



## **International Trypanotolerance Centre**

P. M. B. 14, Banjul, The Gambia, West Africa

Tel (+220) 446 29 28, Fax (+220) 446 29 24

Email: itc@itc.gm



# 2013 Annual Report and Outlook for 2014



*Participants at the approval meeting for the new 10-year Strategic Plan (2013-2022) for WALIC at Paradise Suites Hotel, Banjul, The Gambia*

January 2014

# Table of Contents

<b>Executive Summary</b> .....	4
<b>Introduction</b> .....	6
<b>1. Research and Training Activities</b> .....	7
1.1 Sustainable Intensification of Integrated Crop-Small Ruminant Production Systems in West Africa (SIIC-SR) .....	7
1.1.1 Monitoring of Small Ruminant live weight changes and manure quality under farmers' traditional management system.....	7
1.1.2 Monitoring of groundnut and cowpea hays quality stored under open and shed over four months period .....	8
1.2 Genetic Improvement through Breeding and Selection for Elite Breeding males of Endemic Ruminant Livestock Breeds .....	9
1.3 Fattening of Selected Breeding Bulls .....	14
1.4 Monitoring of CBPP vaccination response in cattle .....	16
1.5 Trainings and information exchange/seminars.....	17
1.5.1 Trainings .....	17
1.5.2 Seminars.....	17
1.5.3 National and Regional Workshops.....	18
<b>2. Revitalisation process of ITC to WALIC</b> .....	18
2.1 Approval of the new strategic plan .....	18
2.1.1 Interim Executive Committee meeting .....	18
2.1.2 Extra-ordinary Executive Meeting .....	19
2.2 The Operational plans .....	21
2.3 Resource mobilization.....	22
2.3.1 PROGEBE/AfDB .....	22
2.3.2 Islamic Development Bank (IDB).....	22
2.3.3 Belgium development corporation (DGDC).....	23
2.4 Partnership and advocacy for WALIC.....	23
2.4.1 Building partnerships.....	23
2.4.2 Country visits .....	24
2.4.3 Invitation of ECOWAS member states to join WALIC .....	25
2.5 Staff recruitment .....	25
<b>3. Outlook for 2014</b> .....	26
3.1 Research and Training Activities.....	26
3.1.1. Monitoring of CBPP vaccination response in cattle.....	26
3.1.2. Genetic Improvement through Breeding and Selection for Elite Breeding males of Endemic Ruminant Livestock Breeds .....	26
3.1.3 Joint FAO/ITC/PROGEBE Regional Transhumance project.....	26
3.1.4 Partnership with AU-IBAR on Genetics Project implementation .....	26

3.1.5 Regional Programme on Strengthening the Resilience to Food and Nutrition Insecurity in the Sahel (P2RS) .....	27
3.2 Revitalisation process of ITC to WALIC.....	28
3.2.1 Advocacy and partnership for WALIC.....	28
3.2.2 PROGEBE RCU support to ITC.....	28
<b>4. Conclusion.....</b>	<b>29</b>

## Executive Summary

This report shows the ITC Research and Training activities and the Revitalization process to WALIC implemented in 2013 and the outlook for 2014. The limited core and research funds received in 2013 were used mainly to conduct few research activities on cattle and small ruminant nutrition, monitoring the response of CBPP vaccination in cattle, and to continue the breeding and selection activities designed to improve the genetic merit of the three endemic ruminant livestock breeds on which ITC has been working on since 1994. The report also highlighted the activities undertaken on the revitalisation process for the finalization of the new 10-year strategic plan, establishment of partnerships with CORAF and ECOWAS Commission, and formalise co-ownership of WALIC with ECOWAS member states.

The report highlights completed studies on *monitoring of small ruminant live weight changes and manure quality under farmers' traditional management system*, and *monitoring of the quality of leguminous crop residues under storage* implemented under the sustainable Intensification of Integrated Crop-Small Ruminant Production Systems in West Africa (SIIC-SR) project funded by Aus-Aid through CORAF/WECARD and NARI.

Results from the monitoring of small ruminant live weight changes and manure quality, showed that crossbred sheep grow faster than both Djallonke and WAD goats and produces more faecal matter than them. Laboratory results of manure chemical content analyses showed that nitrogen and potassium contents of sheep manure were significantly ( $p < 0.05$ ) lower than goats manure.

Monitoring of crop residues quality under storage revealed no significant differences in Crude protein, Acid Detergent Fibre and Neutral Detergent Fibre concentrations in groundnut and cowpea haulms stored either in the open or under the shed over a duration of four months. Non decreasing trend in the concentration of these three parameters could be explained partly by the fact that all haulms were already sun dried with similar nutrient contents at the time of storage or storage method does not have a negative impact on their concentrations.

A detailed description of breeding and selection activities carried out as part of a performance improvement programme of the N'Dama cattle, Djallonke sheep and West African Dwarf goats is illustrated. This is considered a good use of scarce resources, because these animals constitute the main animal genetic resource accessible to and used by the majority of resource poor livestock producers in this country. ITC contributes significantly to improving the livelihood of these livestock keepers through the provision of elite breeding males. In 2013, eight outstanding breeding bulls were disseminated to multipliers for breeding purposes.

The rationale of fattening the 8 selected bulls for dissemination to multipliers was increasing their live weights to at least 200 kg. At the beginning of the fattening only two bulls weighed slightly more than 200kg while the remaining 6 were below 200kg. After the fattening period of 40 days on groundnut hay, groundnut cake and rice bran 3 bulls weighed more than 200kg and the remaining 5 were very close to 200kg. The average daily weight gained obtained was 0.559kg, and the cost of feed consumed per every kilogram gained is D80.00 (about US\$2). All animal were finally disseminated to multipliers before end of 2013.

Three field missions to the four ITC herds in Niamina East District were undertaken under the monitoring of the response to vaccination against CBPP in cattle. About 400 serum samples were collected. These samples would be tested using competitive ELISA kits for CBPP antibodies.

Some staff members also participated at the regional training on AnGR management, national and regional workshops. ITC also hosted a one day seminar for the presentation and discussion of an MSc thesis. The presentation was done by Dr Abdou Ceesay, a recent graduate on Animal Breeding and Genetics from Wageningen University, Netherlands.

On-going efforts under the revitalization process of ITC to WALIC have registered some successes. New accomplishments include the approval of the new 10-year Strategic Plan by the Interim Executive Committee, amending the 1982 ITC Act, sensitisation of ECOWAS Commission, member states, CORAF/WECARD, and mobilisation of financial resources.

Outlook and plans for 2014 would focus on some essential steps that would lead to the launching of WALIC and its new 10-year strategic plan. ITC/WALIC would partner with AU-IBAR for the implementation of the recently launched 5 year “Genetics project”. It would also work closely with PROGEBE and FAO to implement a one year long regional project entitled “*Assessment of the impact of transhumance on the sustainable management of animal genetic resources*”.

## Introduction

As indicated in the outlook for 2013 in the ITC Annual Report 2012, the main work plan for 2013 consist of continuation of research and training activities as well as completion of the revitalization process of ITC to WALIC. This year's report is presented in four sections: 1) Research and training activities, 2) Revitalization process of ITC to WALIC, 3) Outlook for year 2014, and 4) Conclusion.

Several activities were implemented under research and training in the year 2013. These activities are as follows:

- 1) Monitoring of small ruminant live weight changes under traditional farmers' management system,
- 2) Monitoring of crop residues under different methods of storage,
- 3) Breeding and selection of elite breeding male animals using the Open Nucleus Breeding Scheme (ONBS),
- 4) Fattening of selected bulls,
- 5) Monitoring the CBPP vaccination response in cattle, and
- 6) Training and information exchanges.

The outputs from these research activities benefitted several livestock farmers, researchers, extension agents, and decision makers. Results of research activities were shared extensively with stakeholders and partners. Eight elite breeding bulls and 10 breeding bucks were disseminated to multiplier livestock farmers for breeding purposes with ultimate goal of contributing towards increased productivity.

Completion of the revitalization process of ITC to WALIC resulted from several undertaken activities. The new 10-year Strategic plan (2013-2022) underwent the approval process by the Interim Executive Committee. The operational plan for the new strategic plan has also been elaborated. Resource mobilization, partnership and advocacy activities were also implemented for the year reported.

The 2014 outlook will focus on steps leading to the launching of WALIC and partnership with other institutions for the implementation of new or ongoing projects. The elaboration process of other administrative documents for WALIC is also in the pipeline.

# **1. Research and Training Activities**

## **1.1 Sustainable Intensification of Integrated Crop-Small Ruminant Production Systems in West Africa (SIIC-SR)**

This project seeks over a three-year period (June 2011 - May 2014), to develop and strengthen the crop –sheep and goats value chain in the sub-humid tropics of Ghana and Benin and semi-arid regions of Gambia and Mali, to increase agricultural productivity for poverty reduction and enhanced food security. It is funded by Aus-Aid of Australia through CORAF/WECARD, coordinated by the CSIR-Crops Research Institute, Kumasi, Ghana, and implemented in collaboration with many partners within the four project intervention countries and ILRI. It targets small and medium-scale actors along the value chain especially women.

There are 8 broad locations consisting of 2 districts/country and 2 villages per district covered by this project. The districts were selected on the basis of their high sheep and goats' density, high potential for integration of crop-sheep and goats systems, market access, high poverty index and proximity to existing good sheep and goats practice centres.

The five result areas of the project are: 1) Crop-sheep and goat value chain characterized; 2) Alternative productive and sustainable farming systems scoped; 3) Dual-purpose (grain and fodder) cowpea and groundnut varieties with drought and/or Striga tolerance evaluated and disseminated; 4) Alternative methods for optimizing crop residue utilization for soil health and small-ruminant nutrition identified; and 5) Capacity of key actors along crop-sheep and goat value chain strengthened.

Main activities of the project cover value chain and market development; development of crop management technologies for sheep and goats integration; selection and dissemination of dual purpose cowpea and groundnut varieties, crop residue and manure management options for soil fertility improvement and increased crop and livestock productivity, modelling and capacity building along the crop-sheep and goats value chain.

ITC had been assigned the responsibility of implementing the livestock component activities under result 4 b of the SIIC-SR project in The Gambia. In 2013, the centre was able to analyze the small ruminant manure samples and finalize the technical report on monitoring of Small Ruminant live weight changes and manure quality under farmers' traditional management system. The last activity on monitoring the quality of leguminous crop residues under storage was also implemented in 2013. *Detail activity reports can be found under reports at [www.walic-wa.org](http://www.walic-wa.org)*

### **1.1.1 Monitoring of Small Ruminant live weight changes and manure quality under farmers' traditional management system**

This three-month long on-farm participatory study was undertaken in four villages in The Gambia. The study objectives were to determine the average daily weight gain and faecal outputs of small ruminants under traditional management by farmers during the latter parts of the rainy season.

A total of 34 young bucks and rams provided by six women and 12 men livestock farmers from the four selected villages took part in this study. The 34 animals comprises of 11 West African Dwarf (WAD) bucks, 13 Djallonke rams, and 10 crossbred (Djallonke x Sahelian) rams with estimated ages between 6 and 12 months. Once every fortnight, all the animals

were weighed and weights recorded. In addition, faecal outputs were collected in the following manner: 1) overnight voided faeces were collected and weighed, and 2) the animals were fitted with faeces collection bags/harness to collect voided faeces during a 24-hour period, three times per week for 65 days. The collected faeces were weighed and the weights recorded. The dry matter, nitrogen, phosphorus and potassium contents of the collected faeces/manure were also determined according to standard laboratory procedures.

The data on average daily weight gain (ADWG), faecal outputs and their mineral contents were analyzed using descriptive statistics (number of observations, means, standard deviation) and effects of independent variables (state of sample, animal species, breed, village and districts etc) on dependent variables (ADWG, faecal outputs and their mineral contents) analyzed using linear regression models in STATA 11.0 statistical package.

Results indicated that the highest average daily weight gain was observed in Crossbred sheep ( $40.0 \pm 42.7\text{g}$ ) followed by WAD goat ( $34.8 \pm 22.6\text{g}$ ) and Djallonke sheep ( $25.6 \pm 25.9\text{g}$ ) being the lowest, they were not significantly different ( $p > 0.05$ ). For the overnight faecal output, the Djallonke sheep breed had the highest ( $218 \pm 54\text{g}$ ) followed by Crossbred sheep ( $151 \pm 34\text{g}$ ) and then WAD goats ( $129 \pm 50\text{g}$ ). However, the crossbred sheep ( $487 \pm 129\text{g}$ ) had the highest average 24 hour faecal output followed by Djallonke sheep ( $347 \pm 128\text{g}$ ) and then WAD goat ( $275 \pm 85\text{g}$ ).

Goat manure contains  $2.3 \pm 0.5\%$  nitrogen,  $1.0 \pm 0.3\%$  phosphorus and  $0.9 \pm 0.4\%$  potassium; while sheep manure has  $2.0 \pm 0.4\%$  nitrogen,  $0.9 \pm 0.2\%$  phosphorus and  $0.6 \pm 0.3\%$  potassium. Nitrogen and potassium contents of sheep manure were significantly ( $p < 0.05$ ) lower than goats manure.

In conclusion, the crossbreed sheep grow faster and produces more daily faecal output than both WAD goats and Djallonke sheep. However, goat's manure contains significantly more nitrogen and potassium than sheep manure. More studies need to be done to investigate the effects of feed supplementation with dual purpose cowpea and groundnut on daily weight gain of small ruminants as well as manure quality, and compare the performance of leguminous crops on small ruminant manure versus commercial inorganic fertilizer.

### **1.1.2 Monitoring of groundnut and cowpea hays quality stored under open and shed over four months period**

A participatory on farm study on the quality of dual purpose groundnut and cowpea haulms was undertaken during a 4-month period in four selected villages in The Gambia. The objective of this study was to determine the effect of storing groundnut and cowpea haulms in the open or under a shed on the nutritional quality using nutrient contents as indicators.

The study was carried out in collaboration with 22 farmers who had planted early cowpea varieties (ITO 6K 91-11-1) and extra early cowpea variety (ITO 7K 299-4); groundnut varieties (28/206) "*choppo*", and groundnut variety (733-33) "*forreh*" in the four study villages. Samples were collected monthly from the groundnut and cowpea haulms stored in the open and under shed from January to April 2013.

The dry matter contents of all samples were first determined. The samples were then milled and stored in plastic bags under room temperature. A total of 90 subsamples (48 from open storage and 42 from shed storage) were analysed for protein (Kjedall procedure); acid and neutral detergent fibre (Van Soest 1991) contents. Results were analyzed using Regression and Generalized Linear Model in STATA 11.0<sup>®</sup> statistical package to determine the effects of



storage method (open and shed) and length of storage on the crude protein and detergent fibre contents.

The CP values in the groundnut and cowpea haulms under both storage methods ranged between 7 and 10% across the four months, whilst the ADF and NDF values also ranged between 40 to 65%. Results of the data analyses showed no significant differences in the proportions of DM, CP, ADF and NDF content in the groundnut and cowpea haulms under shed or open storage over the four months period.

In conclusion, there were no significant differences in terms of CP, ADF and NDF concentrations in groundnut and cowpea haulms stored either in the open or under the shed. Absence of any downward trend in the concentration of these three parameters could be explained by the fact that all haulms were already sun dried with similar nutrient contents at the time of storage.

## **1.2 Genetic Improvement through Breeding and Selection for Elite Breeding males of Endemic Ruminant Livestock Breeds**

### **Summary**

The cattle breeding program is composed of five herds of 350 heads, mainly cows (174) constituting the nucleus herd stationed in Keneba and 4 herds of 137 heads undergoing performance testing situated in Niamina (Touba and Sambel kunda). Thus the cattle herd numbers stands at 487 heads. Compared to 455 heads by the end of 2012 this marks an increase of 33 heads for the stock actual thereby improving of the reproductive capacity of the nucleus. For 2013 all the key production parameters have improved compared to the previous years especially 2012. The calving records shows a total of 93 parturitions and a survival rate of 91% to weaning netting 85 weaners for the year. These figures have improved from 80 parturitions and a survival rate of 77% in the year 2012. The mortality rate in the nucleus for all cattle stock classes have improved from 94 deaths in 2012 to a record low 25 heads by the end of 2013. This was due mainly to the diligent management systems put in place especially during the late dry season. Equally the number of missing sires has dropped from 25 in 2011 and 17 in 2012 to 11 missing sires in 2013. Average daily milk yield per cow in the nucleus has also increased compared to 2011 and 2012 to well over 530 millilitres and a maximum output of 2,100 millilitres.

The routine activity of monthly bleeding was conducted in Niamina. 1470 blood samples were analysed for the period resulting in 153 positives for *Trypanosome congolense*, *T. vivax*, and *T. brucei*. Random sampling of both blood and faeces especially in calves and weak animals, have been conducted in Keneba. Effectively proper follow-ups of the sick animals have been timely and adequate. The movement of cattle to and from Niamina has been effectively executed as the bi-monthly fuel supply support of 400 litres from PROGEBE NCU was resumed in September, with the relocation of ITC 24 to Keneba. Movement shall still continue for the calves as and when they reach the required age and weight. The number of tested bulls disseminated to multipliers through the PROGEBE-Gambia rose to 17 in 2013.

The 150 heads goat flock numbers are slowly picking up. In August, 44 goats (does and kids) were transferred to the flock from Kerr Serigne to boost flock numbers. Though far below the optimum numbers of 200 heads for each species, the program was able to disseminate 10 improved bucks with the highest breeding values through the Livestock and Horticulture Development Project (LHDP) for dissemination to their multipliers, and sold 30 bucks of low breeding values for slaughter. The sheep flock however numbering only 52 is still in limbo as the numbers are too small to undertake any meaningful breeding exercise.

## Introduction

In efforts to revitalize and to reinforce the ITC genetic improvement program at Keneba, a number of activities have been undertaken during the year 2013. The idea is not to reinvent new ideas but to enforce the prescribed activities and roles to operate an Open Nucleus Breeding Scheme (ONBS) as an ideal program for tropical countries, which Gambia and countries in the sub-region are no exceptions. The day to day management of the nucleus herds and flocks including health and nutritional components alongside the key component which is breeding will ensure effective and more efficient flow of elite breeding males from the nucleus to the end users through multipliers. The herd health program adheres to routine and basic health practices designed to prevent and control enzootic diseases affecting ruminants locally. Local feed resources are being utilized to support physiological functions under the low input system which commensurate with local production systems at community level.

The breeding program was established at the International Trypanotolerance Centre (ITC) in The Gambia in 1994 with the goal of increasing milk and meat production without losing its tolerance to common diseases. The programme operates as an Open Nucleus Breeding Scheme with a three tier structure: Nucleus, Multiplier and Farmer. The breeds of interest and of national relevance are N'Dama cattle, WAD goats and Djallonke sheep. Elite breeding males selected from the nucleus are passed on to the multipliers for multiplication and further dissemination of their offspring to other farmers. Through this way the genetic improvement of the national herd is cumulative and could reach about 1% over generations.

### Nucleus herd and flock structure

There are ten herdsmen assigned to the five herds. Their daily functions include herding, milking, help in the monthly weighing of all the animals, monitor and report cows in heat for mating, provision of feed supplements where necessary and stock checking. At the small ruminants unit only three herders are available.

For ease of management, monitoring and recording for data and genetic analysis, the herds have been divided into five herds. The herds comprise of calves, heifers, cows, teaser and breeding bulls. The teaser bulls have been vasectomised and are used for heat detection among heifers and cows on a daily basis. The composition of the five cattle herds, sheep and goats flocks as of December 2013 is shown in tables 1 and 2. There has been an increase of 24 cattle, 22 sheep and 36 goats in 2013 over the figures in 2012.

Table 1. Nucleus cattle herd structure

Herd No.	Calves	Heifers	Cows	Teaser Bulls	Breeding Bulls	Total
Herd 1	12	17	35	1	.	65
Herd 2	19	15	34	1	.	69
Herd 3	13	21	31	1	.	66
Herd 4	16	17	34	1	.	68
Herd 5	19	16	40	1	.	76
Total	79	86	174	5	6	350

Table 2. Nucleus flock structure

Species	Does/ Ewes	Lambs/ kids	Rams/bucks >90 days old	Teaser bucks/ rams	Breeding Rams/bucks	Total
Goats	110	21	15	1	3	150
Sheep	27	13	11		1	52

## Herd management

Herd management is the role the herdsman, field assistants and the senior animal production officer at station level. The management process involves the following:

- Monitoring the activities of the teaser bulls every morning,
- Facilitate natural servicing of females in heat in a timely manner,
- Monitoring the health status of all animals,
- Provision of feed supplement to those animal with very poor body condition score especially lactating cows,
- Separation of calves from their dams and supplement them with hay during the day time,
- Making sure that animals drink enough water, and
- Stock checking.

There have been a number of improvements in the overall herd management process, part of which is illustrated in this report. As from the beginning of March 2013, some of the problems found on the ground and interventions carried out are described as follows:

**Calf Management:** At the beginning of a stress and critical period for livestock (March), calves become predisposed to nutritional deficiency problems that could have subjected them to poor body conditions, diseases and consequently high mortality rates. Calves were left to suckle from their dams the whole day, exposed to heat and stress, less monitoring to know if they have been adequately watered. The consequence of suckling the whole day will quickly dry the dams especially if enough feed is not available couple with less amount of calcium and phosphorus at this time of the year, will result to negative energy balance which will negatively impact on physiological functioning of the calves. It is also undisputable that the care of calves at young stage has an influence on its performance in later life especially in milk production (Temporal Environmental Effect).

In order to address this problem, a calf holding area was created within the campus premises provided with enough shade, feed and drinking water *ad-lib*. This intervention reduced stress problems from heat and allows better monitoring. Calves are admitted into the holding area when their dams are released for grazing and reunited with them for suckling upon return. Suckling is monitored for 10-15 minutes. This strategy is also a way of making sure that animals are not strayed away for the day. This has undoubtedly resulted to very low mortality rates, healthier and stronger calves.

**Mating System:** The mating system as prescribed by the design of the breeding program was not implemented in a coordinated manner. Herding alone does not allow heat detection but there could have been a very simple approach that is routine and timely. It has always been the excuse that mating is less common in the dry season, thus encouraging some laissez-faire attitude towards duties and become traditional, losing sight of the purpose of the program. Mating is one of the most important activities of the entire program. The problem of missing sires in the database has been diagnosed since March 2013. About 40 heifers across all herds have not been mated for 5-7 years, and this was partly attributed to the lack of proper

monitoring and a more professional approach. By the end of the year most of those heifers are now mated.

The approaches taken to reduce unknown mating included sensitization of all herdsmen and livestock assistants on the implication of the absence of mating records, timely release of teaser bulls in each herd every morning and evening, and rigorous monitoring for detection of females coming into heat.

**Nutrition:** The original plan that was set to tackle nutritional problems of animals at the station would have been devastating without the current intervention of the ITC management to deploy expertise to the station including pasture improvement and management. By the end of 2013, about 20 tonnes of grass have been harvested from the pasture plots and stored for use during the critical period of the dry season.

The feed gathering plan was revised based on estimated daily requirements per animal to guide the amount to be purchased to add to crop residues (maize stovers) stored from the last rainy season. About 15 tonnes of groundnut hay was purchased and stocked. This had resulted to low mortality rate, recumbence of animals due energy, protein, calcium and phosphorus deficiencies. Lactating animals were in good plain of nutrition and neonatal mortalities reduced, since there was enough feed supplement for every emaciated lactating cow.

### **Pasture development and expansion**

About one thousand five hundred seeds of *Leucaena leucocephala* and *Moringa oleifera* plants have been sown to reinforce the intensive feed garden for supplementing the small ruminants in the dry season. Even though PROGEBE had established a pasture for the centre which is still under improvement, additional 2 hectares of land was cultivated with *Panicum maximum* grass for further expansion. It is envisaged that animal feed problem will become a history to the centre once the expansion plan is completed. About four persons have been contracted to serve as pasture attendants and their function includes nursery preparation and management, clearing the fields, transplanting, pasture management, feed harvesting, conservation and storage.

**PROGEBE-Gambia support for pasture development:** As part of the support to the breeding station, PROGEBE-Gambia provided ten thousand US Dollars (US\$10,000) to develop the last 2 hectares of the 8-hectare pasture field on station. Since the original request for the activity was forwarded in July, 2013, the budgeted activities were based on activities largely feasible at the time. The rains were over by the time the first disbursement was received and this had created a new situation and works environment. Some of the activities have thus been revisited accordingly for the sake of feasibility focusing on achievable results. The changes included revisiting the conditions of the pasture plots of 2011 and 2012 which have not been satisfactorily cared for and needed urgent attention for their viability. However, the land preparation activities have been concluded for the 2013 designated plot, and upon the completion of the irrigation facility the entire pasture field will be irrigated to allow transplanting of pastures, weeding and fertilizer application. More pasture vegetative materials will be transplanted to fill some open spaces in the 2011 and 2012 plots. The entire inner perimeter of the pasture fence has been cleared for eventual planting of fodder trees during the next rainy season.

**Pasture field irrigation:** The initial watering facility, an irrigation system of 8 lines of arrays of sprinklers along the entire field was installed by GREEN IMPACT Company through support from PROGEBE- Gambia. However this was not as effective as had been expected, in terms of adequate water availability. To improve upon this, agreement was reached with

PROGEBE-Gambia to provide a borehole capable of providing adequate irrigation. Part of the funds disbursed, earmarked for the 2013 component of the pasture field development was accordingly utilised for this contract. Signed between ITC and the service provider Waterpoint, the contract included the establishment of an independent water supply system comprising of a borehole and installation of 16,000 litres water reservoir capacity. The work has progressed well and the system presently operated by the generator on station has been tested and found adequate except for a few issues which have been reported and are being resolved by GREEN IMPACT.

**Feed drying shed:** The provision of a feed drying shed being undertaken by the PROGEBE NCU as part of their support to the feed collection effort from the pasture fields have been contracted out and already in progress. The structure is under construction and progressing according to the design. The concrete floor as been done and the drying racks have been erected and the frame of the roof made of metal pillars and bars have already been welded and awaits roofing.

### **Data collection, entry and analyses**

Data collection is a routine practice that provides essential information for analysis and improvement. It is the recipe for genetic analysis and the basis for estimating genetic parameters. Data obtained in the field is inputted into the ITC database by the Senior Animal Production Officer. Entering the data is timely and accurate to prevent the outliers in subsequent analysis. After entry, the data is checked for possible errors.

All entries are obtained from weekly records of different activities such as mating, calving, milking, exits/culling, entries, treatment and mortalities. Data on monthly weights, trypanosomosis infection status, and PCV levels of cattle are also entered into the database. Herd performances and breeding values of 3 year old bulls are estimated using gathered data and statistical packages. Calving records have registered a steady increase from 69 in 2010 to 93 in 2013. Similarly, the average daily milk yield per cow has risen from 420 ml in 2011 to 500 ml in 2013. One of the most remarkable achievements for 2013 was the bringing down of the numbers of dead cattle from 94 in 2012 to 25 in 2013.

### **Herd health interventions**

The cattle herds were vaccinated against Black quarters, Hemorrhagic septicaemia and Contagious Bovine Pleuropneumonia, whilst the Small Ruminants were vaccinated against Peste des Petites Ruminants (PPR) and Pasteurellosis during the year 2013. All animals were strategically dewormed during the rainy season, while ectoparasite control, hoof trimming, and treatment of sick animals were carried out as required. Random blood and faecal samples were collected from the animals at Keneba and processed at the laboratory to determine infections, then followed by appropriate treatments.

All weaners, heifers and bulls at Niamina East district (Sambel kunda, Missira and Touba villages) undergoing performance testing for at least two years are bled every month to determine their blood packed cell volume (PCV) and trypanosome infection status. Out of a 1470 blood samples collected from animals in Niamina East in 2013, 153 (10.4%) were found infected with trypanosomes. Breakdowns of the sampling results and treatments are shown in table 3 below:

Table 3. Number of cattle in Niamina herds weighed, sampled and treated monthly

Item	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
No. of cattle weighed	143	142	140	132	122	118	126	125	135	140	144	135
No. of blood samples	143	142	140	132	125	120	128	125	135	140	144	135
No. Positive for trypanosomes	19	8	6	4	2	2	2	1	6	39	61	34
Trypanosomes infection rate (%)	13	6	4	3	2	2	2	1	4	28	42	25
No. treated for trypanoses (PCV < 20%)	11	14	3	2	1	0	0	0	0	23	16	23

### **Selection and dissemination of elite breeding males**

Ten elite breeding bucks selected from the nucleus flock were disseminated to selected contact goat farmers in the Gambia through the Livestock Horticulture Development Project (LHDP). Similarly 8 young elite bulls selected from the Niamina herds and 2 long serving bulls from the Nucleus herd at Kerr Serigne were also disseminated to cattle multipliers within and outside the PROGEBE sites. 30 bucks with and 12 bulls with low breeding values were culled and sold out to the general public for slaughter. The proceeds from sales of such animals were ploughed back into the breeding program to meet some of its operational needs.

### **Animal movements**

There have been some animal movements between Keneba and Niamina. Weaned calves (10-12 months old) from Keneba are transferred to Niamina for performance testing, whilst replacement heifers and bulls are moved from Niamina to Keneba for breeding. Between July and November 2013, 52 weaners (29 females and 23 males) were moved from Keneba to Niamina. Within 2013 animal movements from Niamina were: 31 heifers and 2 breeding bulls to Keneba, 1 culled bull to Keneba, and another 7 culled bulls to Kerr Serigne.

## **1.3 Fattening of Selected Breeding Bulls**

### **Background**

ITC disseminates top selected breeding bulls to cattle multipliers each year. The top eight bulls coming out from the 2012 selection were genetically good but their body weights were below the 200 kg threshold. Their low body weights could be ascribed to the harsh

environment they have been exposed over the past two years. As many livestock breeders are interested at fairly large bulls, it was decided by ITC management that these bulls should be subjected to a short intensive fattening during the critical dry period. The objective was therefore to fatten these animals to get a live weight of at least 200 kg by the start of the rainy season so that interested livestock farmers would buy and put them in their herds as breeder male.

## Methodology

Eight bulls were zerograzed at the ITC field lab premises in Touba for a period of 40 days from 25<sup>th</sup> May to 3<sup>rd</sup> July 2013. All animals were deparasitised with injectable ivermectin given subcutaneously at the beginning of the fattening. Each bull was provided with its own feeding trough and mineral lick. Portable water and groundnut hay was provided *ad libitum* daily. Each bull also received 3 kg of concentrate daily. The concentrate was a mixture of one unit groundnut cake and two units rice bran. Unfortunately, this concentrate lasted for only 22 days into the trial as groundnut cake was no longer available after this period. The animals received only groundnut hay and rice bran during the last 18 days of the fattening period. The amount of each type of feed consumed by an animal for the whole duration of the trial was recorded. The total weight gain and average daily weight gain per animal was calculated and average price of feeds consumed per kilogram weight gain was also computed.

## Results and discussion

Results of the fattening trials for the eight bulls are presented in table 1. Initial weights of the bulls varied from 161 to 208 kg with an average weight of 178.6 kg and standard deviation of 20.3 kg. The final weights ranged from 180 to 242 kg, averaging 201 kg with standard deviation of 22.9 kg. Weight gained during the fattening varied from 11 to 26 kg, with an average of 22.4kg and standard deviation of 7.4 kg. The average daily weight gain was 0.559 kg with standard deviation of 0.2 kg, and a range between 0.275 and 0.850 kg. A big variation has been noticed in the average daily weight gains of the eight animals. The highest was 0.850 kg and the lowest was 0.275 kg.

Table 1. Weight gain and average daily weight gain of bulls during the fattening period

S/n	Tag number	Initial weight (kg)	Final weight (kg)	Weight gained (kg)	Average daily weight gain (kg)
1	28518	172	183	11	0.275
2	29559	165	184	19	0.475
3	29570	159	180	21	0.525
4	29583	161	187	26	0.650
5	29593	208	242	34	0.850
6	29597	166	193	27	0.675
7	29599	206	221	15	0.375
8	29640	192	218	26	0.650
	<b>Mean</b>	<b>178.6</b>	<b>201</b>	<b>22.4</b>	<b>0.559</b>
	<b>Std dev</b>	<b>20.3</b>	<b>22.9</b>	<b>7.4</b>	<b>0.2</b>

At the beginning of the fattening only 2 out of the 8 bulls had live weights above the threshold of 200 kg, however it has not changed much at the end of the fattening as only one more bull surpassed the threshold value but the other 5 bulls came quite close. Using the average daily weight gain of 0.559 kg, the lightest bull with live weight of 180 kg would need more or less

an extra 36 days of fattening using the applied feeding ration to reach the threshold of 200 kg live weight.

The amount of each feed type consumed by each bull and the corresponding cost of feed per kilogram weight gain is presented in table 2.

Table 2. Amount and associated cost of feed consumed per kilogram live weight gain

S/n	Tag number	Groundnut hay (kg)	Rice bran (kg)	Groundnut cake (kg)	Cost* of total feeds consumed (D)	Total feed cost per kg weight gain (D)
1	28518	200	62.25	18.13	1275.63	115.97
2	29559	328	66.25	18.13	1803.63	94.93
3	29570	248	69.25	20.63	1526.88	72.71
4	29583	276	70.75	17.88	1610.50	61.94
5	29593	308	80.8	21.00	1817.70	53.46
6	29597	336	76.25	20.38	1903.75	70.51
7	29599	304	69.75	16.88	1706.00	113.73
8	29640	248	76.75	19.13	1538.13	59.16
	Total	2248	572.05	152.16	13182.20	
	<b>Average</b>	<b>281</b>	<b>71.51</b>	<b>19.02</b>		<b>80.30</b>
	<b>Std dev</b>	<b>46.68</b>	<b>6.08</b>	<b>1.50</b>		<b>24.67</b>

Cost\*: Unit price of feeds per kg used in the calculation are Groundnut hay at D4.00, Rice bran at D4.00, and Groundnut cake at D12.50

The total groundnut hay, rice bran, groundnut cake, and total cost of the feeds consumed by the 8 bulls are 2248, 572.05, 152.16, and D13182.20, respectively. Average and standard deviation of cost of feeds per kilogram live weight gain are D80.30/US\$2 and D24.67/US\$0.6. As the bulls are sold at a live weight price of D45.00/kilogram, it could be discerned that this ration is too expensive to sustain or transfer on to other livestock farmers to emulate. Therefore it is recommended that further trials need to be embarked upon to get a lower cost effective fattening ration and most optimum duration for fattening bulls. Nonetheless, all bulls were purchased by cattle multiplier farmers located in and outside the PROGEBE sites in The Gambia.

#### 1.4 Monitoring of CBPP vaccination response in cattle

Contagious Bovine Pleuropneumonia (CBPP) is a highly infectious, contagious bovine respiratory disease of cattle with high morbidity and mortality rates that could lead to serious production and economic losses. This bacterial disease caused by *Mycobacterium mucoides sub spp mucoides* is considered as the most important Transboundary Animal Disease (TAD) in cattle. Affected cattle manifest difficult breathing, poor body condition score, and characterised by mortality rate of 30 to 80%.

CBPP was last reported in The Gambia in 1971, but its four decade long history of absence was broken by reports reaching the Animal Health and Production Services (AHPS) in August 2012 of a suspected outbreak of cases in some villages within Niamina Dankunku District, Central River Region South. The suspected CBPP outbreak was confirmed by isolation of *Mycoplasma mucoides sub spp mucoides* from lungs and lymph nodes of seropositive cattle in September 2012.



Following the laboratory confirmation of an outbreak of CBPP in Central River and Upper River Regions and the subsequent follow up assessment mission to the country by the Crises Management Centre-Animal Health of the Food and Agricultural Organisation (FAO), the Government of The Gambia through the Office of the Minister of Agriculture declares a National Animal Health Emergency in the country with effect from Wednesday 8<sup>th</sup> November 2012. Emergency preparedness plan to contain the disease outbreak was prepared and it included the temporarily suspension of cattle movement and national mass cattle vaccination against CBPP completed in February 2013.

The objective of this research activity was to determine the response of ITC cattle herds located in Niamina East District vaccinated against CBPP using the T<sub>144</sub> or T<sub>1SR</sub> strains Lyophilized CBPP vaccines with PANVAC Quality Control Certificate. It specifically monitored the antibody levels against CBPP 2 days before vaccination, 2 weeks and 3 months post vaccination.

Three field missions to the four ITC herds (2 bull herds and 2 heifer herds) located in Sambelkunda, Missira and Touba villages in Niamina East District were undertaken on 13<sup>th</sup> March, 30<sup>th</sup> March and 28<sup>th</sup> June 2013, respectively. Blood samples were collected through the external jugular vein of monitored cattle and allowed to coagulate under cold chain, then spin, the serum samples transferred to labelled cryotubes, and stored at -20° Celsius. About 400 serum samples are under storage awaiting further analyses. The serum samples will be tested using competitive ELISA kits for CBPP antibodies. Concentrations of antibodies against CBPP per sampling would be compared using logistic regressions model. It is expected that these samples would be tested in 2014 as soon as the test kits are available.

## **1.5 Trainings and information exchange/seminars**

### **1.5.1 Trainings**

- The Regional Coordination Unit of PROGEBE organised a regional training for people working on Animal Genetic Resources in its four countries. ITC was represented by 4 of its staff members (Dr Arss Secka, Mr Lamin K Darboe, Mr Modou Jeng and Mr Sidat Trawalley) and the Keneba breeding station served as demonstration site for an Open Nucleus Breeding Scheme on cattle and small ruminants breeding. The training was held at Tendaba camp, 17-21<sup>st</sup> June 2013. Resource persons for the training were Dr Mamadou Diop from Senegal and Dr Momodou Krubally of Mali.
- Dr Arss Secka served as a resource person in two trainings for livestock farmers conducted by the Gambia Veterinary Association on Animal Breeding, Selection, Health and Management as contracted by PROGEBE-Gambia. The first training was held at the Wellingara Model Horticulture Farm on 3-5<sup>th</sup> June 2013, whilst the second training was conducted at Pakalinding village on 28-30<sup>th</sup> June 2013.

### **1.5.2 Seminars**

On 31<sup>st</sup> December 2013, Dr Abdou Ceesay of the Department of Livestock Services (DLS), an MSc graduate in 2013 on Animal Breeding and Genetics at Wageningen, Netherlands. He presented his major and minor theses on “Genetic parameters and genetic trends for growth traits in the Djallonke sheep” and “Effect of breed on the tuberculin PPD test in guinea pigs”, respectively. The seminar was held at ITC Conference room, well attended, and very good

discussions emanated among the participants from ITC, PROGEBE, NARI and DLS. Dr Ceesay's scholarship was funded by PROGEBE-Gambia.

### 1.5.3 National and Regional Workshops

Some ITC staff attended national and regional workshops which have bearing on livestock research and development as shown in the table below:

Table 1. Conferences and workshops attended by staff members during the year

Staff	Conference/workshop	Purpose
Professor Ola Smith	PROGEBE Regional Steering Committee meeting Feb/March 2013 hosted by The Gambia	To present ITC's revitalisation process and position on consolidating the gains registered by PROGEBE
Dr Arss Secka	Multi-stakeholder sensitisation workshop on livestock policy and institutional reforms by the vet-gov project of AU-IBAR held at Senegambia Hotel on 25-27 <sup>th</sup> September 2013	Represent ITC and contribute to the discussions
Dr Arss Secka and Mr Olawale Olaniyan	Validation workshop on capitalization of PROGEBE experiences organised by PROGEBE-Gambia held at Paradise Suite Hotel on 12-13 <sup>th</sup> November 2013	Represent ITC and contribute to the discussions
Dr Arss Secka	Regional workshop on strengthening capacity on AnGR for "Champions" and national coordinators organised by ILRI/SLU in partnership with AU-IBAR and FAO. It was held at Ouagadougou, Burkina Faso on 3-10 <sup>th</sup> November 2013	Represent ITC and contribute to the discussions

## 2. Revitalisation process of ITC to WALIC

By the start of the year 2013, a new validated 10-year strategy plan and the new name of ITC which is West Africa Livestock Innovation Centre (WALIC) was already in place. The remaining part of the year was spent on attaining the approval of the new strategy by the Interim Executive Committee, amending the 1982 ITC Act, sensitisation of ECOWAS Commission, member states, CORAF/WECARD, mobilisation of resources, and recruitment of new staff.

### 2.1 Approval of the new strategic plan

#### 2.1.1 Interim Executive Committee meeting

As the number of active former council members of ITC has decreased substantially, an Interim Executive Council (IEC) was formed and they convened in Banjul on January 29-30, 2013 to discuss the new strategy and to eventually approve it. Under the chairperson of Dr Yemi Akinbami, the IEC in attendance consisted of the following persons: Dr Vivian Iwar

of ECOWAS Commission, Dr Hamade Kagone of CORAF, Dr Berhanu Bedane of FAO Ghana, Dr Abdou Fall of ILRI, Dr Seny Mane of Guinea's Ministry of Livestock, Mr Antonio Roberto da Sylva of Guinea Bissau's Livestock services, Mrs. Seklau Elizabeth Wiles of Liberia's Central Agricultural Research Institute, Dr Aliyu Sabi Abdullahi Agricultural Research Council of Nigeria, Mr Mamadou Nyang of Senegal's Livestock Services and Animal Production, Dr Chia Valentine Yapi-Gnaore of CIRDES Burkina Faso, Prof Leo Dempfle from University of Technology Germany, Hon Minister Solomon Owens of Gambia's Ministry of Agriculture, Mr Alphu Jain Marong PS Ministry of Agriculture of Gambia, Mr Abdoulie Danso DPS Ministry of Agriculture of Gambia, coordinators of PROGEBE RCU, and senior officials of ITC.

With some modifications in the content of the strategy and the governance structure shifting from WALIC seeking to become ECOWAS centre in favour of becoming a technical arm, the strategy plan was approved. At the closing of the meeting, the following next steps on the revitalization process were agreed upon:

- 1) Preparation of implementation strategy,
- 2) Financial resource mobilization,
- 3) New staff recruitment,
- 4) Regional reach activities, and
- 5) Launch new strategic plan and WALIC.

The new 10-year strategic plan was then finalized and posted on the ITC website ([www.itc.gm](http://www.itc.gm)).

### **2.1.2 Extra-ordinary Executive Meeting**

The council members also met on 4-8<sup>th</sup> July 2013 in what was referred to as the extra-ordinary executive committee meeting. Members present at the meeting were Dr Yemi Akinbami (Chairman of Council), Dr Hamade Kagone of CORAF/WECARD, Dr Babou Jobe Ag Director General of ITC, and Ms Ada Gaye Permanent Secretary, Ministry of Agriculture, The Gambia and were assisted by the senior staff of ITC.

The meeting started with a courtesy call and working visit to the Minister of Ministry of Agriculture. The honourable minister was briefed on the departure of the outgoing chairman of council, Dr Yemi Akinbami, the interim chair of council represented by Dr Hamade Kagone of CORAF/WECARD, activities taken thus far on the revitalization process, the next steps where Ministry of Agriculture should take the leading role, extension of the invitation to the Hon Minister to attend FARA's 6<sup>th</sup> Africa Agricultural Science Week and General Assembly slated for 15-20<sup>th</sup> July 2013.

During the meeting sessions at ITC headquarters, the council was first updated on activities undertaken in the revitalization process such as finalization of the new 10-year strategy plan, resource mobilization, and advocacy and sensitization of partners and stakeholders. They also discussed the governance structure in the strategic plan and made the following modifications:

- i) A reduction in the size of the Council to a maximum of 15 members, in order to minimize associated financial burden of organizing Council meetings on the Centre
- ii) A balance is maintained between the Anglo and Francophone member countries representatives, and the suggested countries to start as members of the Council were: Guinea, Niger, Senegal, Gambia, Ghana and Nigeria
- iii) A slot to be provided for the representation of the AU-IBAR on the Council

- iv) ILRI to take up one of the 3 slots reserved for experts, and that the other 2 be filled by required expertise such as in the areas of livestock policy and information/communications.
- v) Rules of procedure for the Council including such matters as: frequency of meetings, members' entitlements, decision making process (by consensus, unanimity or two thirds majority), and the powers of the chair etc. should be drafted for a discussion and approval during the first WALIC Council meeting.

A documentary showing ITC's accomplishment over the last 3 decades, and the process of its transformation to the West Africa Livestock Innovation Centre (WALIC), and some elements of the new strategic plan that WALIC will pursue over the next ten years was shown to Council members. The documentary was conceived as a communication and advocacy tool for WALIC and was prepared with the support of the Communication Extension and Education Services (CEES) of the Department of Agricultural Services of The Gambia. The script was narrated by Professor Ola Smith, and featured contributions and interviews from livestock farmers, ITC staff including the Acting Director General. The minister of Agriculture rounded up the documentary with an appropriate clarion call to ECOWAS Members States to join the WALIC consortium as co-owners of the institution. It was appreciated and council made some suggestions for its improvement, including making it more gender balanced in terms of featured participants, a slight change in the title of Prof. Smith, and the inclusion of possible livestock-environment interaction scenes.

The Head of Finance, Mr Lamin Drammeh, presented the Auditor's Report and Financial Statements for the year ended 31 December 2012 for ITC prepared by PKF Accountants & business advisers. The report contained General information, Council members' report, Auditor's report, Income statement, Balance sheet, Statement of changes in equity, Statement of cash flows, and Notes to the financial statements. The income statement for the year ended 31<sup>st</sup> December 2012 showed a surplus of \$14,720 compared to a deficit of \$474,844 by 31<sup>st</sup> December 2011.

Prof Smith presented the work plan of 2013. He mentioned that 2013 is a transition year and for making the final touches to the revitalization process. According to him, the main activities for the year are: the production of a companion implementation plan to the strategy; advocacy and sensitization of stakeholders and partners; rebranding of ITC; constitution and inauguration of new Council; recruitment of a core group of staff to start the implementation of the strategic plan; management of the nucleus herd; implementation of a number of on-going training and research activities; and resource mobilization. The objectives and expected outputs for each set of activities were highlighted during the presentation.

The Council members also paid a courtesy call to PROGEBE Regional Coordination Unit and also conducted a one day field visit to ITC Keneba station.

On their last day of the meeting, the Council reviewed the issues discussed during the previous 3 days, and took the following actions.

- i) Review of a formal document on the appointment of an interim chair for the Centre. Following a consensus on the content of the document it was approved and signed by members.
- ii) A review of the outcome of the close session on staff welfare. Following the review, the following actions were taken:
  - a) A formal renewal of the contract of Professor Smith for a period of 1 year.
  - b) A formal approval of decisions taken with regards to staff remuneration and agreed upon increment.

- c) A formal approval of the budget for 2013
- d) A formal approval for the renewal of the contract of the current Audit Firm (PKF Accountant and Business Advisers) for a period of 3 years.

Following this final set of activities, the chair formally brought the meeting to a close.

## **2.2 The Operational plans**

The operational plan is based on the WALIC Strategic Plan for the period 2013-2022. It outlines the steps that are needed to put into operation the ideas and aspirations articulated in the WALIC's 10 year (2013-2022) finalized Strategic Plan. The objectives of the operational plan included: 1) the development of activities, outputs and outcomes that will contribute to the achievement of the goals stated in the strategic plan; 2) development of programmes and sub-programmes/projects based on the four themes developed and outlined in the strategic plan; 3) providing estimates of operation and staff costs to the various programmes in a robust manner; 4) development of a logical framework for the four programmes; and 5) development of an M & E framework for WALIC. It is intended that the operational plan will be a working document from which other institutional documents such as Business Plans and Medium plans will be developed.

Based on the goals stated for the four themes in the strategic plan, four corresponding programmes were developed, each with a suggested name and a broad objective. The four suggested programmes are the Livestock Genetic Improvement and Conservation (LIGIC) Programme for theme 1; Value Chain Actors Capacity Building (VACACAB) Programme for theme 2; the Knowledge Management (KNOWMAN) Programme for Theme 3; and the Advocacy and Partnership (ADVOPART) Programme for Theme 4. Activities, Outputs and Outcomes were developed for each of the four programmes. Logical frameworks were developed for each Programme. Activities and Outputs were phased into three periods: short (2013-2014), medium (2015-2017), and long term (2018-2022). Staff requirements for the first five years were estimated for each programme. The cost of each research and innovation in terms of staff costs and inputs costs for Programmes (Themes) 1, 2, 3 and 4 for the first 5 years of implementation were estimated to be 4.99, 3.12, 3.19 and 3.06 million USD, respectively.

Three funding scenarios were developed. The optimistic scenario, taken as the projected cost in the WALIC Strategic Plan for research for the first five years (2013-2017) amounted to US\$12.81 million. The slightly over-optimistic scenario was taken as the projection in this operational plan which amounted to US\$14.35 million. For the slightly less optimistic scenario, a conservative figure of 80% of the optimistic scenario funding was applied, resulting in an amount of US\$10.25 million. It is assumed that the amounts stated for the various scenarios will be revised once a newly appointed Governing Council examines the funding environment and make recommendations to WALIC management accordingly.

It was recommended that the infrastructural and refurbishment of the ITC/WALIC facilities, including the purchase of equipment and livestock, and the limited activities associated with the anticipated grant from the Islamic Development Bank be started in late 2013 if funding is received. The full WALIC agenda should then be initiated in January 2014. However, the recruitment processes for the Director General, programme managers and key researchers should be initiated in the last quarter of 2013, for staff to be at post in January 2014. The first WALIC medium Term Plan, based on the Operational Plan should then be developed by end of the first quarter of 2014.

## 2.3 Resource mobilization

### 2.3.1 PROGEBE/AfDB

A number of donors were approached to support ITC/WALIC financially for the implementation of its new strategy. The African Development Bank (AfDB) was approached through PROGEBE to fund some activities within the revitalization process. By end of January 2013, a sum of US\$195,108 was approved by AfDB to fund 10 activities. The activities, budget and their status of implementation are shown in the table below:

S/n	Activities	Budget (US\$)	Status of implementation
1	Livestock Genetic Diversity Conservation and Improved Use		
1.1	Additional 30 new heifers/cows	9,000	Budget revised/not implemented
1.2	Support to Guinea and Mali to improve Breeding plan	36,940	Budget revised/not implemented
2	Capacity building of actors along livestock value chains		
2.1	Improve the organizational and technical capacity of the GILMAS	24,570	Consulting group engaged to provide a technical and financial offer
2.2	Short term ITC technical staff training	2,100	Budget revised/not implemented
3	Knowledge management		
3.1	Redesign ITC website and train 2 staff to maintain it	5,000	Advertised for submission of expression of interest; recruitment of consultant in progress
3.2	Rehabilitate the central data and information processing facility (computing room)	8,500	Purchase of the computers is in progress
3.3	Rehabilitation of the library, archive, and digitization of existing and new documents	5,000	Advertised for submission of expression of interest; recruitment of consultant in progress
4	Advocacy and partnership brokerage		
4.1	Visits to ECOWAS member states	37,890	Guinea Conakry and Ghana visited by ITC team in May and July 2013, respectively
4.2	Mission to AfDB in Tunisia	21,050	Not yet implemented
4.3	2 day workshop to launch new 10-year Strategic Plan/ Donors' Forum for resource mobilization	45,058	Not yet implemented

During the third quarter of 2013, a budget revision was made and additional sum of money was provided by AfDB up to the tone of US\$225,000 for the recruitment and 6 months salaries for four cohort staff (Director General, head of finance and administration, executive assistant, and advocacy and partnership coordinator) to work for WALIC.

### 2.3.2 Islamic Development Bank (IDB)

ITC submitted a five year project entitled *Improved Livelihood through Enhanced Livestock Production and Productivity* with a budget of US\$10 million to IDB in April 2013 for funding support under its Regional Resilience Project. The goal of the project is to contribute to improved food security and poverty reduction through improved livestock production and productivity in The Gambia. The three main objectives are to: 1) contribute to livestock

restocking for farmers who suffered some losses during recent drought episodes through the provision of management support as well as supply of improved stock; 2) improve the performance of three ruminant livestock breeds that constitute the bulk of ruminant livestock raised by farmers in The Gambia; and 3) contribute to the rehabilitation of rural livelihood system through diversification in the livestock value chain.

ITC's proposal was part of other proposals from PROGEBE and other agricultural departments. All the project components were lump into one big project for The Gambia by the bank officials. Although the Bank has approved ITC's component of the project, the budget was first cut down to US\$3 million and then to US\$0.5 million. The rationale behind this cut was that the bank and government of the Gambia are aiming for a livestock stand alone project.

Therefore by November 2013, a concept note for a livestock stand alone project prepared jointly by PROGEBE-Gambia, Department of Livestock Services and ITC, was submitted to IDB through the Ministry of Agriculture for consideration. The attached budget for this 5 year project is US\$15 million. It is expected that this project is going to strengthen the response capacity of ITC to continue delivering public goods for the Gambia and the West Africa region in terms of improving the genetic merit of local ruminant animal genetic resources for the use of both resource poor and more endowed urban livestock producers.

### **2.3.3 Belgium development corporation (DGDC)**

By end of first quarter of 2013, ITC has submitted a request to Belgium to increase the annual allocation to ITC from 200,000 Euro to 500,000 Euro. The request has been submitted to Belgium and the necessary follow ups are being pursued. By end of the year, Belgium was still reorganising its financial support system to research centres, but it is still hopeful that positive results would be attained in 2014.

## **2.4 Partnership and advocacy for WALIC**

### **2.4.1 Building partnerships**

As the new WALIC is poised to become a regional livestock innovation centre, it has to partner with sub-regional organisations (CORAF/WECARD), international organisations (ILRI), economic community of West Africa (ECOWAS Commission) and other regional farmer organisations, civil society groups, bilateral and multilateral donors. There is also need to get ECOWAS member states to co-jointly own the centre where they would be responsible and share the benefits generated by the centre.

The ITC Gambia government 1982 Act that was enacted in 1982 has to be amended to accommodate the change in name and status of the new centre. All necessary changes in the 1982 Act as well as the Memorandum of Understanding between ITC and GOTG has been highlighted and forwarded to the Ministry of Agriculture to get the recommended changes effected at Cabinet through the Ministry of Justice.

A new Memorandum of Understanding (MOU) between WALIC and CORAF/WECARD has been prepared and presently at CORAF under review for the adoption and recognition of WALIC as CORAF's base centre/regional centre of excellence. The process is on and would be signed by the respective authorities most likely in early 2014.

Another new Memorandum of Understanding (MOU) between WALIC and ECOWAS Commission has been prepared and presently at ECOWAS Commission. The main objective

of the MOU is for WALIC to become a technical arm of ECOWAS Commission. It has been reviewed by its legal department with positive outcome. It is also expected to be signed by the respective authorities of the two institutions early in 2014.

ITC was represented at the inter-ministerial meeting organized by AU-IBAR in Abidjan, in April 2013. Prof Smith from ITC advocated for the inclusion in the recommendation of experts, the transformation of ITC into WALIC for the West Africa region. A side event meeting was planned for the Minister of Agriculture of The Gambia to meet with some of his counterpart Ministers at Abidjan to advocate for their support to regionalise the new centre. Unfortunately, this meeting did not happen as the Gambian Minister did not make it to the summit.

## 2.4.2 Country visits

Two ECOWAS member states were visited by the ITC team to get their buy-in into joining the WALIC consortium. The first country visited was **Guinea Conakry** on 8-15<sup>th</sup> May 2013. The objectives of the mission were to: 1) sensitize the Guinean Minister of Livestock and line departments on the new 10 year strategy plan and a draft Memorandum of Understanding (MOU) between Guinea and WALIC; 2) identify a focal person linking WALIC and the Guinean government; and 3) visit the breeding station at CAE located at Boke region. This mission resulted into good understanding of the new 10 year strategic plan, expressed political will of the Guinean Minister of Livestock and his technocrats to be members of WALIC, exchange of ideas on the draft memorandum of understanding, selection of a focal person for WALIC, and various recommendations for the improvement of the breeding program at CAE. The Guinean authority has already designated a representative to the governing council of WALIC, and have also selected a focal person between Guinea and WALIC.

The second country visited by the ITC team was **Ghana** on 13-23<sup>rd</sup> July 2013. The first objective of the visit was to participate in the 6<sup>th</sup> Africa Agriculture Science Week (AASW) and FARA General Assembly, as an advocacy and sensitization tool and strategy to garner support for WALIC from its various stakeholders and partners. The second objective was to sensitise the Minister and key staff members of the Ministry of Food and Agriculture on WALIC and request them to join the WALIC consortium, review the draft MOU between Ghana and WALIC, nominate governing council representative and a focal person.

The Ghana mission resulted into the following outcomes:

- WALIC became known by more than 1000 participants that came to the 6<sup>th</sup> AASW as its booth was strategically positioned at the first spot on your right after the entrance door,
- About 150 participants from most parts of the world visited WALIC's booth and received some information either in English or French about WALIC's formation, mandate, vision, mission, thematic areas and governance structure,
- Communication products given out to visitors at the WALIC's booth amounted to 100 brochures, 100 copies of the executive summary of the strategic plan (English version), 30 copies of the executive summary of the strategic plan (French version), 50 USB flash drives loaded with all documents on WALIC, 3 copies of the full strategic plan, and 5 copies of the documentary on the transformation process from ITC to WALIC, and
- Meeting with the Deputy Minister of Food and Agriculture, chief director, and five deputy directors yield strong willingness and commitment to join WALIC. Contact



person identified and we were promised that they would respond to all our requests in due course.

### **2.4.3 Invitation of ECOWAS member states to join WALIC**

In September 2013, the Hon Minister of the Ministry of Agriculture of The Gambia sent out 13 invitation letters to his counterparts in 13 West African countries to inform them of the initiatives taken to regionalise WALIC and request them to join in the ownership of the new centre. The invitation letters were sent to the Ministers of Agriculture/Livestock in Senegal, Guinea Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Burkina Faso, Mali, Ghana, Togo, Benin, Niger and Nigeria. Responses to these invitation letters are being followed up.

There are three of the first six selected countries to serve in the governing council of WALIC that are targeted to be visited and sensitised by the ITC team led by the Minister of Agriculture. The first six selected countries are Gambia, Ghana, Nigeria, Guinea, Niger and Senegal. Both Guinea and Ghana have been visited, and now it remains Senegal, Niger and Nigeria. Correspondences are under way led by the Ministry of Agriculture to visit the Livestock Minister in Senegal, ECOWAS Commissioner of Agriculture in Abuja, and Nigerian Minister of Agriculture in Abuja, Nigeria. Appointments for the visits were not yet secured by the end of year 2013; hence the trips are expected to be convened in early 2014.

### **2.5 Staff recruitment**

After securing some substantial amount of funds from AfDB through PROGEBE to cover the recruitment cost and six months salaries for four new staff plus the projected revenues from donors, ITC management decided to start the recruitment process for four new staffs in October 2013. The terms of reference in both English and French languages for the positions of Director General, Head of Finance and Administration, Executive assistant, and Advocacy and Partnership Coordinator were prepared and finalized in October 2013.

Advertisement of the four vacant positions opened until 8<sup>th</sup> November 2013 were published in one Regional Magazine *Jeune Afrique* under the heading *Anonces Classées*, Issue number 2753, 13-19<sup>th</sup> October 2013, page 106; and nine websites that have large number of subscribed members by the professional and administrative staff of ITC and PROGEBE. The PDF versions of the four TORs in both languages were posted at the ITC website [www.itc.gm/walic](http://www.itc.gm/walic) on 14<sup>th</sup> October 2013, Be-troplive website [www.be-troplive.be](http://www.be-troplive.be) on 15<sup>th</sup> October 2013, Domestic Animal Diversity Network (DAD-Net) Global on 15<sup>th</sup> October 2013, Domestic Animal Diversity Network (DAD-Net) West and Central Africa on 15<sup>th</sup> October 2013, Reliefweb website <http://reliefweb.int> on 17<sup>th</sup> October 2013 with the following hyperlinks (<http://reliefweb.int/job/609427/director-general-west-africa-livestock-innovation-center>, <http://reliefweb.int/job/609429/walic-coordinator-advocacy-and-partnership-brokerage>, <http://reliefweb.int/job/609431/bilingual-executive-assistant-director-general>, and <http://reliefweb.int/job/609436/walic-head-finance-and-administration-hofa>), FARA website [www.fara-africa.org](http://www.fara-africa.org) under opportunities and jobs outside FARA on 18<sup>th</sup> October 2013, CORAF/WECARD website [www.coraf.org](http://www.coraf.org) under Job Opportunity on 18<sup>th</sup> October 2013, PROGEBE project website [www.progebe.net](http://www.progebe.net) on 24<sup>th</sup> October 2013, and the Global Forum on Agricultural Research website <http://www.egfar.org/news-and-publications/job-opportunities> on 28<sup>th</sup> October 2013.

About 200 applications were received, sorted, collated and examined. Up to three candidates per position were shortlisted in December 2013. Interviews and appointment of successful candidates are expected to be finalized by early 2014.

## **3. Outlook for 2014**

### **3.1 Research and Training Activities**

#### **3.1.1. Monitoring of CBPP vaccination response in cattle**

In 2013, over 400 serum samples from cattle vaccinated against CBPP were collected from ITC cattle located in Niamina East District. These samples were collected 2 days prior to vaccination, 2 weeks and 3 months post vaccination. The samples will be analyzed at the ITC lab in Kerr Serigne in early 2014 as soon as the competitive ELISA kits for detection of antibodies against CBPP are acquired.

#### **3.1.2. Genetic Improvement through Breeding and Selection for Elite Breeding males of Endemic Ruminant Livestock Breeds**

All of the activities currently being carried out at all the field stations (Keneba, Kudang and Bansang/Sololo) will be continued in pursuit of our efforts to improve the performance of the three ruminant livestock breeds without affecting their resistance to a number of diseases or reducing their adaptability to the environment in which they have thrived for generations. These animals constitute a valuable animal genetic resource for millions of livestock producers in the region. The breeding bulls and bucks that would be selected in 2014 will be disseminated to the multiplier tier herds and flocks for multiplication and further dissemination to other farmers for the genetic improvement of their cattle and goats. Restocking with new sheep, goats and cattle at the nucleus flocks and herds at Keneba station would be pursued through the continued breeding of the present stock and introduction of new stock from the IDB resilience project in 2014.

#### **3.1.3 Joint FAO/ITC/PROGEBE Regional Transhumance project**

This project “*Assessment of the impact of transhumance on the sustainable management of animal genetic resources*” is one of the projects submitted under the First call for Proposals related to the FAO Trust Account in support of the Global Plan of Action (GPA) for Animal Genetic Resources for the biennium 2013-2014 and approved for funding by the Commission on Genetic Resources for Food and Agriculture. This regional project will be implemented in four PROGEBE countries: Gambia, Guinea, Mali and Senegal.

The objectives of the project are to: 1) identify adverse impacts of transhumance on the management of endemic ruminant genetic resources, 2) propose mitigation strategies to adverse impacts, and 3) promote the implementation of the proposed mitigation strategies.

The project is expected to achieve the following outputs:

- Hotspots of transhumance in each country are identified
- Knowledge on the incidence of transhumance on the biodiversity improved
- Specific strategies for the mitigation of the negative impacts of the transhumance proposed

ITC in collaboration with PROGEBE will implement this project in 2014.

#### **3.1.4 Partnership with AU-IBAR on Genetics Project implementation**

In December 2013, a three-man team from AU-IBAR headed by Dr Simplicie Nouala Chief Animal Production Officer, visited ITC to present their recently launched 5 year long project

entitled *Strengthening the Capacity of African Countries to Conservation and Sustainable Utilisation of African Animal Genetic Resources*. This project financed by EU and African Union to the tune of €14.5 million is expected to run from 2013 to 2018. ITC has been designated as one of the collaborating partners for the implementation of this project.

The overall project objective is to enhance the contribution of livestock to food security and economic growth in Africa; and its specific objective is to strengthen the capacity of countries and Regional Economic Communities to sustainably use and conserve African animal genetic resources through institutionalizing national and regional policy, legal and technical instruments.

Expected results of the project will strengthen the inherent capacities of Regional Economic Communities (RECs) and the end-users at community level to improve the utilization of AnGR and rural livelihoods through:

- 1) Establishment of the status & trends of animal genetic resources in West, Central and East Africa;
- 2) Development of Policy frameworks for the sustainable use of AnGR;
- 3) Supporting and strengthening national and regional conservation and improvement strategies and initiatives; and
- 4) Increasing knowledge, attitude and practice of the contribution of livestock and livestock sector to economic growth, food security and poverty reduction.

There are up to 18 main activities drawn up to deliver the four expected results stated above.

The main outcome of this visit was that many potential areas of collaboration between ITC and the project were identified. As the project had also to visit other collaborating partners such as CIRDES, ILRI and FAO to conduct similar exploration of potential areas for collaboration as done with ITC, it was agreed that a partners round table conference would be undertaken in early 2014 to agree on the roles and responsibilities of each partner. This would then be followed by preparation and signing of contractual arrangements, and then implementation of the 2014 work plan.

### **3.1.5 Regional Programme on Strengthening the Resilience to Food and Nutrition Insecurity in the Sahel (P2RS)**

The African Development Bank (AfDB) team consisting of the coordinator of P2RS and that of the PROGEBE (Madam Haly) were on a mission to The Gambia in the first week of February (1<sup>st</sup> – 7<sup>th</sup>), 2014. During this period, a brief visit to the ITC (Kerr Serigne) premises was also made in order to get familiar with the facilities and present situation of this station. Earlier on, a request for proposal (activities and cost) concerning the livestock components of the P2RS that ITC/WALIC could successfully implement was made by the African Development Bank.

The background information about the P2RS shows that it has been recognized that the pastoral situation remains difficult in many areas of the Sahel due to lack of pasture, water shortages and overgrazing with consequent early transhumance, changing livestock course, and exacerbation of conflicts between communities at the borders.

It is in this context that some rather worrying CILSS (Permanent Inter-State Committee to Fight against Drought in the Sahel) countries have declared a state of emergency and requested assistance from the international community. In response to this solicitation, the AfDB initiated in 2012 consultations with the CILSS, countries of the region and active development partners in the Sahel to formulate a regional program of resilience to food and nutrition insecurity in the Sahel (P2RS). The Bank through support for the implementation of P2RS seeks to reduce the effects of both cyclical and structural climate change and thereby

contribute to strengthening the resilience of the most vulnerable populations. Thus the program aims to eradicate the structural causes of both acute and chronic food and nutrition crises by helping vulnerable households to increase their incomes, access to infrastructure and basic social services, and to build a heritage in sustainably enhancing their means of existence.

The P2RS is subdivided into two: the national and regional components. ITC/WALIC was invited to submit a proposal for activities that would be implemented at the regional level based on the comparative advantage of this institution. After some deliberations, a 12-page proposal sent to AfDB showed that the entry point for ITC/WALIC through the livestock aspect of the P2RS will focus on complementary activities that will add values to the national and regional efforts.

Specifically, the intervention components of ITC/WALIC will include:

1. Development of regional strategy on pastoralism,
2. Improved livestock production, productivity, competitiveness,
3. Consolidation, out-scaling and up-scaling of selected PROGEBE OUTPUTS,
4. Capacity building of livestock value chain actors to complement AFDB's special fund initiative to strengthen technical/professional cadres in the region,
5. Knowledge management, transfer and use,
6. Institutional strengthening (WALIC)

The total budget is \$4.29 million. Meanwhile, ITC/WALIC is expecting approval of this proposal from the AfDB.

## **3.2 Revitalisation process of ITC to WALIC**

### **3.2.1 Advocacy and partnership for WALIC**

Planned country and institutional visits requested for by the Ministry of Agriculture in 2013 would be pursued in 2014. The targets are Minister of Livestock in Senegal CORAF Secretariat in Senegal, ECOWAS commission in Nigeria, and the Minister of Agriculture in Nigeria. A sensitisation visit to Niger would also be undertaken in 2014. It is expected that the Minister of Agriculture will accompany the ITC team to Senegal and Nigeria to get the support of these essential partners and countries.

The next steps that would follow the country visits are constitution and launching of the new governing council, recruitment of new staff, resource mobilization, and launching of the new strategic plan and WALIC.

### **3.2.2 PROGEBE RCU support to ITC**

Certain activities planned for implementation in 2013 through PROGEBE support but could not be realised will be pursued in 2014. These activities include the Participatory Institutional Diagnoses of GILMA, development of a new website for WALIC, rehabilitation of the central computer room and library, and some consultancies.

## 4. Conclusion

The year under review has been marked with many achievements on the research and training activities, finalization of the new 10 year strategic plan, and advocacy for support to establish WALIC as a regional centre for West Africa.

- Three research activities have been completed (two under Aus-AID project and one under ITC), and another one under ITC will be finalized in 2014.
- ITC was well represented at three national and one regional workshop.
- Eight elite breeding bulls and 10 breeding bucks selected from the nucleus were disseminated to multipliers directly or through PROGEBE and LHDP projects.
- The approved and finalized new 10 year strategic plan has been transformed into easy to read and understand brochures in both English and French. The brochures and executive summary of the strategy were circulated widely before, during and after the sixth Africa Agricultural Science Week held at Accra, Ghana in July 2013. Furthermore, the outlook for 2014 would be to focus on the not realised activities planned in 2013 and the next steps on the transformation process of ITC to WALIC.
- Since funding and staffing structure and size has not changed to undertake more research and development activities, the decision to focus almost exclusively on a transformation process was a strategically important one. The transformation process expected to culminate at establishing WALIC for the West Africa region and other stakeholders at large must be pursued to ensure that it effectively serves the livestock stakeholders of the sub-region. Its various stakeholders should therefore look out for a renewed and rejuvenated institution with a promise of better collaborative days ahead. We invite our various development partners to accompany us and make our dream a reality.