

## **Effectiveness and financial viability of privatised animal health delivery system**

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### **Meru and Tharaka-Nithi dairy goat and animal healthcare project experience**

#### **1.1 Background**

FARM Africa introduced a dairy goat and animal health care project in Meru district, Kenya, in 1996. The project is based in the medium potential zones of Meru Central and Meru South Districts in Eastern Province. The purpose of the project is to increase the productivity of local goats through better management, access to sustainable healthcare and genetic improvement systems, and of local cattle from better access to sustainable healthcare systems. The project has two components, the goat breeding component and the animal healthcare component.

The altitude range is 500 - 5,000m. The rainfall ranges from 500 - 2,500mm and is erratic and bimodal in the lower zones. Soils are fertile, as they are made up of deposits from soil erosion in higher areas. A major constraint to reliable crop production is lack of moisture so livestock production, cattle, sheep as well as goats, is the main activity (Onim and Oendo, 1995).

The target beneficiaries of the project are poor farmers in the poorer divisions of the districts, the majority of whom are women. The project has been implemented through self-help groups, most of which were formed specifically to carry out project activities. The community was assisted to identify the poorest families by selecting indicators of wealth and using them to rank households accordingly. Project beneficiaries are those without regular income, those with an income of less than Ksh1000 (US\$ 13) per month, and those who cannot afford to send their children to school (over 75% of farmers in the project). In each group, basic training was provided to farmers in goat husbandry, animal healthcare, and also leadership and group dynamics. A member of each group was trained as a Community-based Animal Health Worker (CAHW) to equip them with the relevant skills to serve the group and the wider community, and to generate a private income.

The aim of the breeding component is to produce a crossbred goat, which can produce enough milk for the family and has the ability to resist diseases like the local goats in Meru. This is being done by crossbreeding local goats with Toggenburgs. Buck stations were established within each group that FARM was dealing with for purposes of cross breeding.

Pure breeding stations were also established to replace the bucks in the event of death or any disability and avoid inbreeding during the program. Farmers form into groups of twenty-five people. Each group appoints a breeder and a buck keeper among its members (poor just like the rest), who are trained and provided with goats to accommodate on behalf of the group. The breeder receives four female Toggenburg goats as a loan to the group to be paid in kind, and the buck keeper receives one male Toggenburg goat. Both breeder and the buck keeper are trained in goat management. Members of the group as well as the community surrounding the group take their local goats to the buck keeper for crossbreeding. The group determines the remuneration/benefit for the buck keeper and the breeder and they are subjects to the group members. They can be fired and hired by the membership if they don't conform to group rules.

The group provided the necessary inputs for construction of the goat sheds and any other inputs required to rear the goats. Some capital is generated through charging for crossbreeding services from the buck station and goes towards maintenance of the goats.

#### **1.2 Animal Health Component**

With the introduction of the exotic, Toggenburg breed into a new environment, disease surveillance as well as prompt access to health care could not be over-emphasized. Constant monitoring was paramount to achieve the

project breeding goals. In view of this, FARM-Africa developed a decentralized animal health delivery system with the aim of:

- Increasing community access to veterinary services and drugs in rural areas
- Establishing sustainable links between private and public animal health services
- Providing supervision of Animal Health Assistants (AHAs) and CAHWs by private veterinarians
- Establishing a sustainable veterinary drug supply
- Improving disease surveillance and reporting of outbreaks to the DVS

The strategy to achieve this involved establishing a mix of AHAs at location levels and vets at divisional levels (see annex diagram). The AHAs were advanced credit to establish rural drug shops, which sell drugs, and offer clinical services to farmers. They also supervise and supply the CAHWs with drugs.

Farmers go directly to the nearest supplier to obtain veterinary services (suppliers include the CAHWs). The project hopes to increase accessibility to animal health care services and drug supply to smallholder farmers in the lower potential areas. This also reduces the cost of services tremendously by eliminating or reducing costs of transport. The project linked up with the Kenya Veterinary Privatization Scheme (KVAPs), which is developing private services in high potential areas.

Each vet is in charge of two or three divisions and operates from a practice office within an agro-vet shop. The office has a telephone and is located in a main town. AHAs are located in the rural markets. They operate rural drug shops that supply drugs and agrochemical to the farmers and the CAHWs. The distribution of the CAHWs depends on the distribution of the dairy goat groups FARM is working with. Each dairy goat group has one CAHW.

The vets were given bank loans through a commercial bank on the basis of a written business proposal. Farm Africa guaranteed about a third of the loan, KVAPs another third and the vet had to provide collateral for the remaining third. The vet's portion could be a third party guarantee or a mortgage on the equipment he/she will buy, e.g. a motor bike.

The AHAs were given small loans of Ksh50,000 each through a co-operative bank to set up rural drug shops. The project trained CAHWs and gave them drug kit loans worth about Ksh12000. They were to repay 60% of the drugs cost through instalments once operational. The size of instalment depended on individual work load.

## **2.1 Data sources**

The following records are kept in the project by the drug shops: bank statements, payment receipts, cash sale receipt book (daily sales record), purchases receipts/journal, cash book, stock journals, clinical case records and AI case records.

In the event of business collapse, the above records were to be produced for the practitioner to prove non-mismanagement of the loan. Summaries of these records were submitted to FARM Africa on monthly basis. Such records include income and expenditure statements obtained from the cashbooks.

The CAHWs kept treatment records.

Therefore the following data have been collected on a monthly basis in the project:

- Cash inflows (cash received into the business, i.e. income) and outflows (cash payment made out of the business)
- When and what service farmers received from the various service providers
- Diseases treated, treatments and treatment costs
- Diseases referred by CAHWs to vets or AHAs.

Cash flows were constructed every month using the above reports, clarification sort and feedback given to the respective drug shop practitioners depending on what the cash flows depict.

FARM Africa received bank statements directly from the banks also and would use them to verify the income and expenditure statements as well as the cash flow trends observed. This was agreed upon with the practitioner to be a reflection of their business situation and if not an explanation is sort, and this is kept as a FARM record.

This was done on the understanding that in future, if the practices fail, subsequently FARM and the practitioner would use these records to identify the cause of the problem.

## **2.2 Data analysis**

The data from the practitioners was subjected to cash flow analysis. The net cash flow was calculated. The net cash flow is the difference between the cash inflow and cash outflow. The mean annual cash flow was calculated. The cash flows tell whether the business may require borrowing cash to meet its overheads/debts at a particular time. High frequency of borrowing may imply liquidity problems in the business.

An investment analysis was done by calculating the BCR (Benefit Cost Ratio) and the NPV (Net Present Value) for individual practices. The cash benefits and the costs of the business were obtained from the drug shop cash flow reports from when the business started in 1998 to 2001.

Where one or a few month's data was missing, an average monthly data was used to calculate the annual mean for that particular year. A constant mean of the period for each revenue and expense item was assumed over the next 11 months. Then, benefits and the costs were discounted at 12% annually and the NPV and BCR derived from the spreadsheet.

Income and expenditure analysis was done to demonstrate the various components of income and expenditure and whether they show any seasonal trends. This would help to identify any likely risks to this business. An attempt to find out the possible financial relationship between earnings (income) and costs (expenditure) as a way of measuring the efficiency of the practice was done.

## **3 Effectiveness of the services delivery system**

The effectiveness of this delivery system can be said to be the degree to which it achieves its goals/purposes. The main objective of setting up this service delivery system was to increase community access to veterinary services and drugs in rural areas, improve disease surveillances and reporting of outbreaks in the project area.

### **3.1 Current establishment status in the project**

The project at the inception in 1998 established 2 vets, 6 AHAs, and 44 CAHWs in practice. By the end of the year 2001, one AHA (17%) and 4 CAHWs (9%) had dropped out of the system. All the vets were operational by the end of this period. Overall 9.6% of the initial personnel establishment dropped out.

In the year 2000, two new AHAs and 8 CAHWs joined the system. Of these AHAs, the one from Chuka division dropped out after barely one year making the overall AHA drop out in the system by 2001 to be 25%. All these dropouts are in Meru South districts. The drop out by the AHAs can partly be attributed to the following reasons

1. Lack of self-discipline in financial management leading to misappropriation, such as directing funds to other use or to purchase alcohol.
2. Domestic problems.
3. Lack of personal drive.
4. Closeness of other practices.

In both cases, counselling efforts were unsuccessful and no unused stock of drugs or records of the disposal of the same was provided to warrant a conclusion that lack of business could be also to blame for business closure.

The drop in number of CAHWs (9%) seems within reasonable levels and could be attributed to:

1. Availability of other more profitable ventures for the CAHWs away from the project area (this was common with CAHWs who had secondary school education).
2. Mistrust by the group members and hence the stoppage of operations of the CAHW by the group.
3. Lack of personal drive in the work.

### **3.2 Coverage of the project area**

CAHWs cover a radius of 2km on foot from their homes. AHA coverage depends on whether they have means of transport or not; they can cover a radius of 10 km on motorbikes and have higher case loads per day compared to those on foot who have been covering a radius of 7 km. The two vets have motorbikes and cover a radius of 15 km on daily basis. The working area of the vets and the AHAs is restricted by:

- Their mode of transport
- The populations of livestock
- Credit sizes and availability
- Levels of practice diversification

### 3.3 Accessibility by poor farmers

The animal health system has improved farmer access to veterinary services and drugs in areas where government services have either totally broken down or were non-existent. Prior to the project, three government vets and seven government AHAs served the five divisions of the project area. The project has helped to establish an additional two vets and eight AHAs in private practice and trained fifty-two operational CAHWs.

During the period the system has been active, the total number of cases treated is 30,331, which represents 28% of the total livestock population in the project area. Over 19,000 farmers have brought their livestock for treatment by the animal health service providers. This represents 8% of the population in the project area. However, a more representative figure can be attained from the household unit, as usually just one member of a household would seek a service provider. Of the total households in the project area (42,188), it is estimated that 46% accessed animal health services provided by the system.

NB: The practices have not reached their maximum potential

### 3.4 Clientele size

The average clientele size and average case volumes per person per month for each cadre of the practice establishment over the period are shown in Table 1. This refers to service provision from inception to end of year 2001.

From Table 1 a decrease is observed in the number of clients as well as animals treated in 1999 and 2000 by both the AHAs and the CAHWs. This is the period the Kenyan economy was at its worst state and severe drought hit the project area. AHAs and CAHWs are the most susceptible individuals to such shocks because their practices, which are in the rural areas, provide services to the most vulnerable members of the community (the poor). Poor people depend on agriculture and livestock for their livelihoods and hence are the most affected by any slight negative changes in climate or economy resulting in reduced purchasing power. In 2001, when the drought was over, business improved for AHAs and CAHWs. Many of the treatments undertaken by CAHWs and AHAs during the drought period were supplied on credit; many of these clients were subsequently unable to meet their liabilities.

**Table 1:** Average number of farmers and animals received services per practitioner in each cadre

Year	Average clients served per month			Average no. animals treated per month		
	CAHW	AHA	VET	CAHW	AHA	VET
1998	10	16	19	16 (26%)	26 (42%)	20 (32%)
1999	8	15	21	12 (20%)	28 (45%)	22 (35%)
2000	6	11	22	11 (21%)	11 (21%)	30 (58%)
2001	9	17	22	17 (25%)	19 (28%)	33 (47%)
<b>Annual Averages</b>	<b>8</b>	<b>15</b>	<b>21</b>	<b>14 (23%)</b>	<b>21 (34%)</b>	<b>26 (43%)</b>

Table 1 above the average number of animals treated by each cadre of service provider in the chain is shown as a percentage of total number of animals treated by all cadres in each year.

The vets, who are stationed in the main towns, have clients ranging from the poor (from referral cases) to well-to-do farmers. Farmers who are middle-income earners and above are able to suffer economic shocks and still continue to seek services. For most of these better-off farmers, farming or livestock may not be the only means of livelihoods and if it is, they are undertaking intensive farming enterprises. Their livelihoods are from salaries or business and therefore what we observe from Table 1 for vets is a slight rise in clients despite the mentioned external shocks. The rise is because the vets are more and more getting to the high potential areas and building on more clients. This in the long run is good because it makes the vets service deliverers rather than drug dealers only. The table also reveals that the vets, AHAs and CAHWs all have a niche in service delivery. The absence of any of the cadre would leave some gap in service delivery.

### 3.5 Reporting system and performance of CAHWs as the frontline service providers

Table 2, below, is a summary of the CAHWs work. Out of the 44 CAHWs trained, 40 are operational while four dropped out of service. The table shows in column one number trained in each division.

The animal health reporting system, where reports are generated from the practitioners to the FARM and DVS offices, can be said to be effective. The percentage of reports received over the three-year period was calculated by taking the total number of months the CAHWS have been in operation multiplied by the number of operational CAHWs in each division. This is taken as the expected number of monthly reports due over the period. Actual count of reports received over the same period was done and expressed as a percentage of the expected reports. This is used to measure the effectiveness of the reporting system in the programme. Overall therefore the reporting system can be said to be 75% effective.

A total of 15,913 farmers received service from the 40 CAHWs, which on average translates to 11 farmers per CAHW per month. The total number of animals treated by the same was 27,244 animals, which also translates to an average of 19 animals per CAHW per month. The percentage of cases they were unable to treat and referred to the AHAs and vets was 4%.

The clinical sales given are turnover and not profits just to give an idea of volumes of transactions undertaken. The same helps us to make judgement on the costs farmers pay for the services from these cadres of service providers.

Besides providing services to farmers, the CAHWs have been providing training to fellow farmer groups. A total of 62 group training sessions have been conducted over the period by the CAHWs.

**Table 2: Performance of the CAHWs in the project area per administrative units (Division) from 1998 to 2001**

Divisions	Number CAHWs in service	Percent reports received	Number of farmers served	Number animals treated	Clinical services sales (Ksh)	Referral cases attended	Group member	Training conducted by CAHWS
Miriga Mieru	8	88%	4371	7202	302,449.5	483	784	8
Abo. Central	8	63%	2056	4995	115,013	218	338	12
Abo. East	5	89%	2747	3218	182,968	202	458	15
Muthambi	7	67%	2200	3848	124,638	35	277	7
Chuka	11	74%	4539	7981	337,884	159	500	20
<b>Totals</b>	<b>40</b>	<b>75%</b>	<b>15913</b>	<b>27244</b>	<b>1,062,953</b>	<b>1097</b>	<b>2357</b>	<b>62</b>

### 4.0 Efficiency and financial viability of the practitioners' services

The efficiency here refers to the degree the practitioners manage to minimise the costs of service delivery. The higher the difference in income and the practice cost, the better for the practitioner. From the farmer's point of view, the priority is availability of quality services at a minimal cost possible (affordability).

#### 4.1 Affordability by farmers

Following is an example to demonstrate the above. The cost of a government vet in Meru South called to deworm a cow at a farm 14kms from the office will be nearly four times as much if he travels by car, or double if he travels by motorbike, compared with a CAHW treating the same animal.

**Table 3: Comparison of pricing between government vet and CAHWs to deworm a cow.**

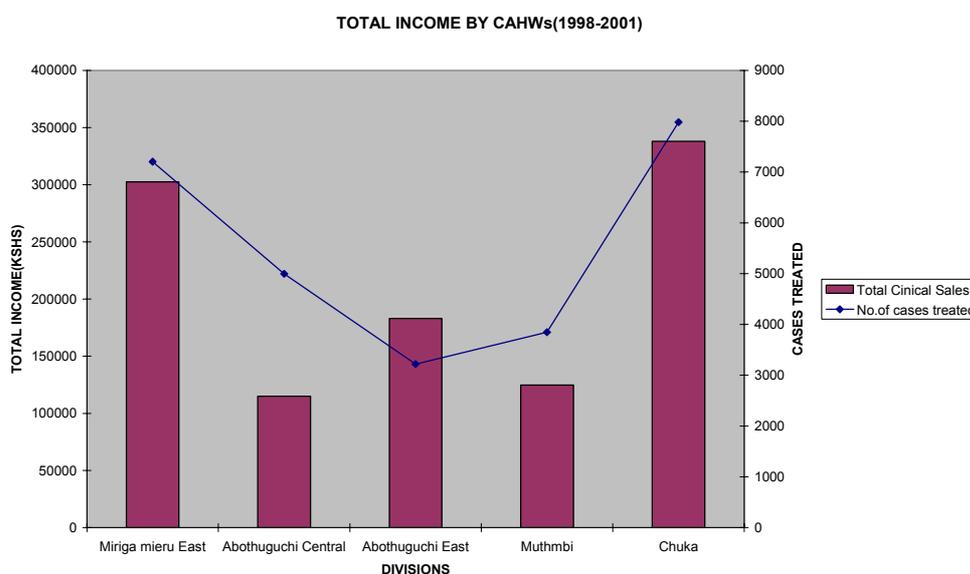
(Source, personal communication Gitonga, 2001)

Costs incurred	Government vet using car		Government vet using motorcycle		CAHW on foot	
	KSh	US\$	KSh	US\$	KSh	US\$
Transport	350	4.50	100	1.30	0	0
Professional fee	300	3.90	300	3.90	20	0.30
Drugs	130	1.70	130	1.70	120	1.50
Total	780	10.10	530	6.90	140	1.80

#### 4.2 CAHWs' income

The CAHWs only source of income was from provision of services. Chart 1 shows the income (turnovers) accrued in each division. The clinical sale turnovers are directly a representation of total benefits accrued to the administrative unit in terms of income earned by individual CAHWs. The income is dependent on the number of animals treated by the CAHWs, hence can be used as an indicator of performance in terms of CAHWs expected role within the community. Chart 2, below shows the number of animals treated in each division and how many animals the CAHWs could not handle and had to refer to the vet or the AHA.

**Chart 1: CAHWS Total clinical sales per division for the period 1998-2001**



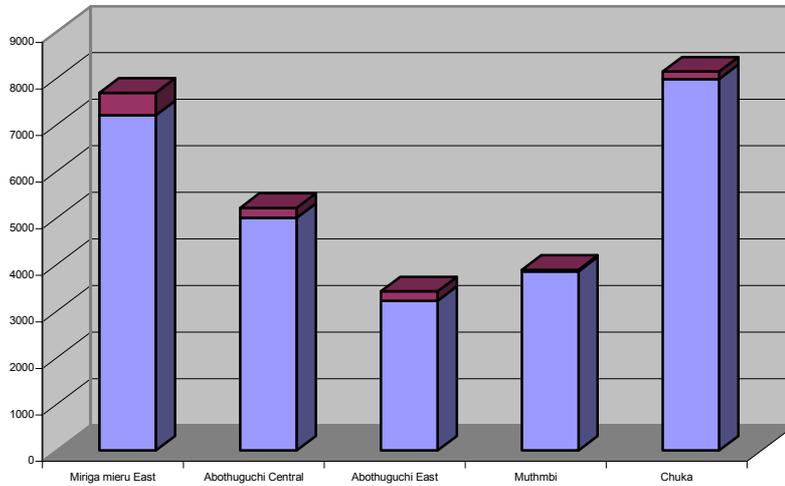
One would expect the clinical sales graph (Chart 1) to resemble that of the number of animals treated in each division. This is so with Chuka and Miriga Mieru, East Division, taking first and second positions in both charts but Abothuguchi, East division, which has lowest volume of caseloads, has surpassed Abothuguchi central in volumes of income. On the average a CAHW in Meru central earns Ksh794 per month while the one in Meru South earns Ksh676 per person per month. On average each CAHW earns about Ksh738 per person per month. The CAHWs, though providing affordable services, need to increase their profit margins for themselves to benefit and be sustainable. Such disparities could be attributed to several reasons:

- 1) Under charging for services/Poor pricing of services
- 2) Most of the cases treated by the CAHWs in affected divisions may have comprised very minor cases the payment for which was very low, or goats or chicken comprised the main species of animals treated (the cost of treating one animals for these two species would be low).

Referral cases were highest in Miriga Mieru, East Division (see Chart 2) and Abothuguchi central divisions. Overall they comprised 4% of the animals treated by the CAHWs. The implication here is that the majority of animal health problems observed at farm level may be manageable by the CAHWs who have basic training and the CAHWs feel many of the problems they encounter they can handle. A feedback workshop, which brought the government staff, the CAHWs and farmers representatives together acknowledged the work done by

CAHWs, and that many of the problems may be simple health management problems such as deworming, wounds and tick borne diseases control.

**Chart 2:** Number of animals treated by CAHWs and referral cases in each Division (1998-2001)

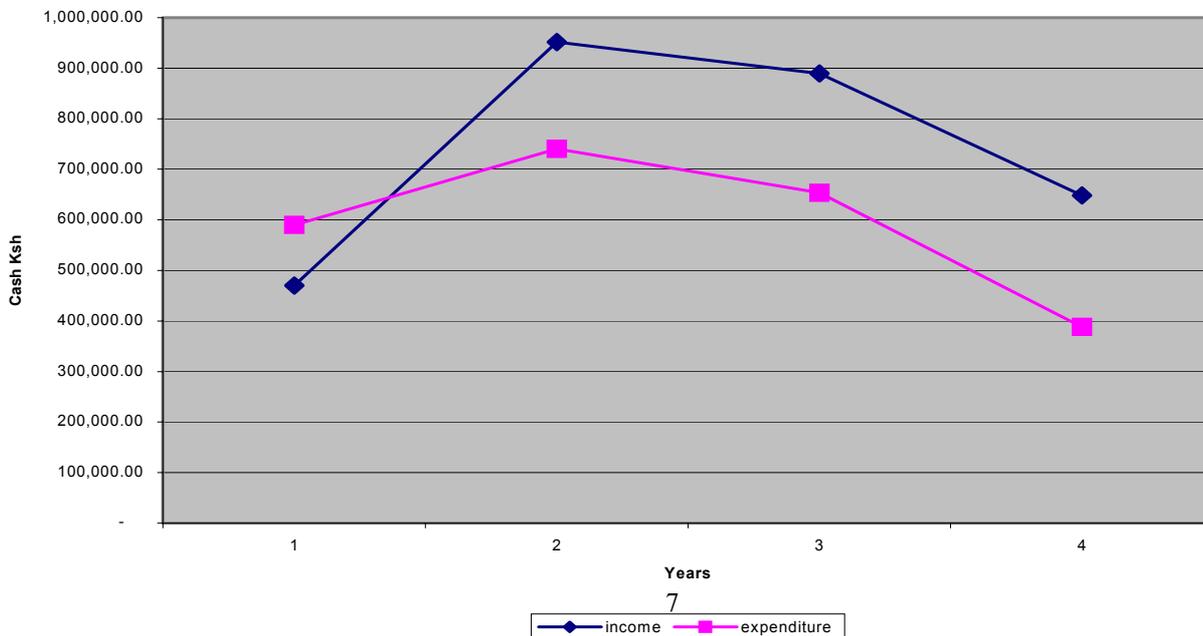


During the reporting period in question, it was observed that majority (85%) of the beneficiaries of the animal health services were non-members of the dairy goat groups. Overall, only 15% of the beneficiaries were from the groups. This shows that there was a vacuum in terms of services provision in the area which this cadre of service providers filled.

### 4.3 Town drug shops

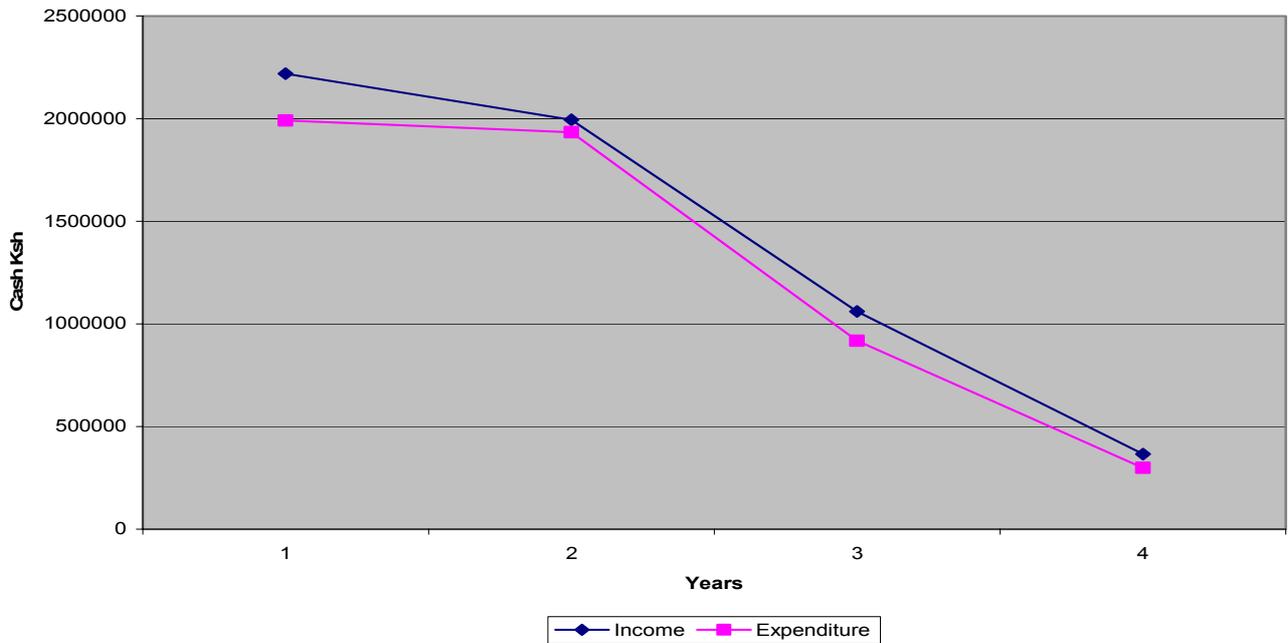
The main sources of income for the drug shops are drug sales, AI and clinical income. Chart 3, below, shows that Meru veterinary practice has been able to keep its expenditure below the income for the three-year period and is a profitable enterprise. The first year shows that the income was lower than the expenditure. This is true because the business was funded through a loan and there was capital investment into fixed assets. The above drug shop has three main sources of income AI (22%), clinical sales (25%) and drug sales (47%), which formed the main source of income (See Chart 6). Bad debt comprised 2% of the drug shop income. Drug sales seem to be the main source of income and this is an indicator of vulnerability of the business. It is likely in times of hardship that inputs like dewormers and sprays will be considered by farmers to be of lower priority than food and health and will not be purchased. AI is the second source of income and possibly in times of hardship the farmers will opt for local bulls.

**Chart 3:** Trends in Expenditure and income of Meru Vet services

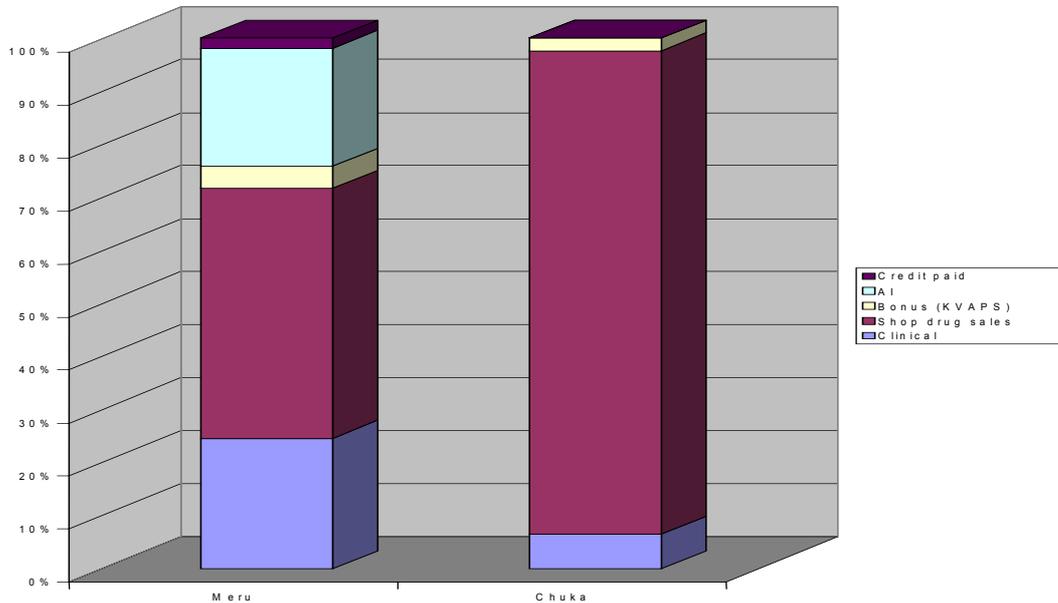


Though Chuka vet services (chart 4, below) has kept its expenditure below the income, there is a downward trend observed in the practice. From the graph it is obvious that money is getting out of the business and could be causing low business. From the cash flows there is no evidence of expenditure exceeding the income but there was a decrease in volume of transactions. Possibly the owner could be undertaking capital investment causing the above trends. It is important to note that the practice did complete its loan repayment within three years instead of the five-year period.

**Chart 4:** Trends in expenditure and income of Chuka Vet services

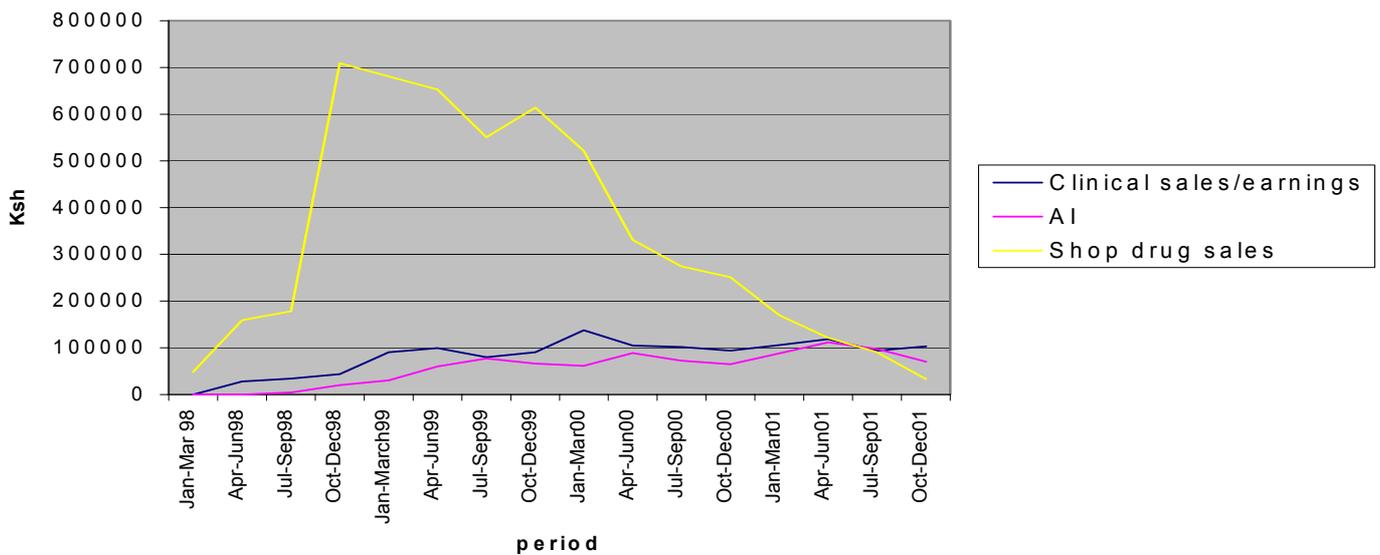


**Chart 5:** Comparative sources of income for the town drug shops (vets 1998-2001)



The Chart 6, below, shows the combined seasonality of income for the two town drug. Income from the two vets has been lumped together under the three categories of income. It is observed from the graph that the drug income has more seasonality, though it makes a major contribution to the overall business volume. The other two (AI and clinical service) have a steady increase and is less affected by seasonality. It has been observed that in the practice, as the business grows, there seems to be a tilt towards more clinical work especially for the vets .

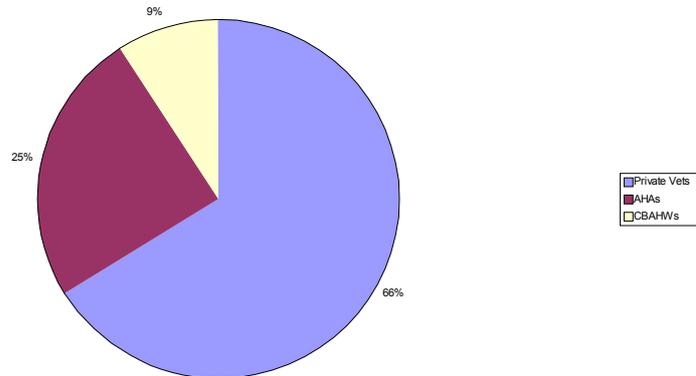
**Chart 6. Seasonal variation of both town drug shop income sources.**



From Chart 7 below, out of the total income generated by the animal health system from 1998 to 2001, 66% was by vets, 25% by AHAs and 9% by the CAHWs. Overall the vets control most of the service delivery.

**Chart7.** Overall income of the system.

TOTAL INCOME GENERATED BY DIFFERENT SERVICE PROVIDERS(1998-2001)

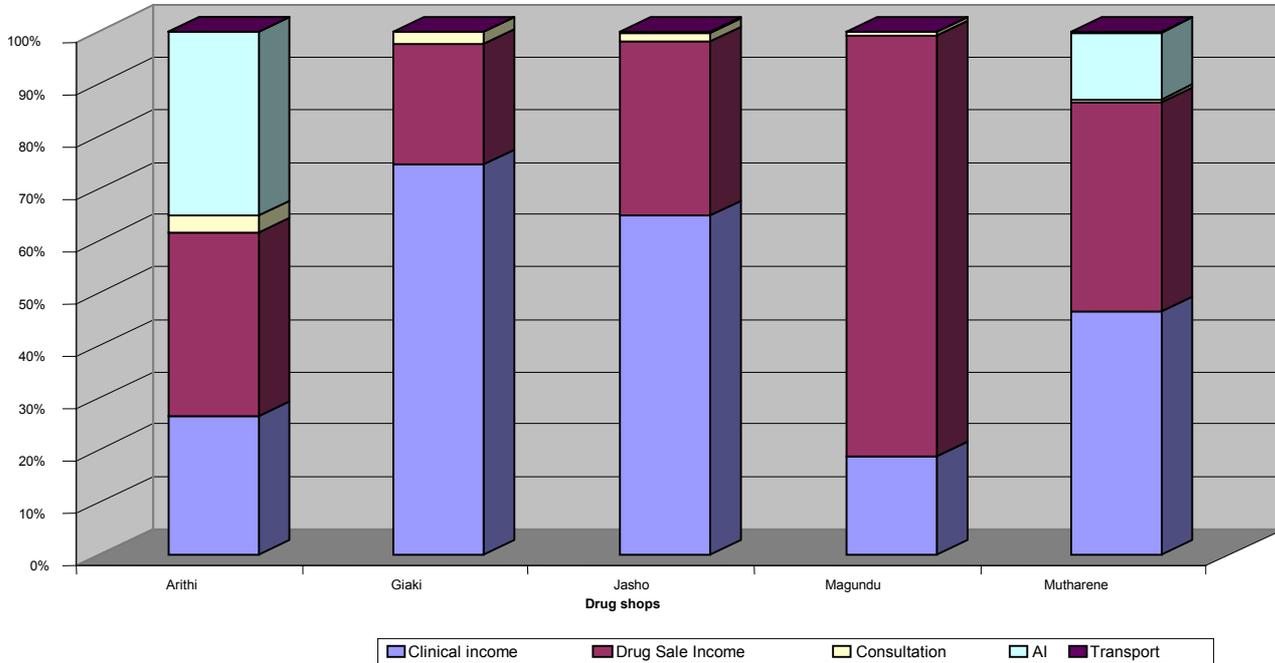


#### 4.4 Rural drug shops

Eight AHAs were given small size loans to open rural drug shops, since we could not determine the level of transactions they could be able to handle. One shifted the drug shop from lower to higher potential area and two dropped out hence this paper concentrates on the remaining five. Two AHAs were able to complete the loan repayments in time. Two of the five have diversified their practice into AI through investing in AI equipment, which has delayed the completion of loan repayments.

The CAHWs in Meru South and Magundu rural drug shop obtain drugs from Chuka town drug shop. Chart 8, below, shows that over 75% of income comes from drug sales. In terms of accessibility to drug supply, then the Meru South has been effective. This means that Chuka vet is likely to feel the effect of drought and subsequent reduction in purchases of service at the rural level. In other words the whole animal health input supply chain is vulnerable to depression in the economy.

**Chart 8: Sources of income for five rural drug shops (1998 to 2001)**



#### 4.5 Practice risk efficiency analyses

From the table below, the rural practices operated by AHAs can be said to be solvent, that is they can pay their debts when they fall due. The current ratio was calculated for all the values. Bearing in mind that the AHAs got loans of Ksh 50,000 each which they have been repaying, the asset value of some of the practices are quite good, e.g. apart from Arithi drug shop, all the others have high debt percentage when the debt owed is expressed as percent of the current asset. Giaki drug shop is the highest risk with debts totalling 35% of current asset (though has completed loan repayment).

**Table 3: Indicators of risk efficiency for each rural practice operated by AHAs as of June 2002**

Drug shop	Current Ratio	Quick Ratio	Debts/current Assets%
Jasho	2.4	1.2	6.7%
Arithi	5.6	2.5	2.5%
Mutharene	1.9	0.8	12.8
Giaki	1.4	.8	35%
Kionyo	1.4	1.1	10%

#### 4.6 Investment analysis

##### 4.6.1 Individual practice Benefit:Cost Ratio and Net Present Value

For financial viability, the Net Present Value (NPV) must be equal to or greater than zero and the Benefit Cost Ratio must be equal to or greater than one. Table 4, below, is a summary of there results of the benefit: cost analysis.

**Table 4: Financial viability measures for different practitioners**

Practice	Practitioner	BCR	NPV(UKP)
Giaki	AHA	1.2	1687
Mutharene	AHA	1.0	649
Magundu	AHA	1.2	2170

Arithi	AHA	1.4	7069
Kariene	AHA	1.4	1464
Chuka	VET	1.1	9480
Meru	VET	1.3	14,834

The Chuka vet's cash flow reveals that there was no investment in assets. Such a situation may make the BCR be greater than one. His cumulative cash flow has been depreciating. It is known that he has been investing in other non-practice assets, e.g. construction of a house.

This being the only source of income for these practitioners, though viable, it looks that refinancing of the practices and revision of their profit margins needs to be done to increase the BCR. As it stands the businesses are risk susceptible, i.e. detrimental external factors are likely to shake the business. This is evident from the performance of the year 2001: The drought and the economic recession in the country did have an effect on the businesses. The drug sales went down drastically due to reduced purchasing power of the farmers within the community where these vets and AHAs operate. This affected the income of the CAHWs to the extent that purchasing by all cadres went down.

#### 4.6.2 Overall Benefit:Cost Ratio and Net Present Value

Table 5 below is a summary of the results of the benefit:cost analysis carried out in February 2002. The net present value (NPV) for vets is a positive UK Pounds 6,658 over the 4 year period 1998-2001, and the BCR is greater than 1.00 at 1.28. This indicates that, if the current business trend continues, the vet's practices would be financially viable. This profitability is bound to be higher in the subsequent years, as the population of improved goats and therefore volume of business continues to grow in the Meru District.

**Table 5.** *Measures of financial viability, 1998 - 2001*

Indicator of Viability	Private Vets	Private AHAs
NPV (UKP)	6,658	1,585
BCR	1.28	1.48

#### 4.6.3 Sensitivity analysis

The break-even sensitivity analysis results in Table 6, below, indicate that the private vet practices would remain financially viable even if the current costs increased by 28% or the revenue declined by 22%.

**Table 6.** *Break-even sensitivity analysis*

Variable	Private Vets		Private AHAs	
	Increase	Decrease	Increase	Decrease
Total Costs	28%		48%	
Total Benefits		22%		32%

#### Babati case study

The result of an impact study (McCorkle 2000) on CAHWs trained by FARM in Babati district, Tanzania showed that access to CAHWs can greatly reduce livestock deaths associated with disease. Below is mortality impact on cattle and goats.

**Table 7:** *Impact of CAHWs in Babati District, Tanzania*

	Villages without CAHWs	Villages with CAHWs
Mortality of Cattle	15%	9%
Mortality of goats	25%	17%
Average Income Loss per household	\$183	\$82
Estimated benefits		\$101

#### 5.0 Lessons learnt

- Severe drought that affected the project area in 1999 and 2000, as well as the economic down trend in the country, impacted on services delivery in the project.

- The most affected cadre of service providers are the AHAs and the CAHWs. This is because they directly deal with the most vulnerable group in the communities whose livelihoods are purely smallholder livestock keeping and subsistence farming.
- Mobility is quite important to the vets and AHAs if they are to be effective
- Diversification reduces vulnerability and spreads overheads over a number of services
- Seasonality of disease incidence, where the pattern is regular, can be capitalised on by stocking only necessary drugs during such periods to maximise on the profits.
- For purposes of sustainability, a lesson learnt was that veterinary practices, like any other businesses, at some point may require to borrow to meet cash flow deficits especially in situations of drought or other adverse conditions.
- Credit availability to such practices is expensive and therefore there is a need to avail an affordable credit scheme to cushion the practitioners.
- Lack of business skills on the part of the practitioners and the ability to assess market needs and subsequently respond to them in a timely manner has been a major drawback on maximisation of profits at the practices.
- Many private practitioners, despite a build up of case loads to the level of being unable to handle them, can not solicit partnerships or avail employment opportunities to young graduates for fear of losing their clients to the practitioners.
- The AHA operated single person enterprises have been expanding to employ two or more staff while the vets has remained single person enterprise. Vets have a fear of losing their goodwill to their employee.
- Experiences from the project indicate that farmers are prepared to pay for animal health services. Policy and laws governing such practices, if put in place, would provide a platform for the service to thrive.
- Ignorance of legal rights among the practitioners is also a major draw back. e.g. income tax laws
- Policy advocacy has been one of outcomes of FARM Africa work. It takes a long time, involvement of other stakeholders, a diplomatic approach and one needs to make sure the need for advocacy is real and felt by the communities/beneficiaries.
- Other issues are the provision of continuous professional development courses for the practices.

**Annex 1**

**Figure 1.** *The FARM-Africa Privatised DAH System in Meru District*

