

ANNUAL REPORT- LUSHOTO BENCHMARK SITE



REPORT FOR YEAR 2007

JUMA WICKAMA

SITE COORDINATOR

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Background

This report presents what happened during the implementation of the Annual Work Plan for year 2007 titled “Protocol for validating and scaling up integrated natural resource management approaches in Lushoto, Tanzania”. Part of the work was conducted in Baga Watershed while some of it was conducted with partners in the district headquarters of Lushoto. Funds for its implementation were received in February 2007 and its implementation begun in March 2007. The work plan had the following specific objectives:

- (i) Continue supporting INRM innovations in Baga Watershed
- (ii) Strengthen the local institutions in Lushoto to apply INRM methods and approaches in new watersheds throughout the District.
- (iii) Develop strategies, policies and practices to support by-law reforms at district level and technology delivery to enable by-law enforcement

In year 2007 the site managed to produce; Technical reports (8), posters (5), briefs (3), training manual (1), Method guide (1). These are in Appendix 5.

B. What was planned and implemented

(i) Specific Objective 1- Supporting NRM innovations in the Baga Watershed

Under specific objective 1, the site team supported activities that had begun in year 2005/2006 across the Baga Watershed but could not be finalized during that period. The planned activities addressing this specific objective were as follows;

- 1) *Finalize developing a model Catchment in Kwekitui village*
- 2) *Strengthen the social dimension in negotiation support as part of an integrated natural resource management*
- 3) *Conduct empirical Research on the hydrological impact of trees on crops*
- 4) *Assess effectiveness of the approaches used for niche compatible agro-forestry for district wide adoption*
- 5) *Finalize installing the AHI, Government of Tanzania logo on all the reclaimed water sources to popularize the project*
- 6) *Conduct research on the extent to which by-laws are being followed, and to facilitate improved enforcement where necessary.*

Achievements

1. Kwekitui, model catchment and INRM activities across the Watershed

The idea of developing one uniform model catchment in Kwekitui proved difficult to realize because of different land/fields ownership across the village landscape. This fraternity was not considered during planning for the work plan 2007. However, the site team managed to mobilize and sensitize farmers in Kwekitui to make more soil conservation structures and plant grasslines on them. Complimentary efforts came from another government funded project called PADEP (Participatory Agricultural Development and Empowerment Project) in Lushoto district. Kwekitui is among the villages where this project operates. The approach of PADEP is that of providing cash money to farmers after they have identified potential projects that address their community problems.

Farmers are then required to write and submit proposals so that they implement the proposed project themselves. Farmers of Kwekitui utilized the expertise provided through their engagement with the AHI team to write and submit NRM based project to the PADEP desk in Lushoto. In 2005/2006 Kwekitui were funded the equivalent of USD 12,000 to implement what they had proposed. In 2006/2007 they received another USD 20,000. This arrangement has enticed some new farmers into the NRM already proposed by the AHI agenda since establishment of the Baga Watershed. The village leadership attributes the contribution of the AHI to some 45% of the successes they had in year 2007 while 55% is attributed to PADEP because of its considerable financial investment. By December 2007 the report at the village executive officer's office indicated that Kwekitui had achieved the following:

Table 1. Achievements at Kwekitui village in INRM activities for year 2007

Parameter of measure	Achievement	Remarks
Farmers with at least one form of conservation structures	Increased from 60 households in 2006 to 182 households at end of year 2007	This is a 200% increase. The increase can also be attributed to the involvement of PADEP.
Bench terraces	36,000 meters of bench terraces were excavated in Kwekitui in year 2007	Farmers used the PADEP money to establish these terraces long advocated by the AHI
Fanya juu	90,000 meters were laid out	Money from PADEP was used to lay out these fanya juu terraces. Paraprofessionals trained by the AHI measured the fanya juu
Grasslines on the terraces	40,000 meters long grasslines were established	AHI provided for the transportation of the grasslines from Bumbuli village.
Trees planted in eroded areas plus hill tops	12,000 are ready in the nursery waiting to be planted in the long rains	Most of the trees are Grevillia spp. No eucalyptus
Watersources	The village has 15 permanent springs	They are all protected. 4 have been built with concrete structures, another 3 are planned to be addressed in 2008
Number of village paraprofessional trained in measuring soil conservation structures	44 paraprofessionals were trained in year 2007	Part of the cost for their training came from their PADEP funding

Source: Kwekitui Village Executive Officer (2007)

The banana multiplication nurseries established in Kwekitui Primary school continued to function. Records at this school and the village show that some 240 banana suckers have been distributed to 40 farmers in year 2007. Across the Baga Watershed, the 6 banana multiplication sites established by the Site team in 2005 had by 31st December 2007 distributed some 1500 banana to farmers in the 6 project villages. Many farmers have reported that these banana suckers when cared as directed by extension agents often yield better. *However there has been no parallel study to establish to what*

extent these new bananas have contributed towards improving income and livelihoods of individual households in the area. Another pattern has emerged in which farmers from other villages in the Watershed copied what they saw in those villages where banana nurseries were established and replicated it on their farms. The farm in Figure 1 belongs to a farmer on the way to Kwalei-Kwehangala village road. This farmer was not part of the active AHI farmers but he copied what he saw at Kwalei and established a well conserved banana garden just alongside the road to Bumbuli. To motivate such farmers, the project team selected him and seven others to attend the Annual Agricultural Shows in Morogoro so as learn and see other technologies from farmers elsewhere.



Figure 1. A newly established banana field near Kwehangala village

One area which did not feature very well during this reporting period was the construction of the roof top rain water collection structures at Kwekitui and Dule villages. Though the project team provided the required inputs, farmers failed to honor their part of finalizing these structures to completion. In Dule village in year 2005/2006 – 2006/2007 similar efforts failed to get these structures on the ground despite numerous promises in the meetings. We therefore suspect these structures were of low priority to farmers of the two villages and hence their low motivation in implementing them. The situation for the soil conservation structures in the other Watershed villages for year 2007 was as presented in Table 3. The possible influence in complimenting the AHI agenda by the PADEP project is clearly seen in terms of the difference in the achievements for each technology category between Kwekitui and the other villages.

Table 2. Progress made for adoption of soil conservation technologies across the Baga Watershed villages for year 2007

Village	Farmers with soil conservation structures	Bench Terraces (meters)	Fanya juu (meters)	Grass lines (meters)	Cut Off Drains (meters)	Total (meters)
Kwekitui	182	36,000	90,000	40,000	680	166,680
Mbelei	15	3,500	5,055	2,000	-	10,555
Kwalei	88	9,800	25,700	5,000	200	40,700
Kwadoe	23	1,560	2,600	4,000	-	8,160
Kwehangala	25	5,557	13,200	1,500	-	20,257
Dule	10	1,500	-	6,000	-	7,500
Total	343	57,917	13,6555	58,500	880	253,852

2. Social dimension of the negotiation support work and effectiveness of the niche compatible agro-forestry for district wide adoption

Following earlier negotiation support work conducted by Dr Laura German, Joel Meliyo and Sarah Charamila in Kwekitui, Mbelei, Herculu Tea Estate and Sakharani Mission area, the Sakharani Mission decided to harvest some of the Eucalyptus trees bordering the fields of smallholder farmers around them and replace them with other trees like Grevillia spp. Data from the Mission indicated that by December 2007 some 21 eucalyptuses had been harvested from the border as part of this scheme. The representative for the Sakharani mission (Father Celestine) reported that local communities in the Mbelei and Kwekitui villages have at last honored their part of the bargain of ensuring no animals strayed into the Sakharani area. This is a big achievement in terms of the negotiation support work. It can be said that socially the approach of negotiation support is effective and it can be adopted for district wide adoption.

An assessment study conducted by Seushi and Wickama (2007) found progress still being made across the Watershed villages with respect to tree nurseries. Most of the progress took place after farmers were on their own (after Sarah Charamila had left). There is now steady replacement of the field border eucalyptus trees across the villages. In this picture (Figure 2), Grevillia species are seen replacing the eucalyptus which was once planted in the fields. Also there has grown the culture of establishing tree nurseries. The local people believe very strongly that the Mikuyu (*Ficus spp*) are water friendly. Since 2005 the Lushoto team encouraged them to plant such trees around degraded water sources because they are the same trees traditionally found around water sources that have not been abused. In year 2007, a number of developments were registered as more farmers planted indigenous trees in protected water sources and some exotic non-eucalyptus trees in the eroded landscapes. The number of indigenous trees established and planted around water sources to protect them and the high value exotic trees (timber and fruits) established and planted in year 2007 are summarized in Table 3.



Figure 2; The Grevillea trees are steadily replacing Eucalypts as border trees in the Watershed villages as seen here in Kwehangala village

Table 3. Trees established and planted across the Watershed villages in year 2007

Village	Indigenous trees	Exotic trees
Kwekitui	25	12,000
Mbelei	105	32,989
Kwalei	200	12,000
Kwadoe	280	24,700
Kwehangala	250	-
Dule	50	8000
Saharani	105	-
Total		89,689

All the trees reported as indigenous were planted in water sources. These were Mikuyu (*Ficus* spp), *Albizia* spp and Mwerei. The mission at SAKARANI planted 105 *Markamia* (*Mtalawanda*) which enjoy community preference to replace the eucalyptus they cut down.

3. Research on the hydrological impact of eucalyptus trees on crops

This work was implemented as had been planned in the work plan for 2007 and a separate report on this work is available (See Mansoor *et al* 2007). Dr Mansoor's team sampled soils from their

experimental plots (volunteering farmers' fields) across six periods. Analysis of the soils was done at the Selian Agricultural Research Institute soil laboratories in Arusha.



Figure 3. Eucalyptus trees bordering District highway just adjacent to smallholder farms. In this instance a tree had fallen and blocked the Lushoto-Mombo highway for 3 hours. Most of them were planted to stabilize and protect the road from erosion

4. Effectiveness of the niche compatible agro-forestry for district wide adoption

This subject has already been discussed above in (2) under the social dimensions

5. Activities that popularize the AHI project agenda and the Lushoto site

- ***The AHI logo on water sources***

Plan was to install the AHI logo on 30 reclaimed water sources. But the costs of writing good, large fontied eye catching words on each source proved to be 5 times more than what was originally planned. Therefore the site team decided to install the logo on six of the strategically located sources which are visible to the roads and traffic as a strategy of advertising the project in year 2007. Completion of the remaining sources will be done in year 2008 but using small logos. These 6 large logos have so far proved very useful to the popularization of the project in Lushoto. They have attracted the attention of many people including district leaders. The water source presented below is located adjacent to the main district (lushoto-Mombo) highway

where all traffic to and from Lushoto district passes. It is visible to all road users and has been instrumental in advertising the project to the rest of the district. By December 2007 our office (Lushoto Benchmark Site) had received 9 verbal requests from the District Councillors (Lushoto 2, Soni 3, Mlola 3, Bumbuli 1) and 1 written request from the Division Officer in Mlalo Division for similar reclamation of water sources from their areas. In Tanzania, the Division Officer is officially an Assistant to the District Commissioner in the respective Division. Lushoto has 8 divisions.



Figure 4. This reclaimed water source at Kidundai village is alongside the major Lushoto-Mombo highway where all district traffic passes. It has proved invaluable in advertising project agenda in Lushoto

- *Watershed tours and Television coverage*

The site team also conducted Watershed tours for the District partners in August 2007. This tour had 22 participants who came from the district leadership (Council), NGOs, research institutions and other Government departments. Participants were able to meet farmers in the Watershed and had the opportunity of asking them a number of questions regarding INRM problems and how farmers individually and collectively dealt with these challenges. In November 2007, we invited television crew (on ITV network-Tanzania) to cover efforts conducted by the Site team in the NRM interventions. Farmers, Police commander and leaders

from the respective villages were also interviewed and aired. The reaction in the district and beyond it has been very positive.



Figure 5. Television crew from the ITV network in Tanzania covering the water source at Kidundai village. The lady in the picture was also interviewed and aired.

- *Support to the livestock sector*

Another activity which the project supported in year 2007 was to assist farmers of Kwalei village to find improved dairy bulls for their cattle. Farmers had contributed some USD 700 during the end of year 2006 and asked our office for assistance to get good animals which they could use to upgrade their stock. The project managed to acquire 2 bulls and 5 heifers. The two bulls came from Arusha while the rest came from Lushoto district from sources with confirmed superior animals. Reports from Kwalei indicate that, by December 2007 one of the bulls had already mounted 60 cows in the village. This bull began its mating service from August 2007 and has a mated on average 12-20 cows per month. The other bull will be ready to mate in 3-4 months time. None of the heifers has been mounted by December 2007. Names of farmers who received the bulls and heifers are presented in Table 4.

Table 4. Distribution of animals to Kwalei farmers

NAME OF FARMER	TYPE OF ANIMAL
Stephano Paulo	1 bull
Juatino Afizai	1 bull
Mohamed Shekibula	1 Heifer
Haruna Abdala	1 Heifer

William Ernea	1 Heifer
Ibrahimu Saidi	1 Heifer
Daniel Wilson	1 Heifer

- ***Sponsoring excelling farmers to attend national agricultural shows and construct rain water collection structures***

Some 8 exemplary farmers were selected from the six Watershed villages and facilitated to attend the National Agricultural shows at the Morogoro grounds which hosted the zonal event. These farmers attended as part of the Lushoto group. Some of them had excelled in soil conservation technologies, or para-professionals who have measured most fields of fellow farmers for a long time, or leaders who have dedicated much of their time in mobilizing and encouraging others to undertake INRM activities etc. The group also included a farmer who had copied the technologies in Kwalei and implemented them in an exemplary manner. The site team also supported as an incentive two farmers (Mr Elia at Kwehangala and Mr. Nyundo at Mbelei) to construct rain water harvesting tanks after the two had collected all materials on their own. These two farmers are among the best project farmers and have for a long time been among the most energetic of the AHI farmers in the Watershed.

- ***Supporting rural micro-financial institutions in Baga Watershed***

In year 2007 we still maintained contact with the micro-finance institutions formed by farmers in the Baga Watershed. The Oldest of these is the KWALEI – SACCOS Ltd. with Reg. No. 329. This SACCOS started in 2003 with 13 key members through the facilitation of the AHI Lushoto office with a capital of USD 30. Now it has 224 members in 4 Watershed villages. By 31st December its records showed the following statistics;

Table 5. Financial statistics of Kwalei SACCOS by December 2007

ITEM	FINANCIAL SITUATION (TSHS 1140 = 1USD)
Savings	15,000,000/=
Deposits	1,500,000/=
Shares	1, 600,000/=
CRDP (Loan)	21,000,000/=
Repayment	11,000,000/= (paid to bank)
Interest	1,500,000/= (paid to bank)
Loans given	70,000,000/=
Loans refunded	44,000,000/=
Loans Due	26,000,000/=

In year 2006, Farmers from Kwalei encouraged others in Watershed to come together and establish a Village Cooperative Bank (VICOBA). This bank started in 2006 with 30 members. Currently it comprises of 6 institutions which together have 154 members. Farmers have also formed a Network called (UVEMBA) UMOJA WA VIKOBA ENEO LA MTO BAGA. This UVEMBA has now a revolving cash of 16,000,000/= (1 USD= Tshs 1100). The two institutions have had significant impact in the livelihood of farmers because farmers borrow the money and use it for a number of INRM issues apart from direct benefits like school fees, marriage ceremonies, roofing the houses, health etc.

- ***Supporting two MSc students from Sokoine University of Agriculture (SUA)***

These students (Mr David Kaijunga and Mr Abel Masota) were sponsored to conduct their MSC research costs by a grant won by the site team under the ASARECA funding. When ASARECA unilaterally terminated the funding, the two students were not affected because funds for their costs had already been paid and hence this work progressed. At the moment they have finished their field work and are back at SUA, Morogoro writing their theses. Copies of their proposals were earlier sent to Dr Girma Hailu at the AHI headquarters.

- ***Hosting international INRM-by law reform training for the East and Central African region***

In year 2007, the site managed to host an international training course on participatory by-law reforms. Some 40 participants attended the course. Participants came from; Uganda, Rwanda, Ethiopia, Tanzania and the DRC. The event was graced by the District Commissioner for Lushoto whose opening speech is in Appendix 4. The site team organized for course participants to visit the Watershed villages and hear from farmers



Figure 6. The Site coordinator-Lushoto welcoming the Regional Coordinator (Dr Mowo-standing) as the District Commissioner for Lushoto (Ms Mjema-seated) looks on



Figure 7. Dr. Laura German, the course facilitator stressing a point during the workshop



Figure 8. Participants from Rwanda and AHI headquarters enjoying a meal during the workshop before leaving for field visits.



Figure 9. Participants listening to Father Thomas of Sakharani Mission aspects related to Negotiation support work

6. Research in the enforcement of the by-laws across the Watershed and beyond it

In October 2007, the site team conducted a study that dealt with state of by-law enforcement and abuse of ecological resources in the entire Soni Division. The Division comprises of 17 village including 4 villages from our Baga Watershed. There is evidence that the number of cases of abuse and prosecution has been decreasing over the years (Wickama and Mudu 2007). Data from these villages indicates that there has been a 50% decrease in the number of cases/convictions dealing with abuse of ecological resources since year 2004 (Figure 10). This reduction in the prosecuted cases can mean that community awareness in resource degradation and management has improved and therefore the reduction in the offenses or that enforcement of the by-laws has lately been weak such that in recent years only fewer offenders were brought to book. However, we believe that prior to the AHI expansion of its agenda to the Watershed villages in year 2004; cases of resource abuse were more numerous compared to later years of sustained Watershed interventions.



Source: Wickama and Mudu (2007)

Figure 10. A four year trend in prosecuted and convicted cases in resource abuse across 17 villages in Soni, Lushoto

Studies by Meliyo *et al* (2004) while doing characterization of the Baga Watershed, found that water related problems were a number one source of social conflicts in the area. Similarly, data from the Soni Division indicates that the proportion of the violations which relate to abuse of water sources actually account for 60% of the total violations. This picture was also confirmed during meetings with village executive officers in the by-laws reform meetings that took place in year 2007. However, data from the District Police station in Lushoto indicates that 50% of the NRM-based cases handled by that station relates to illegal harvesting of forest products. This contrast implies that the villages have largely been able to handle and finalize most of the

water source disputes on their own without referring them to the Police Department. Only a handful of hard core cases become a Police matter. On the other hand illegal forest products are normally harvested in gazetted forests beyond the jurisdiction of villages and offenders are apprehended along road blocks set up by the Police and the Forestry Department. These are frequently outside the village areas. This somehow explains why records in the villages have fewer cases of illegal forestry products while records from the Police abound in them. The opposite can be said for the cases related to abuse of water sources.



Figure 11. The representative of Police force in Lushoto District presenting a paper on the role of police force in protecting natural resources

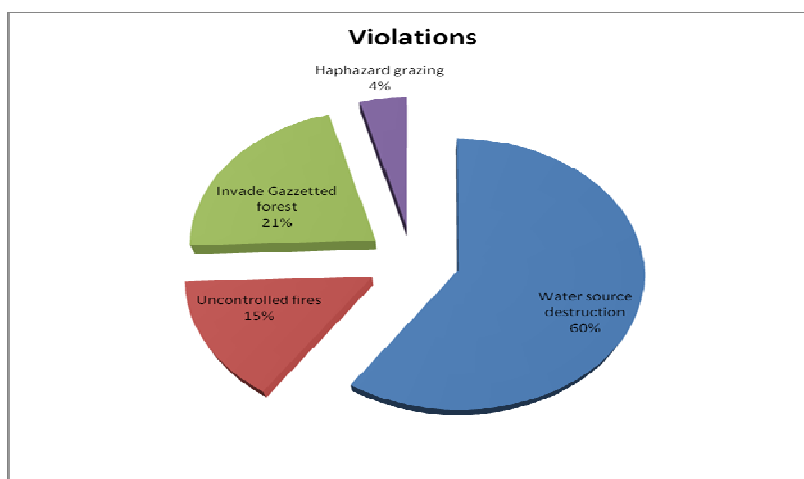


Figure 12. Proportion of the violations on ecological resources handled in selected villages across Lushoto from year 2004-2007

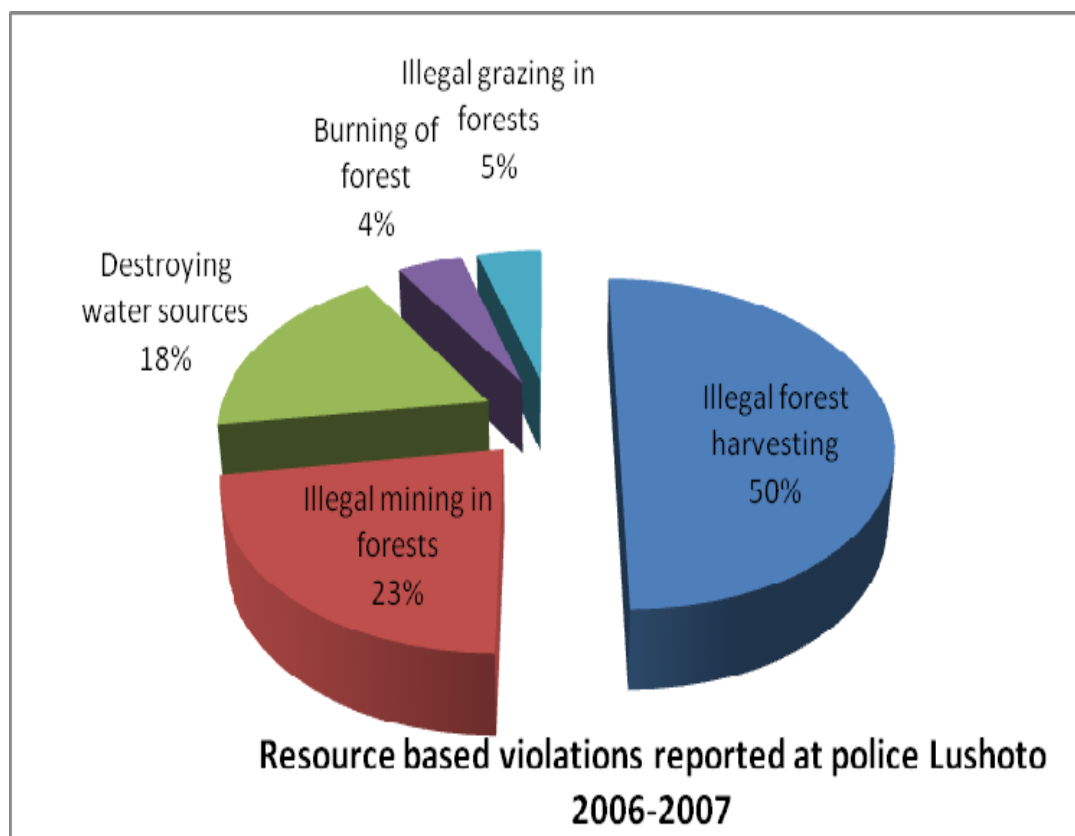


Figure 13. Proportion of the resource abuse cases reported at the Lushoto District police station from year 2006-2007

We can therefore confirm that in the Watershed and the villages surrounding it there has been a 50% reduction in the number of offenses related to breaking of the by-laws from year 2004-2007. The explanation of the decrease over the years is probably that continued community sensitization by the AHI project on the importance of protecting ecological resources has spilled beyond the 6 Watershed villages and complemented similar efforts by the Government in the other villages and hence the general reduction in the abuse.

Specific objective 2. Strengthen the local institutions in Lushoto to apply INRM methods and approaches in new watersheds throughout the District.

In essence, the over-riding objective in the work plan for 2007 was that time had come to shift engagement from the Watershed to the District level. This is scaling up. As an approach and methods program, priority was to scale up the approaches to enable more district partners use them in the areas where they conduct NRM activities. In this specific objective, priority was given to strengthening capacity of the local institutions in Lushoto to use our approaches. Work started with knowing what the institutions themselves are. This specific objective had 7 activities and the Site team managed to achieve for each of the activities as summarized hereunder (Table 6)

Table 6. Summary for the achievements in strengthening the local institutions

Planned Activity from Workplan 2007	Achievements
1. Make an inventory of the different institutions in Lushoto which have a stake natural resource management and establish their current and potential role through joint consultations	This was achieved. Some 19 institutions were identified and invited to attend multiple stakeholder meetings. Their list is in Table 7
2. Conduct seminars and presentations to promote integration and arrange for site visits to the Watershed in Baga for representatives of the collaborating institutions to enable them have a ground feel of the methods and approaches used by the AHI team	2 tours to the Watershed were conducted in year 2007. These tours were conducted in August 2007. One through the Site team itself and another through an international training workshop in which some of the District partners attended. Both tours enabled the Partners hear from farmers on the approaches, challenges and aspirations
3. Carry out district-level workshops with interested individuals to agree on way forward. These workshops supplemented with occasional visits to the communities in Baga and/or other watersheds in Lushoto will be for validating NRM problems at district level	These workshops were conducted as planned. Issues suggested as way forward are attached in the Minutes 1 through 3 of the workshops conducted with District partners
4. Validate the extent of NRM problems at District level using a spatial sampling of villages or micro-catchments across the district to authenticate institutional and agro-ecological diversity among them.	These problems were validated and there is a detailed report on this item
5. Make a joint selection with the institutions the priority pilot sites throughout the district which will be exposed to the approaches and methods utilized by the AHI in Baga to address the identified problems	The workshops managed to select 5 priority Watersheds across Lushoto where some of the AHI methods will be applied through the on-the-ground partners; the Watersheds were namely; <ol style="list-style-type: none"> 1. Boheloi – Bangala watershed 2. Mkuzu watershed 3. Sunga – Mbaramo watershed 4. Lwengera – Baga watershed 5. Uмба river watershed
6. Build capacity of the collaborating	The training was done as planned, in Kiswahili;

institutions in; Application of the Watershed Characterization techniques (Meliyo <i>et al</i> , 2004), Participatory Watershed Planning (Mowo <i>et al</i> , 2006), Site Team planning Techniques (German <i>et al</i> , 2006), Negotiation Support and by-law reform methods in chosen watersheds to use as baseline (German & Charamila, 2006); Principles of participatory monitoring and evaluation (known by Wickama-Lushoto)	<ol style="list-style-type: none"> 1. Watershed Characterization techniques by Dr Hussein Mansoor 2. Participatory Watershed Planning by Mr. Charles Lyamchai 3. Site Team planning Techniques by Ms Traeli Mbagu 4. Participatory by-law reforms by Juma Wickama 5. Principles of participatory monitoring and evaluation by Dr Hussein Mansoor
7. Form a multi-institutional task force at the District level to coordinate the planning of the interventions, organizing and forming intervention teams in response to farmers' priorities.	<p>This task force was formed as expected. Most of her major tasks are expected to be carried out in the Work plan for 2008; Members of the Task force are:</p> <ol style="list-style-type: none"> 1. AHI-Lushoto Site Coordinator 2. TIP representative 3. DALDO 4. Representative from the District Water Department 5. Representative from the District Community Development 6. Rural Resource Centre 7. Representative from the District Forest Department 8. Business Incubator

Selected Description of the Achievements

As a first step towards strengthening the local institutions in the application of INRM approaches, the site team conducted a study to identify what institutions in Lushoto had an INRM agenda and were applying which methods. The next step was to assess which of these were willing to team up with the AHI as a partner through application of effective approaches in resource management. The study came up with 19 institutions which had an INRM agenda and were willing to collaborate with the AHI.

1. Inventory of the institutions dealing with INRM in Lushoto

In principal all non-governmental institutions working for developmental agenda in a District in Tanzania have to be registered with the Community Development Department or the office of the District Commissioner or both. In Lushoto we chose the former as the source of the information on the institutions with an INRM theme. This was complimented with our local knowledge of the institutions on the ground. Once their names were obtained we visited them and collected from them their geographical area of focus in the District. The institutions and their geographical areas of interest in Lushoto are summarised in Table

Table 7. Different institutions and their geographical areas of coverage

Institute	Area/Village of Operation
UBIRI WOMEN GROUP	Chakechake village in LUSHOTO
TAFORI – LUSHOTO	Lushoto, Ubiri, Magamba Forest (Malibwi, Mbalawei Shume, Gologolo nk.)
TIP	Mtae, Mlalo, Soni, Umba na Bumbuli Wards
Water Department Lushoto (MAJI)	All 8 wards in Lushoto
Forestry Department Lushoto	Balaghai forest in all village in Bumbuli, all villages surrounding Ula mountain, and Kivingo, Mnazi, Zimbili, Lunguza, Mtae, Sunga, and Kishangazi villages
USAMBARA COOPERATIVE UNION	The whole of Lushoto district
FRIENDS OF USAMBARA	Mtae, Soni, all villages in Baga, Irente, Shashui, Mazumbai villages
DALDO	The whole of Lushoto district
TATEDO	Kwekitui, Kinko villages
CHAMAVITA	Shume, Malindi, Kwai, Rangwi, Milemeleni, and Bumbul wards.
Livestock Department Lushoto	The whole of Lushoto district
MAENDELEO YA JAMII	The whole of Lushoto district
Rural Resource Centre (RRC)	The whole of Lushoto district
Business Incubation Centre (WATAMIZI)	Lushoto town, Lukozi, Shume, Sunga
MABUGHAI FDC	All 8 ward of Lushoto
LISHE TRUST	Mponde, Magila, Shashui, Migambo, Gare, Boheloi, Ubiri, Kizara, Chakechake, Milemileni, Mhelo, Lukozi, Malindi, Maringo and Bangala villages

From the list it was clear that some partners had a larger outreach in the district than others. Partners could be categorised as follows;

- (i) Those operating in the entire District;
 - RRC,
 - DALDO,
 - MAENDELEO YA JAMII (Community Development),
 - Livestock Dev,
 - Usambara Cooperative Union,
 - Water Development
 - Mabughai FDC
 - Forestry Department,

The majority in this category were institutions belonging to the Government except for RRC which is an NGO based in Lushoto

- (ii) Those operating in 10-15 villages or 5-10 wards;

Lishe Trust,
Business Incubators,
CHAMAVITA,
Friends of Usambara,
TIP

The majority in this group are NGOs their non coverage of the entire district is most likely related to resource availability

- (iii) Those operating in Less than 10 villages;
Ubiri women,
TAFORI,
TATEDO

This group comprises of the two NGOs/CBOs and a research institute in forestry. The later though a government institution, its outreach is very limited. It was obvious to the site team that the Partners that belonged to either category 1 or 2 had more potential for scaling up the AHI approaches in the District.

2. INRM approaches used by the District partners

From the above list, some 13 were able to present their approaches and methods that they use in working with their target farmers. Details about such approaches are documented in the minutes of the 1st workshop (see Appendix 1). Many partners failed to indicate clearly what has been the impact of their interventions in their target areas. Also, some partners could not single out activities versus approaches. The AHI approaches were presented by Mr Charles Lyamchai from SARI in Arusha. His presentation focused on 4 phases of action (Diagnosis, Planning interventions, Implementing the interventions and Evaluations) in the Watershed and the achievements they brought to AHI and farmers to date, namely;

1. A number of degraded (32) water sources have been reclaimed from abuse and conserved. This has reduced water fetching time from 7 hours to ¼ an hour and incidences of water borne diseases.
2. Some 74,000 m of different soil and water conservation structures have been constructed.
3. Rural micro-financial capacity (through Kwalei SACCOS and VICOBA) has grown to cover the six villages of Baga Watershed, has 244 members, and its current credit worth is 70,000,000/= Tsh.
4. More farmers (80% of tomato farmers) are using the improve seeds like the Tengeru and Tanya varieties which are high yielding, can withstand long transportation hustles and have longer shelf life.
5. Para-professional farmers are training their fellow farmers within and outside the district.
6. Farmers' livelihood has improved – some have bought bicycles, land, motorcycles, vehicles, built improved houses with bricks and iron-roofed, and are able to pay school fees for their children.
7. Vegetable farmers across the Baga Watershed now have stronger market linkages to Dar-es-Salaam big markets through contacts generated by the project
8. Incidences of abusing natural resources are declining as compared in the past years

9. Farmers have established nurseries for water-friendly indigenous trees (Mbelei there 2, Kwadoe 2, Kwekitui 1) and have planted the trees in water sources
Details and questions asked on how the AHI worked are also presented in Appendix 1.

Approaches used by other Partners in Lushoto

1. TIP (Traditional Irrigation and Environmental Development Organization): Their prime aim of working with farmers is to help them improve production, living standards and general development. Different methods and approaches were employed as listed below:

- **Stage 1:** They work with farmers, *who are ready to work with them* to improve production.
- They create awareness, through meetings, seminars and workshops and the willing farmers are facilitated to form working groups.
- Once they get request from farmers, they *visit the sites and conduct an in depth analysis* of the situation.
- They then *plan together and agree on what is to be done and what the farmers will contribute*.
- They enter and *sign an MoU with the requesting farmers*
- **Stage 2. - Embark on Soil and Water Conservation:** They Train para-professionals or village technicians and awareness creation on soil and water conservation and establishment of tree nurseries
- Conduct Survey of the area and actual implementation of conservation and nursery management in irrigated areas. Farmers contribute 25% of the cost of the construction in terms of cash, materials and labour
- The “Tail to mouth approach” is used meaning that they use stepwise approach starting with farm conservation and then the intake of the irrigation cannal. Also study/look at market problems from the field marketing aspects.

All this is done in collaboration with different institutions like –Community development, AHI, Forestry department, DALDO, National seed programme, Schools, NGOs, Water Department, Zonal Irrigation Unit (ZIU) and Agricultural researchers

2. TAFORI. TAFORI is a Tanzania Forestry Research Institute dealing with planting, agronomy and management of trees. Problem identification is done with farmers, researchers and extension staff. Approaches used are

- Demonstrations, Farmer Field Schools
- Training community on Agroforestry, different trees uses and establishment to different stakeholders, FRGs, schools
- Conduct Research and experiments on different uses of different trees, diseases and control measures
- Conduct research in natural forest

Research results are reported to different institutions, farmers, scientific fora, policy & decision makers, and various development partners.

3. BUSINESS INCUBATOR (WATAMIZI). Business Incubators is an NGO that trains small enterprenures starting from busines planning until they are able to run it themselves. They train farmers on agribusiness, postharvesting proccessing, market searching and connect them with similar groups and institutions within and outside the country. They also train and encourage them to form SACCOS in order to increase their finacial capital. Different methods employed were presented as follows

- They start with identification of existing farmer groups
- Conduct need assessment
- Train on business plans, business management, processing and packaging vegetables and fruits, assist in different shows e.g agricultural shows

4. CHAMAVITA (Chama cha Maendeleo Vijijini Tanga). CHAMAVITA started in 1994 and works with the rural farming communities to increase production, increase income and sanitation and conserve the environment. Methods employed include;

- Receive requests from the villages on different problems.
- Help in proposal writing and selling them to different funders
- Conduct discussion and negotiations with communities to get their commitments and contributions
- Construction of sanitary toilets collectively with farmers where CHAMAVITA provides cement only
- They contribute in building watering points.

5. MABUGHAI FDC (Chuo cha Maendeleo ya Wananchi). The aim of the institute is to train adults so as to be self dependent. Although there is a significant similarity with Vocational Education (VETA), but we differ in the sense that we do not give examinations but offer certificates. Students are mainly from Lushoto. Those from outside Lushoto have to get a special letter from their respective councils. FDC offers training in carpentry, masonry, cookery, computer business, English and Swahili languages for upto two years. It also gives training to different farmer groups. On environmental issues, the institute has 20 acres planted with different tree species eg fruit trees, shade, firewood, timber and for selling eg wattle trees.

6. DALDO. The DALDO's office receives farmers' problems and requests via extension staff. The DALDO's office then tries to look for solutions and/or development partners who can come up with viable solutions. Farmers know the services provided by various development partners through Extension staff who normally know the existence of such services therefore they inform and advice farmers to use them and also how to write business plans. These services are only available to individual farmers who are willing and ready to work. Furthermore, such services are announced in the full council meetings and councilors are asked to inform their farmers.

7. TATEDO (Tanzania Technology Development Organization). This is an NGO that deals with effective ways of conserving energy through designing and promotion of energy-saving stoves so as to reduce use of firewood and felling of trees for the same. A village that needs their service requests in writing. This is followed by a participatory indepth analysis of the situation. If the request is found viable, TATEDO starts with training farmers on tree nursery establishment, different energy saving stoves and how to use solar and hydro power effectively.

8. COMMUNITY DEVELOPMENT. Community Development department deals with a variety of issues such as fighting against women circumcision, gender research, child abuse, sensitize on developemnt issues, fight against men inheriting women etc. Department staff visit and live with the communities, learn from them, hear their views and help them in planning their activities, how to establish and run SACCOS and connect the communities with the existing service providers in the district.

9. LISHE TRUST. Lishe Trust deals with providing guidance to farmers on production of different varieties of vegetable which are eventually sold to hotels, vegetable kiosks and markets mainly in Dar-es-Salaam. Methods used are

- Interested farmers join at a fee.
- They conduct seminars and training to member farmers so as to improve production as per the market demand ie agribusiness – production ethics, harvesting, value addition (grading, processing), packaging, transportation, labelling etc
- look for markets, marketing and market informations and disseminate them to farmers and other stakeholders
- Conduct farmer exchange visits to see and hear what are their Market study tours – they take farmers to different places within the country and to the neighboring countries

The problem they are facing is lack of legal expert to assist with legal aspects especially when entering into a contract with customers.

10. FRIENDS OF USAMBARA (FOU). FOU works with the communities on environmental conservation issues such as tree planting and Soil and Water Conservation in colaboration with the district council, tree seed argents, researchers and extension staff. FOU also conducts training to tour guides, farmers and small entrepreneurs. They work in partnership with other development partners in the district. Farmers benefit from the Tourism activities of FOU because every tourist pays 2000/= Tsh when they visit in the rural areas. FOU has a special account where these monies are put. The funds are used to contribute to various community activities such as tree planting, buying cement, iron sheets for schools etc.

11. Farmer from Wena village. Mr Mussa Shekibula represented farmers from Wena village. He explained that Wena, under the quidance of SECAP, was involved in the environmental conservation activities since 1997. In that time there were very few trees and massive soil erroson. SECAP sensitized formation of farmer working groups and facilitated training of paraproffesionals on soil and water conservation. SECAP also supplied hoes, spades and tree seeds to the groups. Strict by-laws were enacted and others reinforced in order to have the entire village conserved. Offenders were strictly fined. The fines were used as incentives to the group – such as buying lunch for those participating in SWC work. Farmers are still continuing with the SWC activities up to this moment even after the exit of SECAP. The only problem we are facing now is the low fines given to offenders. The local and district authorities should look into ways to increase the punishments.

12. Rural Resource Center (RRC). RRC is an NGO that deals with rural development through proposal writing to different funders. Activities supported are such as tree nurseries, water harvesting, value adding and marketing issues. RRC works in partnership with other institutions such as the district council, forestry department, extension and research staff.

13. Village Executive Officers (VEO). VEO are assistisng the District Commissioners in sensitizing communities on policy, development and environmental issues and make sure that by-laws and order are followed and maintained respectively. Methods and approaches used are public meetings, council meetings and different committees of councillors. The presenter urged every institute in the district to

involve VEOs in their activities for effective implementation. VEOs recommended for stricter penalties to offenders of environmental activities.

3. Areas that need policy and by-law support

After the presentation on AHI strategies, achievements and problems and learning what each partner was doing and how they were doing it, nearly 85% of the partners agreed that there are certain areas of intervention where technology alone can not deliver suitable results or outcomes. Partners were of the opinion that some of the areas required the involvement of more than one institution. The majority of the partners identified three areas NRM which required policy support and collective action across departments/institutions if an effective corrective intervention is to succeed. The three areas and the strategies which are recommended to tackle them are presented in Table 8.

Table 8. Selected Natural Resource problems that require collective action and policy support

Natural Resource Problem	Proposed Strategy for control
Soil and water Conservation.	<ul style="list-style-type: none"> - Legal action should be taken against those cultivating on sloppy hills. - False/messegas issued by politicians on technical matters. - Hold a directive seminar (semina elekezi) for technocrats, local government leaders, police, magistrate, politicians and district leader to scrutinize by-laws and see make them more workable. - By-laws to should be translated into easy-to-understand language and made available to stakeholders - Magistrates and Policy should be attending village meetings and WDC
Conservation of water sources.	All water sources to be surveyed conserved and get Title deeds. All non-water-friendly tress should be removed.
Forest conservation	<ul style="list-style-type: none"> - Tree planting should be emphasized for each household for different uses. - Illegal tree-cutters should be pernalized heavily. - Those seeking for tree-cutting licences should be contracted to plat trees first before getting the licence,

4. Watershed tours for partners

These tours were conducted to complement what was discussed during the presentations. The idea was to allow partners have own assessment of the ground situation in the Baga Watershed and see for themselves the achievements and problems. All 19 instutions and individuals took part in the tour. Partners were taken to representation of each major technology like soil conservation, water sources reclamation, negotiation support work, SACCOS and the abuse of water resources at Kwalei then



Figure 14. Participants listening to a farmer (Mr Msangula of Mbelei) during one of the Watershed tour

When the tours were finalized, participants had the chance of indicating those areas of the AHI approaches which they find interesting to their institution and what were they willing to contribute if they wanted to learn it from the AHI. These are presented in Table 9.

Table 9. Institutions willing to collaborate in INRM matters in Lushoto District

Institution	Preferred Area of Learning/Collaboration With AHI	Possible Contribution by Partner
1. Mabugai FDC	Participatory research, Demonstrations and Training of farmers	Manpower, Land and water sources
2. Community Development Dept.	Environmental conservation	Training farmers in group dynamics and Management
3. TAFORI	- Participatory Monitoring & Evaluation, Tree based technologies	Expertise and Personnel
4. Usambara Cooperative Union	- Soil and Water Conservation, Environmental conservation, Multi-institutional collaboration, PM&E	- Mobilizing people
5. Usambara Lishe Trust	- Improve community production, Capacity building in e.g quality control	- Improved seed, Land for implementation
6. Friends of Usambara Society	- Improved service delivery, study tours	- Stationeries
7. Livestock Department	- Management of natural resources	- Expertise
8. District Councillor (Diwani)	- Paddy production, Irrigation-Hambalawei	- Labour, and cost, sharing (Council will be requested)

9. Ubiri Women Group	- Training in marketing, Processing, Exchange visits	- Ideas, Cooperation
10. CHAMAVITA	- Water source protection and sanitation, Tree planting, SACCOS, Marketing and soliciting markets	- Expertise on water source construction, rain water harvesting, water tanks
11. TIP	- Participatory research, Environmental conservation, Improved production, Market techniques	- Mobilize farmers
12. Natural Resources Department	- Protection of water sources, SWC, Tree based research	- Technicians
13. Water supply Department- Maji	- Water source protection, Environmental conservation	- Technicians
14. Business Incubators (WATAMIZI)	- Technology, Soliciting funds + donors, Planning, Communication, Development information	- Communication, Business planning
15. Ward Executive Officer	- Environmental conservation, Water source protection	- Mobilization and supervision of labour
16. Farmer	- Environmental conservation, Water source protection	- Materials for water sources,, Labour
17. RRC	- Information and data sharing, Planning, PM &E	- Manpower, information and data, Expertise
18. TATEDO	- Dissemination of alternative energy source (solar +cookers)	- Dissemination of knowledge
19. Division Officer (Afisa tarafa)	- Reinforce by-laws, Conservation agriculture, Collaboration in implementation	- Experience, Ideas, Alternative opinions

When it came to the possible testing of the approaches in other watersheds in Lushoto, the partners proposed 5 Watersheds where some of the partners could start testing the approaches seen in Baga. These are as indicated in Table 10.

Table 10. Watersheds selected for the scaling up of the AHI approaches in year 2008

WATERSHED	DISTRICT PARTNERS IN THE AREA
Boheloi – Bangala watershed	Forestry Department, CHAMAVITA, TIP, DALDO, MAJI, RRC, COMMUNITY DEVELOPMENT, LIVESTOCK DEVELOPMENT, USAMBARA COOP
Mkuzu watershed	MABUGHAI, WATAMIZI, CHAMAVITA, TIP, DALDO, MAJI, RRC, COMMUNITY DEVELOPMENT, LIVESTOCK DEVELOPMENT, USAMBARA COOP
Sunga – Mbaramo watershed	FORESTRY DEPARTMENT, TIP, DALDO, MAJI, RRC, COMMUNITY DEVELOPMENT, LIVESTOCK DEVELOPMENT, USAMBARA COOP
Lwengera – Baga watershed	CHAMAVITA, TIP, DALDO, MAJI, RRC, COMMUNITY DEVELOPMENT, LIVESTOCK DEVELOPMENT, USAMBARA COOP
Umba river watershed	DALDO, MAJI, TIP, RRC, COMMUNITY DEVELOPMENT, LIVESTOCK DEVELOPMENT, USAMBARA COOP,

The selection was based on the following criterion; that there should be at least two institutions working in that Watershed and the second was that the Watersheds must cut across the District.

5. Formation of a Task Force

A Task force was formed to look into how the deliberations from the workshops could be put into concrete way forward. The members of the Task force are:

1. AHI-Lushoto Site Coordinator
2. TIP representative
3. DALDO
4. Representative from the District Water Department
5. Representative from the District Community Development
6. RRC
7. Representative from the District Forest Department
8. Business Incubator

This task force met once (September 2007) in Lushoto and proposed that though partners had visited the Baga Watershed, that was not enough to met them know the AHI approaches satisfactorily. Hence priority should also be given to capacity building of those partners operating in the selected Watersheds so that they learn through a formal setting how to initiate the Approaches of AHI. This culminated into a training workshop which was conducted in October 23, 2007 for seven of the most promising partners

1. Chamavita
2. RRC
3. Watamizi-Incubator
4. Water supply
5. DALDO
6. Livestock
7. TIP

The following courses were given to trainees

Table 11. Courses offered to Lushoto District partners from AHI team

Course	Trainer
1. Watershed Characterization techniques	Dr Hussein Mansoor
2. Participatory Watershed Planning	Mr. Charles Lyamchai
3. Site Team planning Techniques	Ms Traeli Mbaga
4. Participatory by-law reforms	Juma Wickama
5. Principles of participatory monitoring and evaluation	Dr Hussein Mansoor
6. Importance of social capital for INRM	Dr. K. Masuki

6. Way forward

1. That the training should be a continuous programme whenever need arose
2. A comprehensive assessment of the selected Watersheds is done to study suitability of certain approaches
3. Farmers from the Baga Watershed are used to train fellow farmers in the selected Watershed in selected technologies
4. There should be regular meetings to assess progress

Specific objective 3. Develop strategies, policies and practices to support by-law reforms and enforcement

In order to achieve this objective, some 11 activities were proposed in the workplan for 2007. Implementation of this objective began in April 2007 through a workshop which was opened by the District Executive Director (DED) of Lushoto. Areas stressed by the DED in terms of INRM issues in Lushoto and the by-laws are presented in Appendix 2. There has been significant achievement of the intended activities as summarized below:

Table 12. Summary of the achievements for specific objective # 3

Activity	Achievement
1. Make a comprehensive inventory of the strategies applied by the AHI team in Baga Watershed to identify areas which require policy support and which have potential for district wide scaling up	The AHI strategies were presented by Mr. Lyamchai during a workshop to the district partners. Three areas which need policy support were suggested by partners in the plenary and during individual encounters. These are presented in Table 13 and were identified as; <ol style="list-style-type: none">1. Soil Conservation2. Conservation of water resources3. Forest Conservation
2. Prepare checklist and questionnaire for Watershed diagnostic work	This checklist was developed and passed onto District Partners by Dr. Hussein Mansoor during a training workshop conducted in October 2007 in which the District partners were exposed to AHI approaches to Watershed Diagnostic work
3. Conduct meetings with different institutions in Lushoto which have a stake either in the development, implementation, enforcement, review and reform of policies and by-laws at the district level to establish their current and potential role as collaborating institutions through joint consultations	Three workshops and one training seminar were organized for 19 District institutions which have a stake in INRM and by-law reforms.
4. Convene a meeting with the District institutions identified above to; share experiences in the areas of NRM, policy, by-laws enforcement; methods used and the approaches employed to work with communities; introduce participatory by-law discussions to identify those by-laws which require reforms.	This workshop was convened as planned and the general by-laws which are difficult to enforce which need reform were identified. However, It was revealed that nearly all villages in the district do not have formal and legally binding by-laws as required. The office of the district lawyer (formally a custodian of copies) did not have copies of endorsed village by-laws from by the Council. It was agreed that we must have to start afresh with documentation and training across the district on this agenda.
5. Establish conditions for collaboration, resource and budgetary commitment, roles and the responsibilities of each	The conditions and the areas of collaboration with partners as discussed are summarized in Table 9.

collaborator.	
6. Facilitate cross site visits to expose the members from the collaborating institutions and District political leaders (more frequent for political leaders) to the Baga watershed for physical assessment of the AHI products, methods and NRM issues in which discussions on policy and by-law reforms will be conducted.	The site team organized and conducted one Watershed tour for the District partners on its own. It also managed to incorporate some of the District partners into the second Watershed tour which was an international by-law training event. During these tour farmers were able to interact with the district partners and exchanged freely their views and experiences in the implementation across numerous bottlenecks
7. Develop a joint protocol and form a task force with the collaborating institutions and political leaders in the District to follow up on the implementation of policy and by-law reforms	<p>This task force was formed and it composed of</p> <ul style="list-style-type: none"> • AHI-site coordinator • District lawyer • Lushoto Police OCS • District Magistrate • District Natural Resources officer • Division Officer from Mlalo • Chairman of the District Council <p>This task force will compile all district by-laws, coordinate the trainings in by-laws formulation across the villages in year 2008</p>
8. Conduct a study on the current framework of policy or by-law development or reform at the District level and assess to what extent is the framework inclusive of the grass root needs.	This study was conducted and a paper was presented in the workshop by one of the district partners (Division Officer – Danstun Mudu). The study established that the process of formulating or reforming the by-laws was inclusive of grass root needs as it started in the hamlets, then village then District council. However, it is the enforcement that was indicated as being weak.
9. Validate watersheds’ problems at District level through a simple checklist of questions to be asked to the communities in the identified Watersheds.	This was conducted as planned and a separate report on the topic was summarized by Dr Hussein Mansoor.
10. Discuss the responsibilities of each partner in selected Watersheds in handling both the technical and by-law reform work	The Watersheds were selected. The technical roles of most partners in these Watersheds are already covered in the minutes of the workshop. Partners formulated a plan of action for the correction of the technical deficiency of the by-laws and initiate a proper process (see Table 13)
11. Prepare and present project findings to the Annual Full Council Meeting in Lushoto	This meeting was not conducted. Partners proposed that a larger meeting encompassing all district executives (village, ward, division), counselors, parliamentarians and the District Commissioner be organized to communicate the short comings identified during the workshops conducted with a small grouping. This larger meeting will be conducted in year 2008

Selected description of the achievements

1. How by-laws are formulated and how inclusive is the process

In Tanzania, all registered villages have a similar structure of village government and hence its functions. Villages are under the executive command of three officers. The Village Executive Officer (VEO), Ward Executive Officer (WEO)-several VEOs report to him and the Divisional Officers- s/he commands several WEOs. All three work under the Parliamentary laws and they are assisting the District Commissioner (DC) in implementation of the government regulations. At the village level, these regulations are known as the By-laws. For either formulation or reform, the process of having a by-law recognized and become legally binding is the same. Through district partners we have been able to establish the following chain of events in the by-law formulation:

The process starts at the hamlets (several hamlets make one village in Tanzania). Through popular demand and household views;

1. The hamlet secretary calls for a hamlet meeting of all households to discuss some of the reported difficulties/ in implementing their duties.
2. The hamlet meetings make proposals of what the proper ruling on some issues should be. This will include the penalties for the offending parties.
3. These by-law proposals are then submitted to the Village Council for discussion and consideration. Several hamlets will have discussed the same thing and aired their proposal
4. The Village Council normally tables the proposals to the Village General Meeting (VGM). The VGM is attended by all villagers.
5. The by-law proposal(s) is/are presented and discussed in the VGM and the agreed draft is forwarded to the district lawyer's office at the District Council.



Figure 15. Resource person (Mr. Danstun Mudu-Division Officer for Mlalo Division) delivering a paper on how by-laws are formulated and enforced

6. The lawyer's office is responsible to ensure that the proposals in the draft from the village do not conflict the national constitutional rights as well as district laws on the same matter. For example the village by-law can not recommend a penalty that exceeds what is enshrined in the district law.
 7. Upon satisfaction that the proposed draft has met these conditions, the Lawyer's office will forward the proposed by-law to the Assembly of District Councillors for endorsement and approval
 8. Once the approval has been given, the by-law is then returned to the respective village where the VEO is required to post it in all village notice boards for not less than 30 days before it becomes legally binding
 9. The VEO is supposed to ensure there is copies of the respective village by-law at the District Police Headquarters, the District Magistrate office and the nearest Primary Court office to facilitate the respective officers have reference of where to peg their enforcement or issue penalty. Some examples of by laws formulated by district council include; Zero grazing, Restriction on uncontrolled fire setting, Conservation of environment and water sources
- All district partners agreed during the workshop that the process of formulating by-laws is actually inclusive. The major problem was in the actual implementation of the by-laws.

2. Why are by-laws not enforced?

Despite the above well streamlined and inclusive procedure, it has been the consensus of the district partners in the workshops, meetings and during individual data collection encounters that something has not been right somewhere. Otherwise how could we have witnessed continued abuse of the resources? These are some of the bottlenecks;

- The major problem with by-laws is low understanding/knowledge on by-laws among the laws enforcers and the public at large. It was noticed during the workshops that in many of the villages, the actual prints of the by-laws supposedly endorsed by the District Council were not available. This meant that even the Village Executive Officers were mostly vague as to the correct content and context of the by-laws. In fact when the District lawyer showed how an endorsed By-law was supposed to look like during the 3rd workshop with District partners (Figure 16), it was realized that no village had a single by-law in the format presented below. This fact cast a lot of doubt on the legality of the by-laws currently in most of the villages. During the 3rd workshop for District partners and Ward executives it was realized that a huge gap existed between what is required of a fitting legally binding by-law against what was being processed in the villages.

Perhaps the effect of this gap can only be traced in the statement given by the representative for District magistrate for Lushoto (Hon. Hassan Makube) during one of the workshops. He reported that for the period 2004-2007 the District court in Lushoto had 26 cases which related to NRM. By October 2007 some 16 cases has already been finalized and the offenders were penalized. However he added that, THERE WERE NO CASES IN COURT IN THE PRIMARY COURTS WHERE ACTUALLY THESE OFFENSES TOOK PLACE. Here the reason is open, the village and Ward executives chose to prosecute using the DISTRICT laws and not the village by-laws because, these were mostly unavailable even in their own villages!

SHERIA YA SERIKALI ZA MITAA (MAMLAKA ZA WILAYA) 1982 (NA 7 YA 1982)	
SHERIA NDOGO	
Imetungwa chini ya kifungu 163	
SHERIA NDOGO YA HALMASHAURI YA KIJIKI CHA..... (UTUNZAJI WA VYANZO VYA MAJI)	
JINA:	1. Sheria hii itaitwa Sheria ndogo ya Halmashauri ya Kijiji cha..... (utunzaji wa vyanzo vya maji) Na. 1 ya 2006.
TAFSIRI 2:	Katika Sheria hii: - "Halmashauri" maana yake ni Halmashauri ya Kijiji cha..... "Afisa Mwiidhiwa" maana yake ni Mhandisi wa Maji, Mtendaji wa Kata, Afisa Mtendaji wa Kijiji, Mhudumu wa Mashine ya Maji au mtu yeyote aliyeruhusiwa na Mamlaka husika. "Mamlaka inayohusika" maana yake ni Halmashauri ya Kijiji cha..... au Kamati ya Maendeleo ya Serikali ya Kijiji. "Mkazi" maana yake ni mtu yeyote ambaye kwa kawaida anaishi katika eneo lililoko chini ya Halmashauri ya Kijiji cha..... "Serikali ya Kijiji" maana yake Halmashauri ya Kijiji iliyochaguliwa kufuatana na Kifungu 57 cha Sheria ya Serikali ya Mtaa (Mamlaka za Wilaya) ya Mwaka 1982. "Kitongoji" maana yake ni Kitongoji cha Serikali ya Kijiji. "Vyanzo vya Maji" maana yake ni pamoja na mabwawa, visima virefu (Borehole) visima vifupi (shallow well) chemchem (spring), mito, visima ndoo na visima vya asili, vijito. "Kamati ya Maji" maana yake ni wajumbe waliochaguliwa katika mkutano wa hadhara kusimamia maji.
Eneo la Matumizi:	3. Sheria hii itatumika katika eneo lote la Halmashauri ya Kijiji cha.....
Wajibu wa Halmashauri:	4. Halmashauri ya Kijiji itapaswa kutekeleza yafuatayo: - a) Kuvitambua na kuviweka mipaka vyanzo vyote vya maji katika Kijiji (umbali kutoka kingo ya mto, korongo au mkondo wa maji ni mita 15. Mita 45 kutoka kwenye chanzo cha Maji).
	b) Kuvilinda na kuvitunza vyanzo vyote vya maji na miradi ya maji iliyopo na ile itakayojengwa. c) Kumiliki kisheria vyanzo vya maji. d) Kuhakikisha kuwa Kamati ya maji ya Kijiji inafanya kazi. e) Kuhakikisha wanapanda mimea au mazao ambayo hayafyonzi maji bali yanahifadhi maji karibu na vyanzo vya maji (ushauri kutoka kwa Maafisa Kilimo na Miti). f) Kudhibiti usafi wa mazingira katika vyanzo vya maji na sehemu zilizowekwa vituo vya maji wakishirikiana na Kamati ya Afya ya Kijiji. g) Kuhakikisha kwamba kuna ulinzi wa hali ya juu wa vyanzo vya maji kijijini (Mlinzi wa Chanzo). h) Kuhakikisha inaorodha ya vyanzo vya maji kwa majina ikionyesha mahali chanzo kilipo na hali ya mazingira ya chanzo hicho. Chanzo kionekane katika ramani ya Kijiji. i) Agenda ya vyanzo vya Maji iwe ya kudumu katika vikao.
Walenzi Kwenye Kamati ya Maji.	5. Serikali ya Kijiji inawajibika na kuweka walenzi katika vyanzo vyote vya maji na walenzi hao wataripot/wajibika kwenye Kamati ya Maji. Wajibu wao mkubwa ni kuhakikisha vyanzo vya maji vinalindwa ipasavyo.
Serikali ya Kijiji Juhudi za Kamati ya Mazingira na Maji.	6. Serikali ya Kijiji inapaswa kuunganisha juhudi za kamati ya Maji na ile Kamati ya Mazingira katika kuelekeza hili na kuhifadhi mazingira kwa jumla.
Eneo la Hifadhi	7. Ni marufuku kufanya shughuli yeyote katika eneo la hifadhi la chanzo cha maji ambapo kimeairishwa. Eneo la mita 45 kutoka chanzo cha Maji kilipo. Mita 15 kila upande kingo za mto, korongo au mkondo wa maji.
Makosa	8. Katika sheria hii itakuwa ni makosa: - a) Kukata/Kufukua kwenye njia za kusambaza maji. b) Kukata. Kuharibu. Kufungua bomba bila kuwa na idhini ya maandishi ya Afisa Mwiidhiwashwa.
	c) Kuchunga mifugo, kuchezea koki za maji, uchafuzi kama kutupa takataka, kujisaidia, kufua, kuosha vyombo katika eneo la kituo cha maji au tanki katika umbali wa mita 15. d) Kuchunga mifugo, kunywesha mifugo, kuchoma miti, kujenga kwenye eneo au mikondo inayoingiza maji. e) Kukata miti katika vyanzo vya maji au mikondo ya maji.
Wajibu wa Mkazi	9. Ni wajibu wa kila Mkazi kuhakikisha kwamba anashiriki kikamilifu katika kutunza na kuhifadhi vyanzo vya maji kwa faida ya kizazi hiki na kizazi kijacho ili kuepuka ukame
Adhabu	10. Mtu yeyote atakayekiuka Kanuni, taratibu na Sheria za utunzaji wa vyanzo vya maji atachukuliwa hatua za kisheria na akibainika kuwa ametenda kosa atatakiwa kulipa faini isiyozidi Tshs 60,000/=.
Mhuri wa Halmashauri ya Kijiji cha:..... ulibandikwa katika Sheria hii ndogo kufuatana na azimio lililopitishwa tarehe:..... 2006 na Muhuri ulibandikwa na kushuhudiwa na	
MWENYEKITI WA SERIKALI YA KIJIKI CHA.....	
AFISA MTENDAJI WA SERIKALI YA KIJIKI CHA.....	
Imekubaliwa na Halmashauri ya Wilaya ya Lushoto	
MWENYEKLITI WA HALMASHAURI YA WILAYA YA LUSHOTO	
MKURUGENZI MTENDAJI (W) HALMASHAURI YA WILAYA LUSHOTO	

Figure 16. Prototype of how a by-law from a village should look like by the time it is at the District Councils office of the lawyer

- It was also noticed that even when a village has its by-laws worked according to the above format, copies of the by-laws have not yet been presented to the police and judiciary system for application/use. For this reason both the police and the judiciary normally find themselves with people accused of resource abuse from the villages but the villages have not provided them with copies of their by-laws hence limiting the magistrates on what they can do. In some acute situations some of the accused have had to be penalized using the district laws. These may at times be harsher than what the village by-law would have metted.
- Limited knowledge about the enforcement and penal code procedures. It was noticed that in many cases most Village-Ward-Division executives do not have in depth knowledge of how the accused are prosecuted or penalized. Very few know what penalties may call for an appeal if not given to the offenders. Because of this limited knowledge, the executives tend to join the general public in complaining that their culprits have been let free even when it is not true (see box below on a case from Kwalei village)

Case study 1. The story of the two notorious farmers from Kwalei: In June 2006, the VEO from Kwalei village (Mr. Kibiriti) noticed that two farmers had damaged a water source and were turning it into a banana garden. He warned them that they were breaking a by-law which protected water sources. The two insulted him and continued to make their garden. Feeling insulted he took the matter to court in Lushoto. The two farmers eventually were given a suspended jail sentence of 6 months each for their offense. However, when they returned to Kwalei, they continued demolishing the nearby fish pond to expand their garden. They further threatened Mr Kibiriti with physical harm if he dared touch them. Mr Kibiriti was very bitter that the two had been let free. So when the AHI team conducted a workshop on the by-law reform and enforcement, we invited him to present his case. Fortunately, the district magistrate who had sentenced the two was among the participants. He informed fellow participants that the two farmers were actually prisoners and that the suspended sentence was only given to them on condition that the two would not commit any offense within the probation period of six months. When we organized a Watershed tour for the participants, this magistrate and the police chief attended. While in Kwalei, they asked for the proof that the two farmers had broken conditions for their suspended sentence. When this was produced, the two farmers were swiftly re-arrested and taken to the District prison for a sentence of 1.5 years each. When news broke out, all farmers and law enforcers sighed that now water sources will be respected. It was established that what the VEO from Kwalei (Mr Kibiriti) did not know was content and context of the penalty given to the farmers initially. The magistrate said, if every offender was given a jail sentence, the prisons will not be enough. This sentence is therefore used as a last resort as a deterrent.

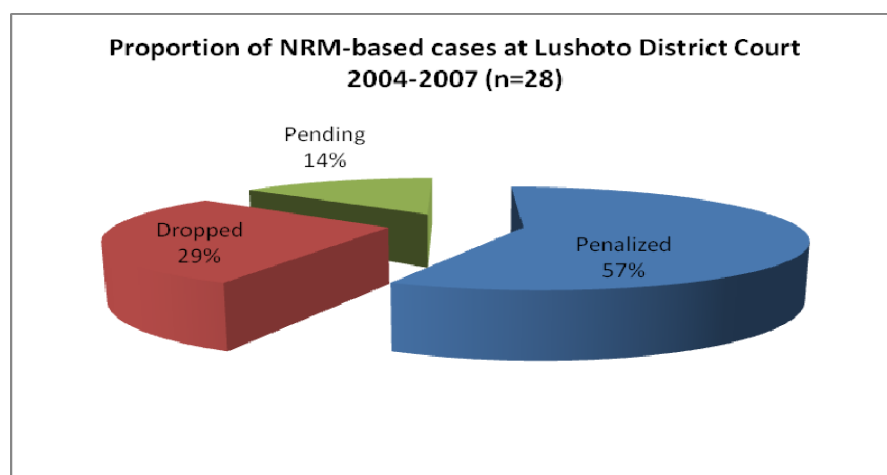


Figure17. The VEO from Kwalei village, Mr. Kibiriti presenting his case to the workshop participants. The workshop was on by-law enforcement

- Despite that many by-laws were reported to have good content and context for NRM protection,

most of the district partners complained that frequently, the Village Executive Officers and the Ward Executive Officers were shying from implementing them effectively out of fearing community blames and not really caring about the damage done to ecological resources. In the workshop it was reported that when a village executive has been posted to a home village there is always that problem because s/he is surrounded by one's relatives

- Government Departments are not collaborating to enforce and ensure smooth implementation of the by-laws eg the both the Agricultural and Natural Resources related departments are working independently without involving the judiciary and police departments in ensuring proper functioning of the by-laws.
- The offices of the district lawyer, the police and the judiciary lack the proper facilities for documenting information related to by-law formulation, enforcement and processing. Because of this scenario, the District Council of Lushoto does not have well documented concise well processed village by-laws that are centrally documented and available at anytime from any of the three offices mentioned. Neither of the three offices has any computer with which to store the important information related to formulation, enforcement, nor the copies of the by-laws from the villages. For this reason, data collected from these offices is both scanty and scattered.
- During the workshops, it was realized that the majority of the VEOs, WEOs and Dos do not have the required skills of processing the village by-laws in content and form that would make them legal. Instead they were using what easily passed as notices. These are not only unacceptable but they can easily be challenged in any court because they are not legal documents. The setting of the villages is such that apart from the usual community understandings, people can at times resorts to legal means especially when they feel not treated with justice. It is at this point that a by-law must have the legality of settling a matter under dispute.
- Village leaders have had the tendency and bias of seeing the other departments like the judiciary with suspicion of corruption when cases of violators are taken to courts for prosecution. On the other hand the courts have been complaining that once the offenders are apprehended, it is normally a problem to get witnesses with credible evidence to enable swift finishing of the cases. See the Figure below



Source: Makube-Lushoto District Court (2007)

Figure 18. Status of clearance of NRM-based cases at the Lushoto District Court from 2004-2007

- Some of punitive measures in the current by-laws are outdated and too low to deter violators from future offenses.

Case study 2. The importance of collaboration. Mr. Danstun Mudu, Division officer from Mlalo is a charming and gifted orator. There is no doubt that he has considerable influence among fellow Officers and beyond. When in 1999, the AHI began its operations in the pilot village of Kwalei, Mr. Mudu was then the Division Secretary of Soni. So he was the host official. Throughout this period he remained a staunch supporter of the AHI agenda in his division. In year 2007 Mr Mudu was transferred to another Division called Mlalo. When we were organizing for District wide workshops we learned of his transfer. But somehow he too learned that we were organizing a seminar of some kind. He came straight to our office with two agenda, one was his request that he has observed a dire need of AHI technologies in Mlalo and he wanted us consider working there. The other was his request about attending the coming seminar if indeed the issues were of importance to his new place. He actually volunteered not to be paid any allowance as he could stay with relatives.



Figure 19. Some of the fragile water resources which depends on by-laws for protection

It turned out that Mr. Mudu proved invaluable in shedding light to the other Division officers what the AHI was all about. He prepared and presented two papers on by-law formulation and enforcement. The funniest moment of his participation was when he noticed that the Police and Magistrates were also invited, because he made it known that he was immensely happy to be given the opportunity to “lock horns” with them because they were letting people who abused ecological resources free in the streets despite the arrests by division and ward officers. When the case of the notorious farmers from Kwalei was Tabled and concluded and when the district lawyer presented the prototype of the by-law, participants could sense the change in the mood for Mr Mudu. He had suddenly realized that they were acting blindly based on experience. He was the first to press for a district wide training of the executives in the processing of proper by-laws, updating them, as well as a fitting training in the judicial and penal matters. He admitted that he had always maintained a good distance between himself and the police stations or the courts! Eventually, Mr. Mudu appealed for close collaboration in supervising implementation of by-laws. Instead of locking horns, he asked all government officials to cooperate with the judicial institutions like the courts and police.

3. Way forward

1. Since there is a general lack of understanding on the content, context, formulation and general enforcement procedures by the whole spectrum of village to Division leaders, there is dire need of addressing this gap because it impedes other important steps along the way. The AHI in collaboration with all capable collaborators should arrange for capacity building forums to eradicate this problem in the district.
2. That there is need of complying all the relevant by-laws which protect the ecological resources like water sources in Lushoto and distribute them to other enforcement agencies. AHI site office must coordinate this effort in collaboration with the Police, District magistrate offices, Department of Natural Resources, and others to plan and make agreements on how this can be accomplished.
3. That there is need of convening a district wide seminar/workshop to enlighten all district and village leaders the deficiencies observed in terms of by-laws enforcement, formulation, documentation and lack of collaboration among departments in addressing this issue. This workshop must be attended by all village leaders, police, magistrates, councilors, members of parliament in the district and the District Commissioner.
4. There is need of forming an inter-departmental task force which will be monitoring by-laws enforcement at district level. This task force needs to regularly report to the district council or district commissioner on the progress made and frequently recommends a proper action to be taken.
5. That documentation of by-law processing, enforcement and common trends is weak. There is need therefore of facilitating the frontline departments (Police, Judiciary, Lawyers Office and Natural Resources) to be able to document and store data and documents that can facilitate fast and accurate retrieval of such information for strategic planning in the district
6. That there is need for all projects which operate in Lushoto and have consequence on natural resource base to address the issues related to environmental protection
7. That currently policies aiming at land conservation must develop specific by-laws that require specific land-use measures for certain areas and this must come from the District council.
8. That the village executives must exhaust all participatory means of getting people comply with by-laws before seeking police assistance.

4. What needs to be done - Plan of action

The District Partners have set out this time table for themselves as part of the redressing needed to correct some of the issues noted to have gone wrong with district by-laws. The plan is presented in Table 13

Table 13. Schedule and responsible persons for by-law follow-ups in Lushoto District.

ACTION	TIME	RESPONSIBLE PERSON
Collection of by-laws currently in use in the villages and submit them to AHI coordinator in Lushoto	23.11-07.12.2007	WEO/DO/AHI
To collect by laws from the village level	23.11.21-21.12.07	WEO/DO
Editing the by-laws	22.12.07 – 15.02.2008	V/COUNCIL/WEO/DO/ATTORNEY/AHI
To design new by-laws and editing the existing ones	16.02-15.04.2008	V/COUNCIL/V/GOVERNMENT/WEO/DEO/ ATTORNEY/ AHI/
Submission of bylaw proposals to WDC	16.04 -30.04.2008	VEO'S/WEO'S/WDC
Submission of proposed by-laws to the district council	1.05=15.05.08	WEO'S

Action taken by district council	16.05.08	DED/COUNCIL MEMBERS//ATTORNEY
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CONCLUSIONS AND RECOMMENDATIONS

Implementation of the workplan for year 2007 leads us to conclude the following:

1. That the interventions done by the site team in the Watershed of Baga have had considerable impact on the communities. For example through the reclaimed water sources; time spent for fetching water has been reduced by 50-70% while diseases related to unclean water have also gone down by 70%. However the site team is of the opinion that the pace of the communities adopting especially soil conservation technologies like terraces is low. Farmers have also adopted on a much more faster rate technologies related to tomatoes and Micro-credit schemes
Recommendation: *That the project continue engaging these communities in newer areas which can have quick impact*
2. That money given to farmers of Kwekitui village through another project called PADEP has had a major effect on them installing soil conservation terraces compared to other villages in the Watershed
Recommendation: *That the AHI study the effectiveness of giving incentives to farmers as an approach because the practice is slowly engulfing the Watershed villages (PADEP and ASDP)*
3. That there has been considerable community-led progress in initiatives related to negotiation support with minimum involvement of the AHI across the Watershed
Recommendation: *This should be sustained and promoted. However more work needs to be done in the Herculu tea estate area and around the Gazetted forests*
4. That there is a negative correlation between unregulated presence of eucalyptus trees and productivity of adjacent crop fields
Recommendation: *A platform is provided for Dr Mansoor to present his findings to the Full Council in Lushoto*
5. That despite the overall reduction in the number of cases related to abuse of ecological resources over the years, most farmers in the Watershed of Baga seem dissatisfied with the effectiveness of the way the by-laws which protect the same resources are enforced
Recommendation: *A platform is provided for presentation of these results to the Full Council in Lushoto*
6. That the majority of district partners in Lushoto consider the process of by-law formulation to be inclusive of the grassroot interests and that content and context of most by-laws seems to okay. However most of the Partners are also dissatisfied with the effectiveness of their enforcement
Recommendation: **See # 5**
7. That installation of the AHI logo on the reclaimed water sources and other activities aimed at advertizing the project has a positive effect in popularizing the AHI project in Lushoto
Recommendation: *These activities should be broad based not the logo alone*
8. Most District partners commend the approaches used by AHI in Kwalei and Baga Watershed, however they are concerned that there is very little adoption in Kwalei village given the time spent there by the AHI project.
Recommendation: *Hold a strategic workshop on this with the Partners to see what can be done to speed up the process*

9. That there is poor understanding of the by-laws among the laws enforcers and the public at large. Very few villages have by-laws done according to a format recognizable by legal authorities. Also copies of these by-laws have not yet been multiplied and distributed to the police and the judiciary for application/use.

Recommendation: *Adopt the points suggested in the specific way forward*

10. The level of collaboration among Governmental Departments and other key players in enforcing and ensuring smooth implementation of the by-laws is low and fragmented

Recommendation: *Promote the establishment of an inter-departmental platform under the District Commissioner to address this deficiency*

11. The offices of the district lawyer, the police and the judiciary do not have the proper facilities for documenting information related to by-law formulation, enforcement and processing.

Recommendation: *Support the three offices acquire equipment that will enable them document and store data related to by-law and policy work in the district more effectively*

Appendix 1. MINUTES OF THE 1st WORKSHOP ON: EXPERIENCE SHARING IN INRM APPROACHES FOR LUSHOTO DISTRICT Held at TAFORI- Lushoto on 18-19 April 2007

1. Opening the Workshop

The Site Coordinator thanked and welcomed all participants to the 2-day workshop. In his introductory speech, the African Highland Initiative (AHI) Site Coordinator explained that the invited stakeholders and many other are aiming at improving farmers' livelihoods and landscapes. The major problem is that most of stakeholders are working in isolation thus increasing the chances for duplication of efforts. Therefore, the objectives and outputs of this workshop were as follows:

- Promote collaboration integration among different Institutions in Lushoto
- Expose participants to different INRM approaches used in Lushoto
- Advocate for a common strategy in scaling up of effective and proven INRM approaches
- Learn from each institution the extent of existing INRM problems which exist where they operate
- Agree on the way forward for INRM issues in the district

2. Statement on the expected outputs from the Workshop

1. List of institutions willing to collaborate in INRM matters in the district drawn
2. Mechanism for collaboration and integration in INRM among different institutions in the district formulated.
3. Participants adequately exposed to different INRM approaches used in Lushoto for INRM works
4. Extent of selected INRM problems in Lushoto established
5. An agreement on the need to have a common strategy for scaling up of effective and proven INRM approaches
6. Task force formed to follow up on agreed upon matters

3. Overview of the Workshop and historical background

The site coordinator then invited Dr. Hussein Mansoor to give an overview and historical background of what AHI is and its relationship with other institutions in Lesotho. Dr. Manor explained that AHI is an ecorigional programme that seeks to improve and enhance land productivity in a sustainable way within the intensive land-use systems of the highlands in eastern and central Africa by working with farmers to evolve policy and technologies that increase agricultural productivity while maintaining the quality of the natural resource base at the same time. It operates in highlands of Tanzania, Kenya, Uganda, Ethiopia and Madagascar which are overly cultivated, have high population density, and high rainfall. Since late 1998, AHI in collaboration with several institutions in the Directorate of Research and Training (DRT) in Tanzania have spearheaded efforts of combating human induced degradation of natural resources and low system productivity in Lushoto district. Participatory methods, strategic partnerships and integrated systems approaches were introduced and tested in Kwalei village. The targeted stakeholders were farmers, the local government, research partners, extension services and NGOs in the

area. Dr Mansoor then invited the Acting District Executive Director (DED) for Lushoto Mr. Lucius Mwenda to officially open the workshop.

4. Salient points from DED's opening speech:

- The Council recognizes AHI and commends it for the different efforts it is putting to improve farmers' livelihood and landscape.
- Changing peoples' mindset is a difficult thing so researchers should not despair. He gave an example of religious leaders who keep on preaching endlessly and tirelessly; so should the agricultural experts
- Participants to use this opportunity well so as to increase productivity reduce poverty in the rural areas and conserve the environment.

5. DIFFERENT APPROACHES AND METHODS USED IN THE DISTRICT BY DIFFERENT STAKEHOLDERS

Many institutions presented their different Approaches and Methods they have been using in working with their target farmers. Approaches and methods presented are as follows

A. AHI Approaches and Methods

AHI approach had four phases ie Diagnostic, Planning, Implementation and Evaluation phases all of which were participatory whereby different stakeholders, especially farmers, were involved. Summerized different methods used in each phase and their impact on farmers' livelihoods and landscapes are as follows:

a) Diagnostic Phase

Methods used are:

- i) Watershed characterization
- ii) Soil fertility status and indigenous shrubs for soil fertility amendment
- iii) Tree-water interaction

The outputs of the above methods are as follows:

- i) Hot spots were identified and characterized
- ii) the burden on women, children and other marginalized groups, as a result of degraded NR, was identified and documented, iii) tree that affect crops were identified, differing parties (especially on tree effects on crops) were able to sit together and discuss on solutions, and iv) cross cutting issues were understood.

B) Planning phase

Methods used are:

- i) village participatory action plan
- ii) Watershed participatory action plan
- iii) Reclamation and conservation of water sources

Results of utilizing these methods and approaches are: i) farmers form working groups and environmental committees willingly so as to work together, ii) Kwalei farmers formed a SACCOS which in 2006 it was awarded the best SACCOS in Lushoto, iii) farmers are willingly contributing labour, sand and stones for reclaiming water sources 32 water springs have been reclaimed and conserved, and iv) by-laws on NRM have been reinforced.

C) Implementation Phase; methods and approaches used are as follows;

- i) Demonstration of different improved technologies using demonstration plots, on-farm experimentations etc
- ii) Training communities on collective action, group dynamics, and formation and establishment of SACCOS
- iii) Training communities on agri-business
- iv) Paraprofessional training on soil and water conservation
- v) Training communities on Participatory Monitoring and Evaluations (PM&E)
- vi) Involvement of other stakeholders in the whole process of disseminating INRM to farmers
- vii) Sensitization and training farmers on soil and water conservation
- viii) Use of the District Commissioner (DC) during field days to sensitize communities on improved INRM
- ix) Conduct research on issues that do not have scientific solutions yet eg trees-crops interaction, literature search on water-friendly trees etc:

D) Evaluation phase

Impact on farmers' livelihoods and their landscape are:

- 32 water sources have been reclaimed and conserved. This has resulted in more water flows thus drastically reducing fetching time from 7 hours to ¼ an hour.
- 74,000 m of different soil and water conservation structures have been constructed.
- The Kwalei SACCOS has grown to cover the six villages of Baga Watershed, has 187 members, and its current credit worth is 70,000,000/= Tsh.
- 80% of tomato farmers are using the improved Tengeru and Tanya tomato varieties which are high yielding, can withstand long transportation hustles and have longer shelf life.
- Paraprofessionals are training their fellow farmers within and outside the district.
- Farmers' livelihood has improved – some have bought bicycles, land, motorcycles, vehicles, built improved houses with bricks and iron roofed, and are able to pay school fees for their children.
- Vegetable farmers are now producing according to the market demand (type of crop, grading, time of delivering, packaging etc)
- By-laws have been reinforced and offenders are being prosecuted.
- Nurseries for water-friendly indigenous trees have been established. In Mbelei there 2, Kwadoe 2, Kwekitui 1.

E) Problems encountered

Problems faced during the implementation of the AHI activities and recommendations to overcome them were presented as follows:

- Low adoption rate especially on soil and water conservation. It was recommended that by-laws should be reinforced and stricter punishments be in place
- Unreliable markets and low prices of produce. It was recommended that the district should facilitate and promote post harvest processing (value addition).
- Poor facilitation of researchers and extension staff.
- Lack of development yearn of farmers.

After the AHI presentation, several questions were posed and answers given as follows:

Q1: There is a tendency of all-farmers producing the same crop eg tomato at the same time thus getting very low prices, Secondly middlemen do buy from farmers at very low prices. The effects of your trainings will further increase production; how can we save farmers from this trap?

Answer 1: Farmers were trained to produce as per the market demand ie the fact that they have telephone contacts with traders in Dar and Arusha, they should be informed on when certain commodities are at their highest prices and plan to produce them according to the market demand. Secondly they were trained to diversify their production also as per the market demand. Thirdly, due to the fact that it is difficult for farmers to change from their common crop e.g tomatoes, there was a suggestion the the Lushoto district council should support farmers in establishing small-scale value adding units like the Ubiri Women Group etc. Fourthly farmers should unite together and form some marketing associations so as to have common and strong voice on prices for their produce.

Q2: Why was the trainer on SACCOS came from Arusha and not from Lushoto?

Answer 2: At that time AHI was not aware of people from Lushoto who could do the training.

Q3: What was the contribution by the community in rain roof-water harvesting?

Answer 3: There were two categories of farmers – poor and well-to-do farmers. Poor farmers, who were mostly old people, contributed 30% of the total cost which was equivalent to sand, gravel, stones and labour. The well-to-do farmers contributed 70%.

Q4: In your presentation you indicated that farmers are producing the small-size cabbage only;- aren't there people who prefer large-size cabbage?

Answer 4: Farmers are now growing the small size cabbage due to the market demand. The market demands small-sized cabbage and that is what farmers are producing. When the market demand changes to large size then farmers will definitely produce them.

Q5: Regarding marital conflicts due to increased production; is there enough data to substantiate the claim?

Answer 5: This has been reported in several reports in Kwalei; but due to its sensitivity, a more detailed survey is required to confirm the claim.

Q6: How do you associate the the success of SACCOS with your activities?

Answer 6: The AHI initiated the idea, trained farmers and even contributed the initial 30,000/= Tsh. AHI also facilitated in connecting them to the district cooperative department.

Q7: What criteria were used to get farmers to participate and contribute to the rain-roof water harvesting?

Answer 7: The villagers themselves selected the pilot subvillage and also the few farmers to build the model. It is during the same meeting that the contributions from each of the selected household were determined. The contributions were set to be 70% from relatively wealthy farmers and 20% from the very poor farmers. The project was to meet the rest of the cost.

Note: Approaches of other Partners transferred to main body of the report

F) Closing

The AHI site coordinator (SC) briefed DALDO on the aim and successes of the two days seminar. That the seminar was called and involved different partners working in Lushoto District to share experiences and methods used in the management of NR to increase productivity and conserve the environment at the same time. Site informed the DALDO that AHI is in the process of scaling up its effective methods and approaches so far developed and validated to work. For such a task to cover the whole District, collective action is required and that is why different stakeholders were invited to this seminar. DALDO thanked the AHI and other programmes in the district for their contributions to develop the district. He emphasised on them to work together to explore the synergetic effect in helping farmers to produce more, increase their income, reduce poverty and conserve the environment. The only way we can achieve this is through such workshops, which helps in knowing who is doing what, where, when and how we can combine our effort and work together for a common purpose.

Appendix 2. Minutes of the Second workshop on experience sharing in INRM Held at TAFORI on 25- 27 July 2007

1. Opening of the Workshop

The workshop started by AHI site coordinator inviting participants and introducing them to key invited guests. This was followed by self introductions of all participants. After the self introductions the northern zone Research Coordinator officially opened the workshop by stressing that this workshop is a followup of the first workshop that was held on April. Among the important points that he addressed include

- Importance of experience sharing in addressing INRM problems, especially in formulation and enforcement of by-laws
- Resolutions which will be reached on formulation and enforcement of by-laws will greatly contribute to success in INRM and improvement of livelihoods of the communities.

2. Objectives of the workshop

Objectives of the second workshop were highlighted by the AHI site coordinator, while summary of minutes of first workshop were brought to light by Lyamchai. Some of the salient points he mentioned included:-

- Problems that were listed and scored by representatives of institutions during the first workshop
- List of strategies for effective INRM that were proposed and went through the successes observed. He however pointed out that these successes are confined to few members of the community. This is the main reason that leads to the idea of involving all key stakeholders in formulating strategies that will ensure these successes reach a wider community.
- Strategies that need policy support

3. Presentations from Partners

a. Presentation by Division Executive Officer (Mr. Danstun Mudu)

He presented a paper on by-law formulation framework. Highlights included;

- They work under the Parliamentary laws and they are assisting the District Commissioner (DC) in implementation.
- By-laws are proposed by different village committees after seeing/experiencing some difficulties/ in implementing some of their duties.
 - The by-law proposals are then submitted to the Village Council for discussion and consideration.
 - If the Village Council finds that the proposal is worthwhile it forwards the proposal to the Village General Meeting (VGM). The VGM is attended by all villagers.

- The by-law proposal(s) is/are presented and discussed in the VGM and if found worthwhile the proposal(s) is/are forwarded to the district for consideration and endorsement
- At the district level the District Council discusses, rectifies and endorses by-law(s). It is at this level where the proposed by-laws are scrutinized by the district lawyer to make sure that the proposed by-laws are not contrary to the overall national laws. For instance the district has endorsed by-laws like; against free grazing whose punishment is 5,000/= or one year imprisonment.

Some examples of by laws formulated by district council include

- Zero grazing
- Restriction on uncontrolled fire setting
- Conservation of environment and water sources

Problems in enforcing by-laws

- The major problem with by-laws is low understanding/knowledge on by-laws among the laws enforcers and the public at large
- Some of the by-laws have not yet been presented to the police and judiciary system for application/use
- Different departments are not working in collaboration so as to enforce and ensure smooth implementation of the by-laws eg the agricultural related departments are working independently with judiciary and police departments while by-laws would have been a binding factor among them.
- The current district lawyer is away for further studies thus by-law passing process has been dragging /delayed.
- Some of by-law punitive measures are outdated – they are too low thus causing violators to find it easy to pay and continue with destruction

b. Presentation by Kwalei Village Executive Officer (Mr. Kibiriti)

Mr. Kibiriti presented two true cases on how resource violators are troubling them, which according to him was due to 'lack of cooperation from both police and judiciary.

Case 1: A village encroached a village water source, caught, prosecuted and sentenced to a conditional judgment whereby although he was free but was not supposed to commit any criminal offence within 6 months. Upon return the violator went ahead with encroaching the same water source. Due to low knowledge on laws, the village government went back to report to police but they were not successful in apprehending the violator.

Case 2: A group of illegal lumbers invaded a forest reserve, cut down several trees and split them into lumbers. The local militia (kikundi cha ulinzi cha kijiji) group tried to apprehend the violators in vain as the violators were armed with pangas, arrows and clubs. Two of the local militia were wounded (one was arrowed on the arm while the other was clubbed on the waist. They have tried to trace the fugitives but they lacked cooperation from the police.

The two presentations were followed by discussions, questions and answers as follows;

On responding to the two cases above, both the judicial and police representatives clarified the steps to be taken for Case 1, that it was just a matter the local government officials to report back to the magistrate that the person who is on conditional sentence has continued to commit the offence so that that he could be sentenced again. He would be apprehended and sent to jail straight and while there he will have another case to answer of encroaching a protected area. Mr Kibiriti was asked to check if the offender is still within the 6 months conditional sentence, and report him back to court – he will be arrested immediately. Regarding Case 2, the police representative promised to investigate on it and take the necessary steps.

General Questions and answers

Question 1: Do politicians have any role in NRM?

Answer 1: Yes; both in a positive and negative way. On the positive side is that they can create awareness to the communities on the need and tools/technologies to use to increase production and protect the environment. On the negative side, some politicians have been heard saying “do not ask my voters to build SWC structures because they will hate me and the government”. Such statements are very detrimental to the whole issue of increasing productivity and environmental protection.

However, a councilor who was participating in the seminar commented that such negative statements from politicians are no longer there because they were given several seminars and reading materials on the effects of some of their statements.

Question 2: How does Afisa Mtendaji Kata (Ward Executive) help the communities to know the existing by-laws and laws? Have you ever worked with NGOs that are advocating good governance etc?

Answer 2: We do that through public meetings, workshops and seminars. Unfortunately we have not yet seen the NGOs mentioned.

Question 3: Is there any forum whereby the police or judiciary departments train and/or create awareness on the existing by-laws and laws?

Answer 3: In the side of police they do not have such a forum due to: i) lack of enough staff. Currently the ratio of police to civilian is 1:5,000 while the UN charter /recommendation is 1:400 so we are loaded.

On the judiciary side, they do not have such forum because they assume that every civilian knows/is aware of the existing by-laws and laws. He however encouraged every participant to freely consult magistrate staff in case of unclear laws/by-laws. Another way of being aware of the laws and by-laws is to be attending court sessions frequently.

The presence of Police and Magistrate representatives in the seminar enriched that discussion so much that it was recommended by participants that they (Police and Magistrate) should institutionalize such attendance as they have been missing such meetings eg Ward Development Council and Full District Council where they are members.

Question 4: It has been said that in some occasions the police or magistrate dismiss cases due to lack of the by-laws concerned in their hands. Who is supposed to distribute these by-laws after they have been passed?

Answer 4: The District council is the overall custodian of all by-laws and laws. Once the district passes a by-law it has to announce it in the village where it is intended for via media, posters, public meeting etc. The announcement has to contain a date when the by-law will start to act. WDCs are supposed to distribute them to the stakeholders especially to police and magistrate.

c. Presentation by Police Commander (Afande Maganga)

The police representative presented the role of the police force as

- i) To ensure safety and security to the civilians and their properties.
- ii) To conduct investigation
- iii) To enforce laws and order in the society

The police force works in accordance of the laws and by-laws so as to be impartial. If a police does not have a by-law or law against which a suspect can be charged with, the suspect has to be released. So it is upon the local governments to make sure that all the by-laws pertaining to their village are with the police and magistrate. The police representative advised all local government leaders to **BAMBUA** fairly as it normally causes a lot of big troubles. He cited a case where a farmer was **BAMBUA'd** a cow for failing to pay a penalt of 5,000/= Tsh

d. Presentation by Magistrate (Magabe)

The role of the judiciary is to translate laws and act accordingly. The magistrate can not have all the laws and by-laws. It is therefore the role of the PP to get the right laws against which an offence has been committed. The magistrate then reads the laws/by-law carefully and the corresponding punishment and act accordingly. The two presentations were followed by discussions, questions and answers as follows:

Question 1: Can AHI facilitate the police to train civilians on by-laws so as to aid in awareness creation?

Answer 1: It is more of the district's role to make sure that her citizen, who are their tax payers, are well educated on laws, by-laws, agriculture, environment etc. Therefore it is the district to initiate this through showing its monetary commitment before any other funder contributes.

ACTION. Participants formed a second TASK FORCE whose role is go through the relevant by-laws, see who is supposed to enforce them, translate them into easy-to-understand language and come up with some proposal for training, awareness creation, and enforcing mechanism. The TASK FORCE members are AHI site coordinator (leader), Magistrate (Hassan Makube), Police (Maganga), Division Officer1 (Mudu), Division Officer2 (Mama Hazari), Dept. of Natural Resources (Mr. Titu), Councillor (Mama Mchome) and DALDO (Mr. Shelukindo)

Day 2

The second day was devoted to field trip to the Baga watershed where participants were able to visit some of the villages and saw INRM activities that are going on. The first village to be visited was Mbelei. Participants visited Mr. Msangula farm where they saw soil conservation measures (bench terraces), Use of improved crop varieties (Banana, Coffee, vegetables and Fruit trees) , use of organic fertilizers (FYM, crop residues). The farmer gave explanations on how and when he started the activities and how AHI and other institutions assisted him to improve conservation and production in his farm. The farmer admitted that his income has greatly improved and he is now afford to send his kids to school. However, he complained that still many of his neighbors have yet to conserve their farms such that at times runoff from neighbouring farms cause havoc in his farm. He requested that by-laws be reinforced to ensure that all farmers conserve their farms. This farm was example of a small scale farmer.

Participants then visited the farm of a retired Lt. General Gahu in the same village. This farmer had also conserved his farm but with Fanya Juu, and used improved crop varieties. The crops in the farm were less diversified as they were in Mr. Msangula's farm. Banana dominated the farm and there separate woodlot plus few trees that were planted along the fanya juu. It was pointed out that the farmer received advice from AHI as he volunteered to be a demo farmer.

These farm visits were followed by a visit to a conserved water source at Mbelei secondary school. The secondary school teacher and neighboring farmers appreciated the efforts by AHI, they indicated that the time used to fetch water has been greatly reduced and that at present they are getting uncontaminated water. They pointed that, these efforts by AHI were the key incentive that made it easy for community to accept to conserve the land that is upstream. Complaints were given by Ward Executive Officer that their efforts to conserve water sources are hampered by lack of support by law enforcers.

Participants then visited a conserved water source in Kwekibaa sub-village in Kwekitui village. Similar to comments given by Mbelei teacher the village chairman appreciated the efforts by AHI and acknowledged that it has reduced the time spent to fetch water and acted as a catalyst in move to conserve water sources. Same complaints about law enforcers was given by the village chairman and gave the example of one culprit in Kwalei village whom according to them was left free after destroying water source.

Participants then visited Kwense sub-village in Kwalei village, at this place innovative farmer Mr. Nyundo who adopted technologies that were introduced by AHI. At this stop the farmer showed them on how

he processes eucalyptus products to make raw materials for vicks. The farmer pointed that he can make one bottle of the oil per day the amount which was thought to be very low by participants. Participants advised the farmer to contact Mabugai vocational college for technical support and possibly marketing opportunities. The last stop for the visit was Kwalei village, farmers in the village organized presentations at the village office. Farmers presented progresses made for the Kwalei SACCOS, VICOBA and soil conservation works.

Day 3

A field visit report was presented after which participants discussed on the issues that arose. It was generally agreed that all the methods and approaches used to work with farmers were good except that not much has been achieved for the 8 years we have been there especially in Kwalei. Participants expected to see more soil conservation structures than what they saw.

The following were recommendations that resulted from the field visit:

- to write a proposal for training more paraprofessionals bearing in mind that the future outlook is strengthen by-laws which will result in many farmers to start conserving.
- Similar to police and magistrate, politicians (parliamentarians, councilors and DC) should also be invited to such meetings
- A one-day seminar should be held with all councilors, parliamentarians and DC to discuss all what the seminar covered. Most of the institutes present in this seminar should attend to strengthen the “technocrat team”.

Seminar Deliberations/resolutions

1. That there is a general lack of awareness on the legal aspects of the by-laws on the village leadership which must be addressed.
2. That there is need of complying all the relevant laws which protect the ecological resources like water sources and distribute them. AHI site coordinator was asked to discuss with Police and the District magistrate offices to plan and make agreements on how this can be accomplished.
3. That there is need of convening a district wide seminar/workshop to cover reinforcement of by-laws this workshop must be attended by all village leaders, police, magistrates, councilors, members of parliament in the district and district commissioner. The TASK FORCE selected to follow on by-law issues was asked to meet sometime between 16th and 30th of August to develop a proposal and try to solicit fund for this activity. AHI site coordinator was asked to convene a meeting of these task force members
4. There is need of forming a task force which will be monitoring by-laws enforcement at district level which needs to regularly report to the council or district commissioner.
5. That there is need for all projects which operate in Lushoto and have consequence on by law enforcement address the issue related to environment.
6. That policies aiming at making land conservation by-laws should be addressed to the district council.
7. To identify who is responsible in enforcing the by-laws before seeking police assistance.
8. The part of the conservation by-law should be amended to specify the type of conservation
9. Task Force on INRM selected during the first workshop will finalize selection of effective approaches to develop a universal strategy to be used by all partners, select institutes to

collaborate with and select pilot watersheds after identifying which institutions operates in the 5 watershed which were suggested.

Closing of the seminar

The seminar was closed by Mama Mchome – a Lushoto councilor

Some of the pertinent points from the closing speech were:

- Participation of the police and magistrate was very fruitful and should be emulated by all partners which are organizing seminars.
- Integration of the class work with field work was fruitful
- It is her expectations that the collaboration forged in the past 3 days will last long.

Appendix 3. MINUTES FOR THE THIRD WORKSHOP ON EXPERIENCE SHARING IN INRM APPROACHES FOR LUSHOTO DISTRICT Held at TAFORI- Lushoto on 21st to 22nd November 2007

The purpose of the workshop was given by the AHI site coordinator Mr. J.Wickama. The site coordinator started by explaining that this is the third workshop on experience sharing. He put participants in the picture of what transpired during the first two workshops. He informed participants that this workshop has the same purpose as the first workshop but the first one consisted of participants from government institutions, non-governmental organizations (NGOs), farmer representatives and division executive officers from Baga Watershed. He explained that the outcome of the first workshop was the formation of strategies for communicating between institutions so as to improve the management of our natural resources. The first workshop also was an opportunity for recognition of the importance of involving departments that deal with law enforcement. Hence the second workshop was held on these grounds.

The second workshop consisted of all stakeholders who attended the first workshop and in addition the judiciary and police departments were involved. In the course of the workshop it was realized that there was little understanding of the process of by-law formation, implementation and how to make a follow up in the judiciary and police departments. Therefore the third workshop was organized to try filling the gap that was identified. The coordinator narrated the different stakeholders that have been invited in this workshop as given below:

1. Division Officers (7)
2. Ward executive officers (21)
3. Government Departments (4)
4. Magistrates (4)
5. Police commander (1)
6. District lawyer (1)
7. Representatives from:
 -  Council (1)
 -  District Commissioner's office (1)
 -  District council chairperson (1)
 -  Researchers (7)

In addition the coordinator welcomed AHI staff from the regional office in Kampala who happened to be around during this workshop. He concluded by saying that with this varied audience in attendance, the intended output should be realized.

The site coordinator then invited the guest of honour to officiate the opening of the workshop. The workshop was officially opened by the District Marketing Officer on behalf of the Lushoto District Commissioner. In her opening address she thanked organizers for inviting her to officiate the opening of the workshop. The guest of honour was pleased that there were participants from different areas of Lushoto District (Ward Executive Officers, representatives of councilors). She informed participants that after the two initial workshops, she expects the third one to have better and sustainable outcomes. Another point she made was that the District is giving its blessings to the

workshop as it is targeting to promote better use of by-laws which are stimulants of development in Lushoto District. By-laws are not properly implemented and follow-up is poor.

The DC also pointed out that there is a problem of non-standard measurements of agricultural products ("*Rumbesa*") where the farmer is not getting his/her worth of produce and the Council is being robbed of its income. Probably there is need to start a marketing center where control will be implemented. She said that there is need for integrated efforts to solve this problem (District council, Police force, judiciary and the farmers). After this the workshop was officially opened.

Presentations

1. The first presentation was given by Dr. J.Mowo who gave an overview of coverage and AHI activities in east and central Africa. Dr. Mowo explained that AHI is an eco-regional programme under ICRAF that seeks to improve and enhance land productivity in a sustainable way within the intensive land-use systems of the highlands in eastern and central Africa by working with farmers to evolve policy and technologies that increase agricultural productivity while maintaining the quality of the natural resource base. AHI operates in Tanzania, Kenya, Uganda, Ethiopia Madagascar Eritrea, DRC and Sudan which are overly cultivated, have high population density, and substantial rainfall. Dr. Mowo further informed participants that AHI is advocating/promoting participatory agricultural research which gives results faster compared to the generic research. Furthermore it has been revealed that addressing these problems through technological innovations only (indigenous and scientific) is insufficient in achieving quick and effective results unless supported by by-laws. In this aspect the police and the judiciary systems have to be involved.
2. The second presentation was given by C. Lyamchai (CL) on the History of AHI in Lushoto which included what AHI has done, results, impact, challenges and recommendations. CL explained the problems that farmers face in the Baga water-shed which were identified during the diagnostic survey. The major problem identified was low agricultural productivity which was caused by low soil fertility, unimproved seed, soil degradation and unreliable markets. All these have led to poverty and natural resource degradation. CL further expounded on what AHI did to deal with the problems identified. Different technologies were introduced including improved seed for different crops, soil conservation, fertilizers (industrial and organic), market oriented agriculture, training of para-professionals and exchange visits.

CL also gave the outcomes of the introduced technologies as follows:

- The different technologies has contributed to livelihood improvement through increased crop production, increased income, availability of clean and sufficient water and formation of SACCOS. Problems and challenges in approaching problems in the Baga water-shed were given as follows:
 - Low adoption
 - By-laws are not followed
 - Technical people are short of resources
 - Low collaboration between stakeholders

Question: The villages that surround the source of Baga River have a lot of degradation, how come that AHI is not did not include these villages in their activities? What is the meaning of a water-shed then?

Answer: A water-shed is an area whose streams drain its water to a main river.

1. Although some villages lie along the Baga River, their streams empty their water to other rivers so they are not part of the Baga-water-shed and so they were not included.
2. For the programme to succeed, there is need to plan according to the resources one has hence only a few villages in the Baga Water-shed were involved in the AHI activities
3. The objective of AHI is to manage natural resources well and sustainably which in the long run will improve incomes so it is expected that the rest of the communities will copy for their own good.

Question: AHI has been dealing with villages directly without going through the division (tarafa) level while village plans are supposed to be approved by the division government, why were the Division executive officers invited to this workshop then?

Answer: When AHI a started its activities in 1998/99, the required protocol was followed by reporting at the District level. AHI was directed by the DALDO to Kwalei village to start their activities, the inclusion of the six villages in the Baga Watershed is a result of scaling out. In future the required protocol will be followed since we are now aware of it. However, there must be a problem with communication within the division otherwise the hosts should have directed AHI staff to the ward level since they knew the protocol.

Question: I commend AHI for the good work especially on conserving water sources. Are there any plans for extending this work to other villages outside the Baga water-shed? Also there are other problems e.g markets in areas like Lukozi where there is good production of vegetables but marketing is a problem, *rumbesa* etc. How can AHI help in solving such problems?

Answer 1: AHI is a regional programme and the whole of Lushoto District is one of its sites. It is not possible to start activities in all the villages of Lushoto District, one has to choose a starting point-Kwalei.

Answer 2: It is not good to depend on outside support (aid) for everything, if a certain move is found to be beneficial to the community, it is better to be presented to the WDC so that it can be taken up in the District plans for funding.

Answer 3: The problem of markets can be further looked into because it could be a small issue e.g In Ethiopia a certain community faced such problem and the project bought cell phones for the farmers which solved the problem. There is also a possibility of developing a project proposal on Production and processing of fruits in Tanga Region.

3. The third topic was presented by Dr. H. Mansoor (HM) on the importance of stakeholder involvement in implementing project activities. HM highlighted on advantages of working together as stakeholders. The main advantages were:

- Increased ability to solve problems
- Contribution of knowledge and capability by each stakeholder
- Learning from each other

The disadvantages of working individually were also given such as:

- Duplication of activities
- Interference in carrying out activities
- Little chance of learning from each other
- Disturbing the client

HM explained that AHI has introduced new approaches that have the following features:

1. Taking into consideration different disciplines that address the core issue
2. Participatory research
3. Working with and involving different institutions
4. System thinking
5. Natural resource management using all available opportunities

Question: Which institutions are considered as Institutions in the Baga water-shed?

Answer: Village government, important people (watu maarufu outstanding? e.g natural healers), SACCOS and different committees

Question: It could have been better if village executive officers were invited to participate in the workshop since there is a possibility that the ward executive officers might not be able to access funds for training. Is there a possibility for AHI to support the training for village chairmen and village executive officers on these issues?

Answer: AHI is doing research which requires a lot of money. However, the District can afford to train its people since it gets substantial amount of funding, what is required is to write a proposal for capacity building. This answer was directed to the chairperson of Lushoto District council so that he can present this during council meetings.

It was also advised that if the community comes up with a proposal, the DALDO should give support for its implementation.

4. *Contribution and experience of the police department in reinforcing by-laws that protect natural resources:* This topic was presented by the District Police Officer Mr.Maganga (PM). PM gave a summary of how the police force operates and their mandate. He explained that this introduction will give participants a clear view of why the police force is involved by communities, NGOs and different organs dealing with (vyombo mbalimbali vya ulinzi na

usalama) in preventing of crimes and arresting defaulters. Participants were invited to see him in case they get stuck in implementing and safeguarding the law.

Question: One participant wanted a clarification on what Auxiliary Police are, their mandate and how different they are from the ordinary police officer.

Answer: The police force is small compared to the population; hence there are arrangements for assisting in police work where possible and auxiliary police is one of those arrangements. However, the Auxiliary police are given power on a specified area.

Question: There is low awareness by the community on judgements/verdict made by the judiciary system, are there any plans by the police force to undertake capacity building in this respect?

Answer: 1. The laws are for the people, therefore everybody is obliged to know and follow them. Furthermore the Ministry dealing with law enforcement should take charge on this issue. (Wizara ya Sheria na idara zake).

2. AHI can assist by arranging with lawyers on the required training because it is important for people to know laws governing them. Furthermore, representatives from the judiciary indicated that there are efforts underway aimed at training people on law issues.

Question: I am concerned about the safety in the villages since the ward office does not have any weapons for defence purposes.

Answer: The outposts are small and there is no armoury in the divisions so weapons cannot be provided under such circumstances.

Question: The ward executive officers have been dealing with some police issues, but are not contented with the way the police has been handling issues e.g There was a relationship existing between the police and law breakers such that efforts of protecting our natural resources are unsuccessful.

Answer: Lets not look back rather push forward because what happened is not what will happen. The WEO are obliged and have been given power to report or arrest law breakers. There is need for the WEO to collaborate with the police for proper enforcement of the law.

5. *Contribution and experience of the judiciary in protecting natural resources in Lushoto District.*
This topic was presented by Mr.Makube (MA) who started by giving an overview of the judiciary system in general. MA added that it is an obligation that everybody knows the laws that govern the country through reading materials or by attending hearings (mahakamani). The WEO were asked to collect all by-laws that have been formed and deliver them to the AHI coordinator so that he can send them to the judiciary and the police so that they can be referred to if a case comes up.

Question: Are there by-laws that have been formed from the village level? Are they functioning?

Answer: 1. There are no by-laws formed from the village level. The by-laws that are in use are from the district council and they are based on the national laws (sheria mama).

2. There are by-laws formed from the community level that target forest conservation ; these are available in villages surrounding forest reserves and are working.

3. Other by-laws are in the process of being formed

Question: There is a problem of enforcement of by-laws in the villages since most people are related. What does the law say in respect to cases that are presented in the village governments?

Answer: Village governments are not allowed to engage in law cases, but there are some cases that can be tackled by the baraza la kata

Question: When the community form by-laws, are they allowed to reinforce them?

Answer: It depends on the type of by-law, however for the by-law to be reinforced; it should be clearly stipulated at the time of formation, how it will be implemented. Additionally, there is need for training communities on how to form by-laws because some form by-laws and send them to the district council not as by-laws but as announcements hence they are not considered for approval.

It was further suggested the District council assist the district lawyer to reach communities for capacity building in law formation.

DAY 2

The day started by previous days re-cap and then followed by presentations from various members of the workshop as follows:

6. The process of by-law formulation and endorsement in Lushoto District. This topic was presented by the district lawyer Ms. Shelly

She explained that villages are operated under the by-laws which are basically made from general law number 7 of 1982 for local governments. The village government has the mandate of formulating by-laws to suit different needs of the village concerned. The mandate is only effective when the village government is able to compose its by-laws and put them into practice for the benefits of the villagers.

The presenter declared that the by-laws are basically the minimum guidelines established by village societies to protect and sustain good deeds of the villagers and the surrounding of the village. The village government has also been given the responsibility of supervising and implementing by-laws in its mandate area. and the very strong village government insists on implementing its by-laws and put

strong measures on those who keep on violating the by-laws. The following were the reasons given by the presenter for establishing the village by-laws:

- ❖ To ensure peace and harmony among the villagers.
- ❖ To enable easy management and implementation of achieved decisions by village leaders.
- ❖ The by-laws stands as guidelines for decision making especially when problems of law-breaking among villagers occurs
- ❖ To make sure that the village is governable.

The presenter further explained that the different by-laws fall under different categories as listed below.

- ❖ Environmental conservation
- ❖ Developmental activities
- ❖ Health and prevention
- ❖ Education
- ❖ Good behavior
- ❖ Security purposes.

The presenter stressed that before attempting to formulate by-laws there should be legal authority to do so because competence in formulating them is required. The by-law maker should also have good knowledge on local government so that reference can be made to the general local government laws and to the sections giving the law maker mandate to formulate the village government by-laws. Furthermore, since the by-laws are meant for all, the by-law maker is supposed to involve other villagers so that they can contribute on the formulation so that they are understood hence easier to accept them.

Question and answers

Question: We have understood the process that should be followed in formulating by-laws, but the existing district by-laws do not conform to this process; are they valid?

Answer: All by-laws shall be valid provided they are formulated with reference to the district council general laws and also have got approval from district council otherwise at the village level; the proper procedures have to be followed for the by-laws to be effective.

Question: If a villager is found guilty because of grazing his/her livestock in a forbidden area, which by-law should be used to if the existing ones are not valid?

Answer: Depending on the village agreements, the existing by-laws could be used at the village level.

Question: We all know that the district attorney's office is aware of the ignorance existing regarding the law at the village, ward and even the division levels; I would like to know what measures are taken to solve the problem.

Answer: As soon as the office gets funds seminars and workshops will be arranged to train them.

Question: (a) What can happen to a person who is found guilty for grazing in a forbidden area but also unable to pay a fine?

(b) Don't you see that the by-laws are not for solving problems rather they are established to favor other people?

Answer: (a) Anybody found guilty for grazing in forbidden areas but unable to pay the fine, should be sent to higher authority like primary court for further action.

(b) There are two types of laws, the laws according to the local government but also recognized by the national assembly and others are those known by the minister of laws. All these are legal laws, other laws (by-laws) are those established by village government and recognized by the local council therefore they are legitimate and not set for other people's interest. Any punishment is given according to the stated by-laws although a person can appeal to high authorities if not satisfied by the judgment given.

Question: Is it proper to confiscate an animal of a person who has been declared guilty but unable to pay a fine, or should there be a legal environment for this matter?

Answer: The existing by-laws should not be abolished rather they should be improved, the officials should also contact the council attorney whenever necessary. It should also be noted that all new by-laws should avoid confiscating somebody's animal, if a person fails to pay a required fine, he/she should be sent to court and the penalty should be proportional to crimes committed.

Question: If the existing by-laws cannot be used due to their incompleteness, what are the contents and deficiencies of the district laws?

Answer: There is a committee assigned the task of making follow-up of the matter, but up to this time the committee has not yet done any. To put the ball rolling, the workshop participants appointed Mr. James Chandenda to chair the committee and the district council attorney was appointed to be one of the members of the committee.

Comments

1. The district council attorney should be financially assisted to enable her visit different parts of the district to look into the possibility of creating awareness on by-laws formulation and their application because many parts of the district have by-laws which are not implemented leading to mismanagement of natural resources as there are no by-laws to be used to declare them guilty.

2. It appears that very little has been achieved regarding environmental conservation in the district despite efforts by the government and different players (donors). There is so far little awareness on the use of by-laws especially those stipulated for environment management. May be the story could have been different if the same efforts had been directed to other districts so as to create a spirit of competition. If this is the case, all district officials should now act seriously on advising people on the use of by-laws and the importance of conserving the environment though it is also true that conservation of

environment is not an easy thing. The district officials should also make sure that they thoroughly know the by-laws to enable them impart the notion of by-laws to people.

The district council attorney has also notified the workshop that up to this moment there are no legally recognized by-laws from Lushoto villages therefore there is need for all district officials to be trained on how to formulate by-laws for their people.

3. There is a problem of some ward councils intervening judgments given by the courts. For instance the ward councils make follow-ups of certain cases of which judgment have already been given and re-convict people concerned at the ward level. To our knowledge we find that this thing has something to do with corruption, we therefore request the judicial authorities to make follow-up on the matter.

4. It would be good if the district council attorney is financially assisted to enable her collect all the by-laws in the district and compile them as a handout or a booklet and send copies to different stakeholders from village to district level etc.

Resolution:

AHI will help to purchase a computer for district council attorney under the condition that the district council will hire computer literate personnel to do the job

At the end of the discussion on this topic, participants agreed to make a schedule for making follow-ups and collection of the existing by-laws and where necessary to formulate new ones.

Table 14. Schedule and responsible persons for by-law follow-ups in Lushoto District.

ACTION	TIME	RESPONSIBLE PERSON
Collection of by-laws and submit them to AHI coordinator	23.11-07.12.2007	WEO/DO/AHI
To collect by laws from the village level	23.11.21-21.12.07	WEO/DO
Editing the by-laws	22.12.07 – 15.02.2008	V/COUNCIL/WEO/DO/ATTORNEY/AHI
To design new by-laws and editing the existing ones	16.02-15.04.2008	V/COUNCIL/V/GOVERNMENT/WEO/DEO/ATTORNEY/ AHI/
Submission of bylaw proposals to WDC	16.04 -30.04.2008	VEO'S/WEO'S/WDC
Submission of proposed by-laws to the district council	1.05=15.05.08	WEO'S
Action taken by district council	16.05.08	DED/COUNCIL MEMBERS//ATTORNEY

7. Contribution of Division Officers in the managing and implementation of by-laws pertaining natural resource conservation in Lushoto District. This topic was presented by Mr.Mudu

Mr. Mudu started by going over the responsibilities of Division officer as given below:

1. To make sure that there is peace and harmony in the division
2. To solve problems at division level.
3. To assist district commissioner supervision of all legal activities at division level.
4. To assist the Area Commissioner in undertaking development activities with regards to government directive policy.
5. To act as a principle supervisor of all development activities at a division level.

The presenter further explained that all division officials are supposed to supervise and implement by-laws of the district council under the general law number 7, subsection 154 of 1982 which is their daily general guideline. However, the current laws amendments compel them to have direct accountability to the district commissioner and district executive director. Because of these changes, the ward officials remain responsible to the division official and the village officials remain answerable to the ward officials.

With respect to by-laws, he expounded that by-laws are formulated according to the needs of the community involving community members. It is the Division officer's responsibility to make sure that there are by-laws at their working places and are implemented. There is also a program of frequent revisiting of the existing by-laws and updating them whenever necessary because some of them are obsolete for example the by-law stipulating tree harvesting.

He appealed for close collaboration between the village, ward, division and police as well as court in supervising implementation of by-laws. The presenter concluded by asking all government officials to cooperate with judicial institution such like police and court and all officials should be ready to work together all the time.

8. **Problems encountered in managing natural resource** . This topic was presented by the Assistant Chairman for the District Council (Mr. Sebarua). He started by explaining that lack of serious natural resource management is contributed unawareness of the existence of both laws and by-laws pertaining to natural resource conservation. He further said that even the officials are to some extent not really filling responsible for managing and implementing the by-laws. The officials are as well not working as a team for example there is no working together between village chairmen and ward extension officers, lack of cooperation between ward extension officers and council members, lack of teamwork between judicial institutions and Police. It also appears that most of the by-laws present are outdated and need to be updated.

Natural resources are severely destructed due to cultivation of horticultural crops since most of the horticultural crops are water demand and therefore forcing farmers to cultivate the water sources and the river banks. Other reason is overpopulation and the current population of the district is approximately 450,000 people. There is also a problem of unmanaged livestock grazing and politics influence especially during campaign times that anybody should be allowed to cultivate everywhere provided agriculture is possible...

Discussion

Q: It appears that the present system of politics i.e. multipartism system is also causing problems especially from opposition parties. They influence people to break the laws i.e. they sometimes pursue people to do agriculture at the water sources or river banks for the sake of telling them that the present government is not taking care of them and forbid them to cultivate the productive areas for the reason of natural resource conservation. But with them in mind, they do this to convince them to vote for them. If this is the case what should be done to enable this good effort done by AHI proceed rather than diminished?

A: It is true but politician are very cunning, they are very aware of the existing by-laws, but once they find that serious attention is not taken on implementation of the by-laws they take advantage and use them as one of their agenda during campaign. All of us should accept this as a challenge, that we should all put serious effort to make sure we educate our farmers on importance of environment conservation for our selves and the future generation.

Q: Is it possible for the district to have one law which compels every body to have terraces on his/her farm?

Answer: If people are fully given knowledge on importance and benefits from making terraces together with good cooperation from the government there will be no need for such law otherwise most by-laws are broken due to many reasons including social relationship that exists between people, an officer can not sue a person for law breaking because of the friendship or brotherly hood they have, e.g. son and in-law etc.

Q: What are the efforts done by the district to assists good work done by AHI on environment conservation especially to the areas where AHI is not yet put their research there. Is it possible for extension officers and ward, division officials to be financially supported so that they can go to those places to create awareness on environment management?

A: The district council has already given motorcycles to about 32 extension officers; this is one of the district's efforts to make sure that many farmers are given extension services at the proper time to improve their agriculture. Since environment management is part of agriculture we are certain that the extension officers can also help to impart the knowledge of environment conservation every where and every time they meet the farmers.

Q: It is obvious that Lushoto district is one of the luckiest areas in Tanzania for accommodating many natural resource management projects working from different times, some of these projects were SECAP, TRIDEP, AHI and right now we have PADEP. It is also true that despite the fact that all these projects were working on the same theme i.e. environment conservation, yet the adoption of technology to farmers from all these projects are still not very successful. If this is the case, why is this issue not considered as a problem since more money were every year invested by these project and now AHI is doing the same thing but no achievement is acquired so far?.

A: It is true that this district is receiving many projects and many project like SECAP has been here for very long time about 20 years, and it is true that the main theme of the project was natural resource conservation. The major problem at that time is that there were no by-laws stipulated for environment conservation like nowadays, so it is now important to keep our main focus on by-laws implementation if we really need to meet some achievements.

Agreements:

At the end of this workshop a committee will be chosen, this committee will make a work plan to enable them make follow-ups of collecting the existing by-laws and when necessary the committee will comment on editing the existing by-laws apart from composing new ones.

9. **Contribution of Social capital in improving participatory administrative natural resource approaches in Lushoto District.** This topic was presented by J.Masuki. The following is a summary of his presentation:-

Social and sustainable strategies depend on very important resources such as:-

- Social capital
- Financial capital
- Natural resource etc.

Social capital is a type of administration of a society like networking, norms and trust in the society which all together creates a collective action for the benefit of all stakeholders. Social capital is mainly composed of three important items which involves:-

- Social groups or network of people with common interest doing a certain businesses or technology adopters etc.
- Items such as responsibility, expectation, communication means and tradition and norms of societies
- Raw materials in production

Farmers activities which need social capital at Baga watershed are:-

- Construction of infrastructure such as irrigation dam
- Establishment of tree nurseries
- Communal work at village farm
- Renovation of irrigation canals
- Construction of infrastructures for water and soil conservation

Also In natural resource conservation there are different social capitals such as:-

- Presence of different social capital from ancient time which change from one form to another depending on the elapsing period of time.
- During the time before colonial era (before 1880) general by-laws were mainly based on norms and tradition
- There were norms created for preventing bad use of natural resources such as forestry and water.
- Collective action for preventing pests and insects were employed.
- During colonial era in particular those days of Germans (1880-1920) and Europeans (1920-1960)
 - There was laws/by-laws and guidelines for natural resource conservation.
 - People were not allowed to cultivate land which is not conserved
 - All lands which were not conserved planted bananas
 - There was a strong management of laws/by-laws therefore people were afraid of the government.
- The presenter said that after independence (1961-1970) local authority of chiefs were removed and this resulted to:
 - Poor management of general law, culture and norms.
 - Tremendous change in natural resources management.
 - Unmanageable tree cutting for the sake of opening new farms.
 - Destruction of water sources and streams.
 - Increased erosion due to cultivation of areas which were not good for agriculture.
- The presenter furthermore said that during free market era (1990-2000), there was a campaign of improving natural resource through establishment of:
 - Participatory natural resource conservation for example Participatory Forestry Conservation Program.
 - Participatory Social Natural Resource Conservation program
 - And Community Based Organizations were also started.
- The presenter also said currently the community of Baga watershed is having various groups and networks of social capital for example the presence of SACCOS, Animal keeping, Seed production etc.
- There are close relationship between groups in:
 - Storage of goods
 - Exchange of information
 - Working together
 - Provision of credits
 - Social gathering

The presentation revealed that the social capital has great contribution in the technology development for example:-

- The presence of social groups at watershed enabled AHI to establish research activities at the place.
- Different partners were acknowledged, for example researchers, extension officers, farmers, production groups, NGO's and stockists.
- Many relationships were initialized
 - Between researchers, extension officers and farmers;
 - Between researchers, extension officers and other productive stakeholders
 - Between researchers and stockists.
- The communication between farmers was via researchers
- The relationships with other productive institutions were production of improved seeds of beans and maize.
- AHI had a close working together with women groups and religious institutions such as Evangelical Lutheran Church in Tanzania (ELCT) Irete Farm.
- The responsibilities of farmers were to supply land and implementation of improved seeds production.
- AHI has managed to create conducive environment for the community to re establish new relationship which has correct culture and rules needed for natural resource conservation.
- The positive results obtained at the watershed are because AHI has initiated an excellent natural resource which is mostly required by the villagers.
- AHI has inaugurated new relationship of natural resource management within and outside the watershed.
- Exchange of improved banana trees between farmers has improved new banana variety technology dissemination.
- Cognitive or bonding social capital, family and social relationship has also helped to spread new banana variety technology.
- Seed production between farmers and Irete farm was an external-external social relationship.
- Seed production between two women farmers groups was referred as local-external social relationship.

Before ending his presentation, the presenter said that many achievement of AHI has been caused by its strategies of creating social capital and the use of the present social resources through:

- Gathering farmers and enable them work together for the purpose of solving their problems for example seeking of new markets for their products within and outside the watershed.
- Assisting them to establish savings and credit co-operative societies (SACCOS) as an alleviate way of solving problem of capital (Kwalei).
- Motivating them to establish their information centre for technology which they use to get various informations and disseminate knowledge pertaining natural resource conservation.
- Enable them to established a learning schedule and a teamwork tendency so as to achieve their goals
- Changing their mind set to have increase trust of their leaders, and new norms of behavior, commitment to reciprocity and channels of information.
- Improving their learning attitude between groups to enable them have more technical skills and knowledge of participatory watershed conservation

To conclude his presentation, the presenter said that:

- Through AHI the society of Baga watershed are very well motivated to conserve the natural resources and they are right now fighting against some problems using the social capital they have.

- AHI has succeeded to increased participation awareness, people are now working together, and more participatory networking groups which were almost collapsing due to social changes are now arising.
- The social capital is highly needed for AHI activities and other development projects, more knowledge on social capital at a district level is required but it is not easy to disseminate the knowledge due to financial constraints.
- AHI has done a very good job to change villagers mind at Kwalei and other villages. Villagers are now leaving their old tradition to modern and sustainable way of doing agriculture which is presentable and acceptable to other areas for more development.

Discussion

Q: How do social capital from Lushoto district involved in AHI achievements, it appears most of the resource persons of the project are coming from Selian Arusha and Mlingano, Tanga.

A: AHI is a participatory project; several members like DALDO, TIP, and TAFORI etc. have been involved in different activities from the begging of the project. Researchers are fully involved since the project is research oriented.

Q: What are the criteria used to locate AHI project at an area?

A: There are so many technical things put into consideration, however, the whole Lushoto district is considered to be the project area.

10. Objectives of Traditional irrigation improvement project (TIP) in managing natural resource conservation – (Mr. Chandenda)

The Traditional Irrigation improvement Project (TIP) started in Northern Tanzania in 1988 with direct assistance to small farmers in the Para Mountains. TIP focuses on poverty alleviation through economic empowerment of smallholder irrigators. The programmes of TIP focus on sustainable land use management, improvement of traditional irrigation systems, organizational development, market access and agro enterprise development for the farmers. Irrigation agriculture is said to be very old about more 200 years though achievement of this agriculture is depending on availability of water, good soil fertility and more understandable society. The problem diagnosis is done in a participatory way.

The major challenge we face is failing to meet our target; more knowledge to the farmers is needed in order to achieve the goal.

The project's obligation is to make sure that social capital, water and land resources are very well utilized and also to make sure that water is available most of the time and utilized efficiently. .

Discussion

Q: It is said that there is no collaboration between extension officers and ward or division officers due to the fact that the extension officers are not fully engaged on their assignments; because they opt to go for their person businesses and others are terribly alcoholic?

A: The number of extension officers is so small compared to the number of farmers; there is also problem of working tools for example transport. However, despite these deficiencies, agro pastoralists, take trouble to seek for veterinary services when needs arises and we also suggest that farmers should also seek for extension services when necessary rather than waiting to be visited. There should be collaboration between government official, ward officer should work hand in hand with extension officer to help farmers.

Q: There is a tendency for TIP to wait for people to call them for assignments, why don't they go after peoples?

A: TIP is supposed to undertake an assignment upon receiving requests from farmers not otherwise, however there is many requests which cannot be dealt at the moment due to financial constrains.

Suggestion:

There is a tendency for district agricultural officials to support their subordinates the extension officers when they are wrongly accused by the farmers. It is said that the district officials transfers the extension officers instead of punishing them when they misbehave. We therefore ask the authorities to punish the extension officers accordingly, and the extension officers should have plans of their work to enable them receive assistance from local government workers.

Concluding remarks

Having said that the facilitator on behalf of AHI team thanked the workshop participants for their attendance and sound contribution they made as per every presentation made. He said that AHI will make sure every discussed issue is dealt accordingly and also argued the participants to make sure they help farmers to free themselves from poverty.

Appendix 4. SPEECH BY THE DISTRICT COMMISSIONER OF LUSHOTO, AT THE OPENING OF THE INTERNATIONAL TRAINING WORKSHOP ON PARTICIPATORY BY LAW REFORM CONDUCTED IN LUSHOTO TANZANIA FROM 13TH – 16TH AUGUST, 2007

Dear AHI Site Coordinator

The AHI regional Coordinator,

The Northern Zone Agricultural Research Coordinator,

Participants, Ladies and Gentlemen,

I wish to take this moment to thank the organizers of this course for inviting me to open it and above all for conducting it in Lushoto. I am aware that, if the AHI had wished, they could have chosen another venue. Let me therefore say in Kiswahili; KARIBUNI, which literally means you, are all welcome.

Ladies and Gentlemen, September last year (2006) I was invited by your Site Coordinator to close a similar course. During that encounter I had a good briefing from him and the Northern Zone Agricultural Research Coordinator on the activities and broad agenda, which the AHI is undertaking in Lushoto District. I would again say it is this knowledge on what you people are doing for the farmers of these highlands which tempted me attend that first function and with more pleasure this other course for which you have invited me to open. It pleases me to note that though a year has passed since you last conducted that course, you still have Lushoto and its farmers at heart.

Those of you from Tanzania must be aware of the various initiatives and projects the Government is undertaking to revamp the agricultural sector to make it more profitable. However like I said during the last function you invited me, you researchers and of course other development workers that provide farmers with advice have an additional role of ensuring that not only are your technologies accepted and adopted, but the adoption does not lead to another degradation of the unique environment found on these highlands.

I am pleased to learn that given the long-standing intentions of your AHI office here in Lushoto and the focus of the Government to achieve same goals in this district I actually see a wide and fruitful window of opportunity of the collaboration between the AHI and other District partners in Lushoto to achieve them. I am also aware that your office here in Lushoto has been exemplary in the reclamation of degraded water sources in the Baga Watershed. The Site coordinator was telling me about 38 water sources have been reclaimed from degradation and abuse. Some of these efforts are now benefiting one of our secondary school in Mbelei village which I hope you will have time to see. We thank you for this significant contribution towards community livelihood improvement. My office is also aware of the current and renewed determination of the village governments in the villages you people serve to protect not only the water sources you have reclaimed but also to see to it that the by-laws which protect these resources are respected. This is particularly important considering that these by-laws originate from the same communities. We in the Government are there to ensure that these laws are respected and implemented. Our experience in the District is that, in the absence of laws, rules and

penalties no matter how they are formulated not every farmer would respect these fragile resources. The destruction would be enormous.

Fellow Participants, my role was to open this workshop. However since you will be discussing participatory formulation and enforcement of by-laws for the protection of the natural resources, I wish to say before hand that my office regard by-laws protecting the natural resources as a vital tool to ensure that resource abuse is kept at the minimum. The question is when do we resort to what methods of enforcing such laws. I am aware that the more the grass root communities are involved in this process of by law formulation the better will be the results. Of course, that does not preclude the need for enforcing these laws once they are in place. It for this reason that I see your coming and deliberations to be of immense importance, because we will value your contributions and take them seriously for our own use. Like I said before to your Site Coordinator, our office is ready to assist you people achieve these noble ambitions of reducing resource abuse and improving livelihood of farmers provided areas of involvement are identified. I have been briefed that you had a lengthy journey to Lushoto and you have a long schedule ahead, let me therefore take this opportunity to wish you a very successful workshop and happy stay in Lushoto. As I said last year, if farmers of Lushoto cannot benefit from your ideas and presence who else will?

With these few remarks it is my duty and great pleasure to declare this important workshop officially opened.

SOPHIA MJEMA

LUSHOTO DISTRICT COMMISSIONER

Appendix 5. Site products for year 2007

A. Technical Reports

1. Hizza, S., T. Mmbaga, H. Mansoor and C. Lyamchai (2007). Economic Consequences of poor natural resource management: Experiences from the Baga Watershed, Lushoto Tanzania. AHI Site Publication, Lushoto Tanzania
2. Mansoor, H., J. Wickama, M. Selungato and S. Charamila (2007) Effects of Eucalyptus Wattle, Agro-carpus Tree species on Soil Moisture, Nutrients and Crop Performance in Baga Watershed. AHI Site Publication, Lushoto Tanzania
3. Seushi, M., and J. Wickama (2007). Assessing community initiatives to overcome tree-based NRM constraints in the Baga Watershed, Lushoto District, Tanzania. AHI publications, Lushoto Tanzania
4. Petekwa R., J. Wickama and H. Mansoor (2007). Influence of Strategic Entry Points in Enhancing Natural Resource Management and Livelihood Improvement. AHI Site Publication, Lushoto Tanzania
5. Gwatalile T., Mndeme R and J. Wickama (2007). Assessing Impact of AHI Interventions on livelihood and natural resource improvement in the Baga Watershed. AHI site publications Lushoto
6. Lyamchai, C. J., J.M. Wickama, T. Mmbaga and H. Mansoor (2007). Effective Approaches for enhancing integrated management of natural resources in Microcatchments. AHI Site Publication, Lushoto Tanzania
7. Mansoor, H. and J. Wickama (2007). Watershed Problems Encountered in Distant Parts of Lushoto District. AHI site publications Lushoto.
8. Wickama, J. and D. Mudu (2007). By-law formulation procedures in Lushoto: An Assessment of how inclusive these procedures are of grassroots needs and concerns. AHI publications, Lushoto Tanzania
9. Wickama J. and D. Mudu (2007). Assessment of the effectiveness of by-laws enforcement in selected villages within the Soni Division in Lushoto, Tanzania. AHI site publications Lushoto

A. Posters

1. *Building the financial capital for enhanced Natural Resource Management among mountain communities: AHI Experiences in Lushoto, Tanzania - **Juma Wickama and Jeremias Mowo (2007)***
2. *Lushoto Benchmark Site, Tanzania. Disseminating Technologies To Improve Livelihoods And Natural Resources (**Juma Wickama and Kenneth Masuki (2007)**)*
3. *Importance of integrated approaches to NRM (**Lyamchai, C.J., T. Mmbaga and J. Wickama 2007**)*
4. *Je? Kutozingatia Uteuzi wa Miti ya Kupanda Kunaleta Athari Kwenye Mazingira na Uzalishaji **Mansoor, H.A, J. Meliyo na J. Wickama (2007).***
5. *Economic consequences of poor natural resource management (**S. Hizza and T. Mmbaga 2007**)*

B. Training manuals and Methods Guides

1. Wickama, J., C.J. Lyamchai, T. Mmbaga and H. Mansoor (2007). *Jinsi ya Kushirikisha Jamii Katika Uundaji wa Sheria Ndogo Ndogo: Utaratibu Uliotumiwa na Mradi wa AHI Wilayani Lushoto. A Training Manual on how to conduct Participatory By Law Reform in Lushoto. AHI Publications, Lushoto*
2. Mansoor, H. Masuki, K and Wickama J (2007). *Method Guide on Facilitating Multi-Institutional Platforms for INRM at District Level*

c. Briefs