.

These figures are impressive by Tanzanian standards. The

performance to weaning would have been better had poor sows

been culled after their first farrowing without being

allowed a second and third chance. The unit is very close to

each sow weaning more than 12 piglets annually.

### Costs and Benefits

Total value of production 17196

Direct costs

Feed -12364

Labour -993

Total direct costs -13357

Gross Margin 3839

Overhead costs

Workshop -1270

Administration -740

Building maintenance -2

Total overhead costs -2012

Operational result of the year 1827

Rounded Millions 1.8

The piggery realized a result of Tsh 1.8 million during 1990, after operational costs have been paid for.

Staff position

There are 3 ANC and 7 permanent and 8 casual Tanzanians workers in the piggery. This level of staffing is excessive as half the number of staff would be appropriate.

Problems

- 1) Erratic availability of feedstuff is the main problem.
- 2) Communication at the farm is not easy due to lack of internal telecommunication especially in case of emergency.

Recommendations

- 1) Reduce the number of workers by at least 50%.
- 2) Feed pigs regularly with Leucaena leaves, Lucerne, cabbage leaves and leftovers from the student dining hall, to supplement the regular feedstuff.
- 3) The impressive performance of the piggery can be traced to a stable, continuous management. Keep it that way.
- 4) Cull poor sows earlier than at present in order to save feeds.

E POULTRY

Progress and Achievements

Production records at the poultry unit were either incomplete or not available at all, which made it impossible to determine any progress made. The following observations were made from the 522 layers. Laying per cent was 14 and an average of 15 hens were dying and 83 eggs broken weekly. Such figures indicate rather poor performance.

Costs and benefits

Total value of production N/A

Direct costs



Feed  
Labour  
Day-old chicks  
Total direct costs  
Gross Margin  
-844  
-228  
-228  
-1300  
Unknown  
J J)

Overhead costs

Workshop -254

Miscellaneous -370

Total overhead costs -624

Operational result of the year N/A

It was not possible to do a complete cost/benefit analysis due to incomplete records.

Staff position

2 permanent and 2 casual workers were hired and supervised by one ANC staff in charge while a total of 2 persons would be enough.

Problems

1) Too rapid a turnover of ANC staff resulted in lack of continuity of management and instability at the poultry unit.

2) The poultry houses are adjacent to a noisy workshop which is disturbing to the poultry, with an added risk of introducing diseases by people who frequent the workshop.

3) Five-week-old replacement birds were dangerously overcrowded in their brooders.

4) Poor or missing production records.

5) Inadequate feeding and watering facilities.

Recommendations

1) Hire staff with some poultry knowledge/experience.

2) Follow recommendations for space, feeding and watering facilities.

3) Closer supervision by farm management.

4) Would be possible to reduce staff level by 60%.

5) Transfer poultry buildings to a quieter, isolated location.

## GOATS

### Progress and Achievements

As there were no production records other than rough notes on deaths and issues of goats which cannot be verified, it was not possible to determine what progress, if any, has been made. The goat flock numbers 601 animals, made up of 5 bucks, 153 castrates, 329 does and 114 kids of both sexes. The buck:doe ratio is 1:66 vs. the recommended 1:25. Such a ratio is likely to result in overworking the bucks and inbreeding depression. To avoid inbreeding, the 5 bucks are no longer in use and arrangements have been made to buy replacement males from the Livestock Research Centre (LRC), West Kilimanjaro and Pasture Research Centre (PRC), Kongwa.

### Costs and Benefits

Without production records, it was not possible to do a cost/benefit analysis.

### Staff Position

4 permanent and 7 casual workers were hired in the goats unit. 3 persons in total would be appropriate.

### Problems

- 1) Lack of stated objectives for the keeping of the goats.
- 2) Lack of proper goat husbandry methods is evidenced by very high ratio of breeding males to females, unusually big number of castrates which are ready for slaughter and the absence of production records.
- 3) Continued presence of such a big flock of goats is very likely to add to the soil erosion problem of the farm and hamper the corrective measures currently being pursued to limit soil erosion.
- 4) The goats are kept more or less under traditional system of management by grazing over a wide area, where they come in contact with indigenous stock that are unvaccinated against communicable diseases. There is a real risk of the goats exposing the profitable dairy and piggery units to such diseases as foot and mouth.

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#### Recommendations

- 1) Reduce the flock size to readily manageable number necessary for training purposes and production of meat for the community. A flock size of 4 bucks and 100 does would be ample.
- 2) Introduce an appropriate number ? of "Blended Goat" bucks from LRC, West Kilimanjaro and PRC, Kongwa. The "Blended Goat" is a composite between the indigenous x Boer x Kamorai breeds, suitable for meat production and is relatively resistant to internal parasites.
- 3) Dispose of the castrate males, for which there is no justification to continue keeping them.
- 4) Adopt proper goat husbandry methods.
- 5) Present staffing level could be reduced by 70%.
- 6) If flock size has to be over 100 does i followers, transfer goats in excess of that number to another location.

## Appendix 2 (1)

### TERMS OF REFERENCE FOR TRAINING AND CONSULTANCY IN FARM MANAGEMENT AT MAZIMBU FARM, TANZANIA

#### BACKGROUND

SIDA supports ANC agricultural activities since many years. The support is in the form of financial support to running costs as well as short term personnel, mainly for training purposes.

There is still need for assistance and the objectives are to train and assist the ANC-staff in the activities.

The agricultural enterprises at Mazimbu are rather complicated and of large scale and the farm has not yet got enough experienced personnel for all duties. Therefore in-service training of the staff is an important activity and training is a high priority area in the SIDA-support to all ANC farming activities. During 1991 training and consultancies will be needed in different fields.

Flexibility is needed in order to meet the most urgent needs at different times. The following list covers the most likely needs in farm management in 1991/92.

#### DUTIES

1. Give short courses, advice and on the job training in the following fields:

- a. Farm planning and budgeting. (Both physical and financial)
- b. Work planning in short and long term
- c. Record keeping and accounting
- d. Crop production
- e. Operation and maintenance of machinery and equipment
- f. Work out specifications and estimated prices for procurements.

2. Assist in arranging visits and training activities outside the farm.

3. Any other activities assigned by the farm manager.

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All activities shall be done in close co-operation with the farm manager, to whom the trainer/consultant is responsible. Training shall have high priority in all activities.

#### QUALIFICATIONS

1. M80 or Bsc in Agriculture.
2. Extensive experience in the relevant fields.
3. Experience from agriculture in Africa.
4. Teaching experience is an asset.
5. Fluent in English. (Written and spoken)

#### TIME

Approximately 20 weeks spread over the budget year, timed to the peak periods of work i.e. harvesting and planting.

### Appendix 3 (1)

#### TERMS OF REFERENCE FOR TRAINING AND CONSULTANCY IN HORTICULTURE AT MAZIMBU FARM, TANZANIA

##### BACKGROUND

SIDA supports ANC agricultural activities since many years. The support is in the form of financial support to running costs as well as short term personnel, mainly for training purposes.

There is still need for assistance and the objectives are to train and assist the ANC- -staff in the activities.

The farming activities at Mazimbu is of large scale with many enterprises. Vegetable and fruit production is one of the most important as it caters for the daily requirements of the community. At present the horticultural section is producing below requirements of fruit and vegetables and also below the production potential of the farm. Proper planning and improved management can contribute to increased production in a rather short time. A trainer/consultant is needed to train the staff at the horticultural section in improved planning, production and management.

##### DUTIES

1. Work out detailed plans and budgets for the fruit and vegetable production based on the need of the community and available production resources.
2. Work out and introduce proper records both on physical and financial input and output.
3. Implement 1 and 2 above and train the staff in proper planning and management.
4. In co- operation with sokbine University of Agriculture and the management at Mazimbu plan, support and follow up a horticultural training programme for ANC personnel and others at Mazimbu.

All activities shall be done in close co-operation with staff at the Horticultural Section and training in all aspects of management shall have high priority.

APP. 3 (2)

QUALIFICATIONS

1. MSc or Bsc in fruit and vegetable production.
2. Extensive practical experience of fruit and vegetable production, preferably from Africa.
3. Experience of advisory/training work.
4. Fluent in English. (Written and spoken)

TIME

A total of 8-10 weeks divided in three periods during the budget year.



#### Appendix 4 (1)

#### TERMS OF REFERENCE FOR TRAINING/CONSULTANCY IN LIVESTOCK PRODUCTION AT MAZIMBU FARM, TANZANIA

##### BACKGROUND

SIDA supports ANC agricultural activities since many years. The support is in the form of financial support to running costs as well as short term personnel, mainly for training purposes.

The farming activities at Mazimbu are of large scale with many enterprises. Livestock production plays an important role at the farm and there are poultry, piggery, goats and dairy production. The objectives of the livestock activities are to supply the community at Mazimbu with livestock products and provide training facilities for the ANC cadres. Turnover of staff in the livestock sector has been high and there is need for assistance and the objectives are to train and assist the ANC-staff in all livestock activities.

##### DUTIES

1. Introduce/improve record keeping for all livestock enterprises both concerning physical records and financial input/output records in order to facilitate improved management and evaluation of the activities.
2. Implement proper breeding programmes and assist in acquiring suitable male animals in all relevant livestock.
3. Arrange the animals in suitable groups for proper breeding and management practices.
4. Implement proper programmes for feedstuff supply for all animals. (H-
5. Promote use of locally available feedstuff whenever feasible.

The duties shall be carried out in close co-operation with the respective heads of sections and training shall be an important and integrated part of all duties.

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App- 4 (2)

QUALIFICATIONS:

1. Recognized formal training in livestock production.
2. Practical experience of large scale livestock production.
3. Experience of livestock production in Africa.
4. Fluent in English. (Written and spoken)

TIME

Approximately 20 weeks spread over the budget year.

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Appendix 5 (1)

TERMS OF REFERENCE FOR TRAINING AND CONSULTANCY IN SOIL  
CONSERVATION AT MAZIMBU FARM, TANZANIA

BACKGROUND

The agricultural enterprises at Mazimbu are rather complicated and of large scale and various crops are grown. However, the soil at Mazimbu is rather prone to soil erosion and it has been a problem for some time. During the last years substantial soil conservation activities have taken place with good results. The soil conservation activities is, however, not an activity carried out once for all, but must continue with improvements and maintenance until the situation is under full control. A trainer/consultant is needed to follow up the activities and train the staff at the project and give advise for further activities.

DUTIES

1. Follow up soil conservation activities carried out.
2. Prepare a plan for improvement of soil conservation activities.
3. Give advise and training in implementation of soil conservation.
4. Advise on suitable crops, crop rotation and crop production practices for all fields.

All activities shall be done in close co-operation with the concerned staff and training shall be an important and integrated part of all duties.

QUALIFICATIONS

1. University degree in Agriculture with specialization in soil science and soil conservation.
2. Extensive practical experience of soil conservation in Africa.

TIME

A total of four weeks divided in three to four periods during the budget year