



ITC Newsletter



International Trypanotolerance Centre
Banjul, The Gambia

Editorial

The second issue of the ITC Newsletter covers the Quarter April–June 2003, nonetheless with some overlaps with the preceding and the following month.

Launched in March, the first issue has been distributed to partner institutions and individuals within the sub-region. For those who have not received a “hardcopy”, the Newsletter can be accessed on the ITC website with the Acrobat Reader and printed or downloaded at any time.

The annual meeting of the ITC Council is already well behind us, and the Centre’s Management was very pleased with the outcome and the recommendations made.

In this issue, we have started a series called “Focus: NARS Partner Institutions of ITC”, which shall provide short portraits and synopses of institutions of the National Agricultural Research Systems of partner countries. Being the principal collaborators of ITC in livestock-based agricultural R & D work at national level, our intention is to provide the reader with some insight into the general structure and roles of NARS institutions in the sub-region. This may contribute to more transparency, communication, and perhaps even closer ties and networking. Starting with The Gambia as the host country of ITC,

the Directors of the Department of Livestock Services (DLS) and of the National Agricultural Research Institute (NARI) have kindly accepted the idea and provided concise descriptive accounts of their respective institutions. In the next issue we hope to continue this series with contributions from one of our other partner countries, hence most likely written in French.

Group training in the new Computer-Pool at ITC has had a good start. Though still without permanent care by a (network) administrator, a number of successful training exercises have taken place, namely basic training on office applications, two introductory courses on MS Access and EpiInfo, mainly for ITC staff, and two regional training workshops on data management and statistical analysis. One dealt with animal health and production data, the other with socio-economic data which have been generated under the research and development agenda of ITC and NARS, within the framework of PROCORDEL over the past three years.

Various other training courses and workshops took place over the last few months at ITC or with ITC involvement in The Gambia and in other partner countries, some of which you will find featured in this Newsletter.

The Director General’s Corner

It is with great pleasure that I contribute to the second issue of the ITC Newsletter. The maiden issue launched on the occasion of the 2003 ITC Council in March this year was a huge success. Our Council, partners and staff welcomed the Newsletter as a positive development.

As pointed out in the Editorial, our Council made several challenging recommendations during the course of the March meeting. Council gave its support to Management’s proposal to develop the next Medium Term Plan (2005-2008) together

with a Long Term Strategy. Socio-economic conditions in much of West Africa are changing rapidly and that is profoundly affecting the way farming and animal husbandry are carried out. This coupled with on-going renewal of national, sub-regional and regional institutions requires a wider consultation with partners on research and development priorities in order to develop these documents.

The Centre is positioning itself to face the challenges of having to do more with less. Support and cooperation from all stake-

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ITC
A livestock-
based Agricultural
Research
Institute
dedicated to
serve the
West African
Region

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Council members, guests and ITC staff during the annual Council meeting

holders will be needed. Some of the initial steps towards the renewal of the Centre and in developing a Long Term Strategy that is relevant to the needs of the region include holding of National Conferences with partners and collaborators to review the results achieved so far, exchanging ideas at regional and international fora such as at recent meetings organised by CORAF/WECARD, FARA and GFAR.

During a European tour in August/September, the Director General will be soliciting donors' views and support for the Long Term Strategy of ITC. At the political level, the Centre is putting in motion the formation of a Ministerial Advisory Council, comprising of Ministers responsible for Agriculture, Livestock or Natural Resources in the West African region to complement the efforts of the ITC Council, and to provide an advocacy role for the Centre. Accordingly, the ITC Act of the Gambian Government that established the Centre is being reviewed in view of the growing regionalisation of the Centre.

PROCORDEL – Strategies for consolidation of results

The *Programme Concerté de recherche-développement sur l'élevage en Afrique de l'Ouest (PROCORDEL)* is a 4-year programme funded by EU under EDF 8. It started in 2000 and is now in its last year of fieldwork implementation in the 13 countries participating in this programme. Two Sub-regional Research Centres coordinate the activities, namely ITC that collaborates with partner institutions in The Gambia, Senegal, Guinea, Guinea-Bissau and Sierra Leone, and CIRDES in Bobo-Dioulasso, coordinating the work in Mali, Niger, Côte d'Ivoire, Benin, Ghana, Togo and Burkina Faso. The R&D activities are planned and implemented in close collaboration with the NARS of these partner countries.

A brief overview of programme achievements so far of the work coordinated by ITC was given in the previous issue of this Newsletter.

Internally, the Centre continues to take advantage of challenges and opportunities to optimise its operations. One such development was the setting up of a four member Interim Team from the Programme Management Committee for Regional Research Coordination (IT-RRC) in late June 2003 to assume the responsibilities of the Regional Research Coordinator, Dr. Susanne Münstermann, who stepped down to enable her to consolidate the activities of the large EU-funded Regional Project, PROCORDEL, which comes to an end during the first quarter of 2004. On behalf of the Council, Management and Staff, I extend the Centre's deep appreciation to Dr. Münstermann for her dedicated service to the Centre in her role as Regional Research Coordinator.

Once again, let me take this opportunity to thank Dr. Andreas Schoenefeld, the Chief Editor, and his small editorial team for bringing out this second issue of the ITC Newsletter on schedule.

Last but not least, I wish to express the Centre's gratitude to our local and external donors whose financial and material support enable the Centre to continue to operate and expand to meet the challenges of contributing to the livelihoods and welfare of the people in the region.

Kwaku Agyemang, DG

PROCORDEL National Conferences will be held in the partner countries during the last quarter of

In this issue, the focus is on the strategies laid out for consolidation of R&D results until the end of the Project in March 2004. Such results should primarily be of benefit to the end users, i.e. the livestock producers, but are also addressed to the stakeholders in livestock-based agriculture. To recall the main subjects of R&D implemented during the project period, refer to **Table 1** and **2** and to ITC's website.

In June 2003, ITC researchers in consultation with their NARS partners, held a series of meetings to look at the state of advance of individual research activities. In order to meet the objectives and expected outputs of the project, it was decided to present results in the following categories, as appropriate:

- Publications in peer-reviewed scientific journals

- Issues to be published under the ITC *Working Paper Series*
- *Technology packages*, derived from conclusions of those documents to be formulated as strategy documents for decision makers
- *Conference presentations*, mainly as synthesis papers on wider themes (pure breeding, crossbreeding, disease risk assessment, etc.) to be presented at Procordel National Conferences to be held in The Gambia, Guinea, Guinea Bissau and Senegal in November/December 2003, and a Procordel Regional Conference in early 2004
- *Extension and training materials*, derived from the multitude of training courses held during the project, specifically designed to illustrate selected results and recommendations for the use of extension services
- Joint final report by ITC and CIRDES

Besides the presentation of primarily technical outputs, the implementation strategy put in place for this project was found exemplary for successful networking in live-stock-based ARD in West Africa. This strategy was described in a paper submitted to the GFAR poster competition and was selected for presentation during the 2nd triennial Global Conference for Agricultural Research (21-24 May, Dakar) under the title: *PROCORDEL – a Model for Regional ARD Partnership*. It can be downloaded from the ITC website.

Efforts of ITC and partner NARS staff engaged in Procordel/ITC will be focussed during the forthcoming months on the execution of this ambitious plan for the consolidation of results and we hope to be able to report major advances in the next Newsletter.

CIRDES	ITC
<u>Animal health</u>	
Disease risk assessment for vector-borne diseases (epidemiology, improved diagnostic techniques) Characterisation of trypanotolerance; trypanocide resistance	
Tsetse control (fly rearing, control methods, spatial distribution)	Milk quality control along the commodity chain
<u>Animal production</u>	
Feeding strategies (dry season feeding, feeding for transhumant cattle)	
	Pure breeding of trypanotolerant N'Dama cattle, Djallonke sheep, WAD goats
<u>Socio-economics</u>	
Accompanying studies to the activities listed above In addition: Characterisation of the dairy sector; Impact of policy reforms on the livestock sector	

Table 1: R & D activities in the low input systems

CIRDES	ITC
<u>Animal health</u>	
Disease risk assessment in crossbred cattle Importance of zoonotic diseases in peri-urban livestock enterprises	
<u>Animal production</u>	
Crossbreeding with dairy breeds and performance monitoring Characterisation of dairy systems, incl. milk quality control Fodder plant cultivation and their integration in mixed farming systems Testing of locally available alternative feed sources for peri-urban dairy production	
Small ruminants productivity (synthesis)	
<u>Socio-economics</u>	
Accompanying studies to the activities listed above In addition: Characterisation of the peri-urban, market-oriented dairy sector; impact of policy reforms on the development of intensified livestock production	

Table 2: R & D activities in the transition / market-oriented systems

ITC/Procordel continues to organise targeted training courses and workshops at national and regional levels



Regional workshop on socio-economic data management and analysis at ITC (16-21 June 2003), with Dr. M. Kamuanga (ILRI/CIRDES) and J. Somda as resource persons



Training of trainers on draught cattle management in Makeni, Sierra Leone (19-20 May, 2003)

FOCUS: NARS Partner Institutions of ITC

The Gambia

DEPARTMENT OF LIVESTOCK SERVICES Department of State for Agriculture



*DLS HQs (Office block)
in Abuko*

The mission of DLS is to improve livestock productivity in a sustainable manner through transfer of appropriate technology and implementation of disease surveillance and control mechanisms in order to adequately meet the animal protein requirements of the people.

The Department of Livestock Services (DLS) in The Gambia is one of four line departments under the Department of State for Agriculture. DLS has undergone several structural changes. The colonial administrators established a Department of Veterinary Service in 1933 with the primary responsibility for diseases monitoring, prevention and control, including public health. An Animal Husbandry Unit operated under the Department of Agriculture until 1976 when it was transferred to the Veterinary Department to form a Department of Animal Health and Production (DAHP). DAHP was later transformed to a DLS to address a wider range of livestock research and development issues.

A new organisational structure was developed in 1986, and the Department is now mandated to provide veterinary services and regulation (disease surveillance, monitoring, prevention and control, laboratory investigations and public health), extension and training in animal health, breeding, nutrition, range management, feed production and conservation, and to implement livestock related development activities (while the National Agricultural Research Institute is mandated to carry out livestock research).

The Department comprises the following Units: Directorate; Extension, Training and Field Services; Tsetse and Vector Control; Investigations (including laboratory Services); Range and Feed Management; and Veterinary Public Health.

DLS has 17 professional staff (9 veterinarians, 8 animal scientists, 2 range scientists) and 115 technicians with diplomas or certificates in laboratory technology, animal science, animal health and production, dairy technology, range management and tsetse control, and poultry production; and support staff.

There is a divisional office, clinic and laboratory in each of the 6 divisional headquarters, and 15 sub-stations and a Livestock Training and Demonstration

Centre at Yorro Beri Kunda (YBK). The Divisional Livestock Officers (DLOs) and Livestock Assistants are involved in a wide range of activities ranging from disease surveillance and control, promotion of livestock production technologies, participation in Multidisciplinary Facilitation Teams (MDFTs), etc. Field activities are constrained by inadequate resources, equipment and mobility, deficiencies in the extension structure and weak linkages with research institutions.

The Central Veterinary Laboratory, with microbiology, parasitology, haematology sections, and facilities to conduct basic food safety tests, is located at the Department's headquarters at Abuko.

DLS is currently implementing the following projects and programmes: European Union funded Pan African Programme for the Control of Epizootics (PACE); the livestock components of the Peri Urban Smallholder Improvement Project and the Rural Finance and Community Initiative Project; FAO Special Programme for Food Security (in collaboration with Bangladesh); PROCORDEL and the FAO TCP "Improving Milk Safety and Farmers Income Using the Village Milk System" (both in collaboration with ITC).

DLS's mission is to improve livestock productivity in a sustainable manner through transfer of appropriate technology and implementation of disease surveillance and control mechanisms in order to adequately meet the animal protein requirements of the people. In order to achieve the above mission it is essential that DLS takes a truly holistic approach and forges strong linkages with research institutions, other government and non-governmental organisations, the private sector and farmer groups. Extension operations are currently being reviewed in order to be more focused and responsive to the needs of the producers.

The Department's capacity in the areas of disease surveillance, reporting, diagnosis

and control are being enhanced under PACE, however a more cost-effective and self sustaining veterinary service delivery system (including the use of auxiliaries) should be developed to reduce production losses.

The linkages between ITC and DLS have been strengthened by PROCORDEL. DLS has been involved in the identification and implementation of the following research and development (R & D) activities: continuous production of F1-cattle with monitoring of disease prevalence and productivity; feeding strategies for cattle production; pure-breeding programme, dissemination and monitoring of pure bred animals (N'Dama bulls, Djallonke

rams and West African Dwarf goat bucks) for breeding using village or individual multipliers. This well established partnership is improving the effectiveness and impact of ITC's R&D programme and is enhancing the capacity of DLS' extension staff. Through its training activities, ITC has become a major provider of targeted short-term training for departmental staff and for livestock producers, which impacts positively on individual performance and the Department's services.

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ITC has become a major provider of targeted short-term training for departmental staff and for livestock producers

The Gambia NATIONAL AGRICULTURAL RESEARCH INSTITUTE

The National Agricultural Research Institute (NARI) was established by an act of Parliament in 1993, forming a major component of the Gambian Agricultural Research System (NARS).

NARI's mission is to conduct adaptive/applied client-oriented research on crops, livestock, forestry, fisheries and other natural resources in order to provide technological solutions to the problems of producers and inform policy makers on options to increase agricultural productivity and production without detriment to the natural resource base and the environment.

The fulfilment of the Institute's mandate will contribute to enhancing household food security, increased producer's incomes, and higher export earnings and to improve the national economy in general.

To ensure compatibility between the overall national agricultural development objectives of The Government of The Gambia and that of the Gambian Agricultural Research Systems (NARS), NARI has defined four principal objectives as follows:

1. To achieve greater food security through intensification and diversification of crop, livestock and fish production
2. To increase incomes in rural areas
3. To enhance the contribution of agriculture to the country's balance of payments through encouragement of export diversification and facilitation of value added activities after production

4. To consolidate the natural resource base of agriculture

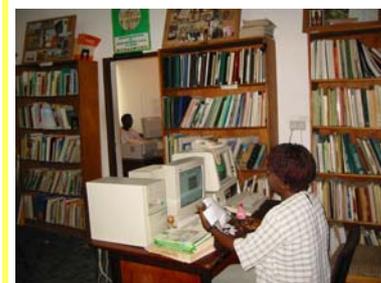
NARI comprises three main divisions: *Research* which is the scientific wing of the institute, *Finance and administration* and *Technical support*. NARI employs 24 scientists, 45 technicians, and 117 support staff.

Some of the major achievements since its inception in 1993 include:

1. Elaboration of both a medium (5 years) and long term (20 years) master plan for agricultural research in The Gambia.
2. Expansion of linkages to regional and international agricultural research institutions for joint programmes and funding.
3. Improved institutional and research management capacity through higher training of staff.
4. Introduction and release of improved varieties of rice, millet sorghum, groundnuts, fruit trees, cowpeas and other crops.
5. NARI in collaboration with specialists from the Republic of China successfully completed a nation wide soil fertility and plant nutrient survey in both the lowland and upland ecologies. Soil fertility maps for the identification of sites for optimum crop production were also produced.
6. NARI has developed environment-friendly pest management practices based on the use of botanical insecticides such as *neem* and *garlic* extracts. Botanical insecticides are also being tested in the horticultural sub sector for the control of vegetable pests.
7. Integrated approaches have been developed for the control and management of



NARI's HQs at Brikama



Library



Experimental site for new upland rice variety at Banjulnding

striga, a major constraint in cereal production, especially maize, millet, sorghum and rice.

At the Institute's Headquarters at Brikama, three laboratories are available, for pest management, soil analysis, and for food quality control.

NARI maintains two main research stations, one in the eastern half of the country at Sapu in CRD and the other in the western half at Yundum, plus several satellite research stations countrywide.

The NARI research system has 11 programmes of which the first 5 are commodity based and the remaining 6 discipline based:

1. Cereals Programme
2. Horticulture Programme
3. Grain, Legumes and Oil Seeds Programme
4. Fisheries Programme
5. Livestock Programme
6. Cropping Systems and Resource Management Programme
7. Agricultural Engineering
8. Seed Technology Unit
9. Socio-economics Programme
10. Pest Management Programme
11. Agro-forestry Programme.

Fisheries and Livestock are relatively recent additions to NARI's programmes. Livestock research was previously contracted to the Department of Livestock Services (DLS).

NARI collaborates with IARCs that include IITA, WARDA and ICRISAT for partnership research.

At the national level, collaboration with the Rural Finance Community Initiative Project, Peri-Urban Project, LADEP and with ITC is very cordial.

ITC, through the PROCORDEL programme, is funding some collaborative livestock research trials. ITC also supports NARI's staff development and capacity building through short-term technical training and long-term assignment of young scientists for graduate research work (in collaboration with academic institutions).

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Capacity building and technical support for improved local milk production



Demonstrations and practical training at ITC and in Brikama



The ITC Dairy Training and Demonstration Unit is now fully operational. Under the FAO *Technical Cooperation Programme* FAO/TCP/GAM/2802(A) "Improving Milk Safety and Farmers Income Using the Village Milk System", the unit has been equipped with a new milk pasteurisation unit (*MilkPro*). With FAO Consultant support on capacity building/dairy technology, the unit was set up and operationalised for milk in-pouch pasteurisation, quality controls, and demonstrations and training.

The TCP is flanked and complemented by the German *GTZ-Financed Measure* "Improving Livelihood of Rural Milk Producers", implemented by ITC with the general objective of increasing the knowledge of rural cattle owners on milk production, milk processing and milk technology in selected locations of The Gambia and Senegal.

In preparation for other milk collection and processing centres to be installed in the Greater Banjul Area, FAO also provided consultant support for the creation of dairy associations by local groups. They are now in the process of self organisation, fund raising, registration, and the fulfilment of technical requirements formulated by FAO, before receiving milk processing equipment.

Several training courses were organised by DLS and ITC under the FAO TCP, with associated consultant's inputs:

- o Three-week training programme for the core group of staff (10) from DLS/ITC/NaNA in "Milk processing, product making, quality management, and Training of Trainers".
- o One-week training programme for 13 women processors in yoghurt and flavoured milk production conducted by

the core group of trainers under supervision (Training of Trainers).

- o Two-day training course organised for 23 herdsmen on "Clean milk production and hygienic milk handling practices", at ITC and Penyem Village.
- o Two-day training course for 28 women milk processors from five groups on "Clean & hygienic milk collection and handling, milk processing and fermented milk/yoghurt production *in situ*", at Brikama.
- o One-day observation tour cum awareness training programme for 24 herdsmen, milk collectors/processors and

vendors, at ITC Dairy Farm and Training & Demonstration Centre.

Further training inputs are scheduled for every other month starting in August 2003.

In Senegal, sensitisation campaigns have been organized in Kolda and in Tambacounda, together with CRZ Kolda (15 & 16 April 2003). As from August, the laboratory of CRZ Kolda will be functional for regular milk quality controls. Training is scheduled to start in the second half of 2003.



Certificate Distribution Ceremony to women milk processors at ITC on 2 July 2003, with (l-r) Dr. K. Agyemang, DG ITC, Dr. Heimo Mikkola, FAOR in The Gambia, Mr. Omar Njai, Director DLS, and Dr. Denis Caryol, NPC

ITC's collaboration with the ILRI/BMZ Project "*Gestion de la chimiorésistance dans le cadre de la lutte intégrée contre la trypanosomose dans la zone cotonnière de l'Afrique de l'Ouest*"

The Project is designed to identify best bet strategies for control of bovine trypanosomosis in the Cotton Belt of West Africa, covering Burkina Faso, Mali and Guinea. It is funded by the German Government (BMZ/GTZ). During a previous project, high incidences of trypanocide resistance were identified in Burkina Faso. Under the present project, investigations on its existence and magnitude are extended to the neighbouring countries.

ITC, with its R&D expertise for improved health, production and exploitation of trypanotolerant livestock, supports the part of the project implemented by the Department National de l'Élevage (DNE) in Haute Guinée, namely the District of Mandiana. Results of a rapid assessment using the Isometamidium (ISMM) block treatment approach in 3 villages in Mandiana, carried out during the first project year (2002), indicated multiple resistance in trypanotolerant cattle to ISMM and

Diminazene aceturate, the two most important chemical compounds for treatment against trypanosomosis in livestock. However, numbers of breakthrough infections were too to adequately prove the existence of drug resistance. During Year 2 of the project (2003), DNE and ITC will enlarge the parasitological and entomological surveys to a total of 15 villages, to consolidate those findings. A Guinean veterinarian has been granted a PhD scholarship by the project.

In order to achieve timely and wide dissemination of project results, a newsletter (Bulletin "*Gestion de la chimiorésistance*") has been produced, which is also available from the ITC website. The third issue is mainly devoted to the activities in Guinea and the DNE/ITC inputs.



Forestry Livestock Integration: Stakeholders Workshop in Janjangbureh, CRD, The Gambia

A workshop for stakeholders in forestry livestock integration under the Central River Division Forestry project (CRDFP II) took place in Janjangbureh on 3rd March 2003. The objectives were to further sensitise the participating communities about Joint Forest Park Management (JFPM) and natural resource management, sensitise livestock owners about options for feed resource

management, review of the activities in 2002 and preparation of work plan for 2003.

The 40 workshop participants were Divisional Forestry Officers and forestry extension staff, Divisional Livestock Officers and department staff, the local Community Development Officer, district chiefs, Alkalos, local authorities, herders and livestock



Exhibition of seeds and haulms of fodder tree and legumes

owners groups, members of forest park management committees, junior technical assistants (JTA's), staff of ITC, project technical advisers, and representatives of the Directors of Forestry and Livestock Departments.

During its first phase, which started in 1996, the main thrust of the Project was to encourage communities to develop parts of their traditional lands as community Forests (CF). Ten Forest Parks (FP) and State Forest Reserves were also maintained.

Numerous difficulties such as uncontrolled bushfires in the CFs, encroachment of FPs for farming and settlement encouraged the project to review its strategies to include other stakeholders in the management of the forest. Because of the large population of livestock and dwindling feed resources, grazing was recognized as an important activity. Hence ITC and DLS were invited as joint partners in the second phase of the project. Although there were some con-

straints at the beginning, these were soon overcome. In addition controlled early burning activities were modified for area-wide bushfire controls and the institution of fire award schemes. Working together has generally improved awareness at community level and the incidence of bushfires has declined.

In a participatory session, the stakeholders reviewed the contributions of the livestock partners and concluded that the collaboration has been successful in spite of initial difficulties. Other sessions centred around controlled grazing practices, use of fodder trees and herbaceous legumes, and the role of livestock owners associations in natural resource management. Songs and drama were also used as vehicles to convey extension messages to the largely illiterate participants.

At the end of the discussions, the stakeholders prepared a joint work plan for the year 2003. The meeting was rounded up with an exhibition of seeds and haulms of fodder tree and legumes.

Launching of the OPEC-funded Project on optimised indigenous ruminant breed improvement in The Gambia and Guinea

The OPEC Fund for International Development has granted funds to ITC in support of a research project on: "Screening of village-based livestock for milk and growth rates: An innovative farmer participatory approach for optimised breed improvement".

The breeding scheme is operated as an open nucleus with a large screening operation to identify outstanding village cattle (N'Dama), sheep (Djallonke) and goats (WAD) to be introduced in the nucleus herds reared on-station. The breeding programme aims at improving the production efficiency of local indigenous, trypanotolerant livestock breeds in West Africa in extensive systems with low inputs and severe disease constraints. The implementation of the community based livestock breeding supported by ITC in The Gambia and Guinea relies on a participatory approach including the facilitation of the formation of breeders' associations by farmers, building farmers' knowledge and capacity in herd management, applied breeding, performance recording and selection of animals.

Two inception workshops were held in The Gambia and in Guinea with the fol-

lowing objectives (1) to discuss with farmers the objectives and operation of the screening programme, (2) to set up modalities of the operation with the involvement of farmers and to review the time plan of action to fit farmers cropping activities schedules, and (3) to discuss opportunities for the livestock breeder associations and identify their constraints.

In The Gambia, the inception workshop took place at Abuko on 29 March 2003. Six representatives of farmer associations from 6 divisions, 5 Divisional Livestock Officers (DLO), 9 Livestock Officers and 3 scientists from ITC participated in the workshop.

In Guinea, the inception workshop was held at Boké on 10 April 2003. A total of 59 persons attended the meeting, among them 45 livestock farmers. The workshop included a conceptual presentation of the breeding programmes, review of past operations and an introduction to the current screening activity, followed by discussions on achievements and constraints of breeders' associations, and on the operations in progress.



IFGs: Fodder bank and vegetable garden in one. Farmer's workshop and training at YBK, 8-10 April 2003

The Intensive Feed Gardens - or simply the IFGs - are community managed and owned gardens that have a twofold purpose: to provide supplementary feed for target small ruminants and to produce vegetables. The establishment of six IFGs in the Lower and Central River Division of The Gambia by ITC and DLS, within the Rural Finance and Community Initiatives Project (RFCIP), started in 2000 with the introduction of leguminous multiple-purpose trees, such as *Leucaena*, within fenced areas. Through their deep roots and rapid growth characteristics, these trees have the ability to produce foliage that is of high quality and that is very palatable and digestible for the animals. It can serve as supplementary feed during periods when access to pastures may be limited due to crop production (rainy and early dry season) or during the dry season when good-quality feed is scarce.

The objective of introducing IFGs in selected communities in The Gambia was mainly to familiarize farmers with the concept of fodder production and to give them the possibility of improving the nutritional status of small ruminants. If more widely adopted, the gardens could also play a role in reducing environmental pressure. Without disregarding the importance of vegetables for household consumption and income, the cultivation of vegetables within the same site was included to help the adoption of the fodder production concept. However, over the years the communities have steadily increased their vegetable production.

Vegetable production is now even practised under and between the fodder trees. Along with this increased interest in vegetable production within the sites, livestock assistants and other ITC and DLS staff often were confronted with questions and problems concerning vegetable production and there was a large demand for vegetable seeds.

Following two workshops focussing on the animal feed component of the IFGs (establishment of IFGs, nursery proceedings, utilisation of products) it was judged necessary to organize a workshop focus-

ing on vegetable production and on which various issues raised by the communities could be addressed.

The workshop, held at the DLS Livestock Training and Demonstration Centre at Yorro Beri Kunda (YBK) from 8 to 10 April 2003, was attended by 33 farmers, 18 women and 15 men, from all six collaborating communities, five livestock assistants of DLS and ITC, other ITC staff, and by Divisional Livestock Officers and Field Coordinators of LRD, CRD-north and CRD-south.

A training programme was set up together with the Horticultural Unit of NARI. Training was given in nursery establishment, vegetable production, seed multiplication and collection, fertilizer and manure application and integrated pest management. Growing tomatoes, sweet potatoes, cassava, cabbage, red sorrel ("*wonjo*"), onions, carrots and many other vegetables was extensively discussed. A demonstration was organized on how to make compost out of manure, grass, sugar, urea and vinegar. "Natural" repellents were made out of ingredients such as tree leaves, ashes, soap and garlic, and applied in a nearby vegetable garden against "chewing" and "sucking" insects.

On the third day, the animal feed production and utilization component was covered, based on a pictorial training manual that was distributed to participants.

Finally, the integration of feed and vegetable production in the IFG site was addressed. Instead of having separate areas in the IFGs, *Leucaena* seedlings can be planted within the vegetable beds and vegetables can be grown under the mature trees (two-story cultivation). *Leucaena* will benefit from the manure and water that the vegetables receive; one-year old seedlings will also have higher survival rates. Vegetable seedlings will benefit from the shade of the *Leucaena* and from its soil-improving properties.

If more widely adopted, the gardens could also play a role in reducing environmental pressure



Adding urea to mixture



Moulding form for block making



Making of Leucaena-based feed blocks for small ruminants

Forum discusses framework for urban agriculture

The Forum for Urban and Peri-urban Agriculture in The Gambia (FUPAG) convened its inaugural meeting on 15 April 2003 at the Bijilo Beach Hotel, with some 30 persons attending. The theme of the forum was "Sustainable Partnership in Urban Agriculture - the case for an Urban Agriculture Network in The Gambia." The meeting was facilitated by ITC, under its IDRC-funded programme activities. The forum discussed the modalities of instituting cardinal components of a national framework to support urban agriculture (UA) including livestock-horticulture integration, waste management and nutrient recycling, the formation of which is crucial to the efficiency of the producers.

In his keynote address, the Director General of ITC, Dr Kwaku Agyemang, said that UA has become a necessity in meeting food requirements of growing cities. He argued that it has evolved in many places as a discipline by itself and similar trends have been reported in the sub-region especially in Nigeria, Ghana, Togo, Benin, Mali, Burkina Faso, Senegal, all of which have embraced urban agriculture as nouvelle panacea or a redefined food sufficiency strategy for growing cities, and The Gambia is not an exception to this process.

Other speakers included Solomon Owens, board member of the West African Rural Foundation in Dakar, Mr Omar Njai, the Director of the Department of Livestock Services, and Dr. Yemi Akinbamiyo, Leader of ITC's Market Oriented Systems

Improvement Programme (MOSIP) who chaired the forum.

UA has successfully contributed to the food security strategies in the region resulting in a broad spectrum of central and tangential activities. UA is expected to contribute towards improved urban household nutrition; better urban family health; gainful employment; household / community waste recycling and safe waste water re-use. From a macro-economic perspective, the horticultural sector has immense potential for the export market and is also significant with regard to its contribution to women's income and diversification of the export base of the economy.

UA as a system has been categorised into three sections according to the size of the enterprise, namely, large-scale commercial farms, medium scale farm and small scale land holdings. There are also three levels of stakeholder involvement: inputs and services, production proper and ancillary issues.

It was further stated that because of the complex nature of urban agriculture, a national network is almost indispensable to act as the clearing house and the cross-road for all the disciplines directly or indirectly related to urban food production systems. Linkages across such systems would also provide spin offs for better resource management and environmental protection.



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Scientific Seminars at ITC (April-June 2003)

25 April 2003

Mr. N'Guetta Austin Bosso, ITC: Genetic Parameters for Growth Traits in N'Dama Cattle under Tsetse Challenge in The Gambia

30 May 2003

Dr. Giorgio Sirugo, MRC Laboratories Fajara: Human Genetics in The Gambia (DNA-Banking)

27 June 2003

Mr. Chris Nwafor (VSO), ITC: Farmers' Perceptions on the Concept of Intensive Feed Gardens (IFG)

Training & study visits under the Procordel "Regional Mobility" scheme

Name, Country	Period	Theme
Alfred Diouf, Senegal	February-August 2003	Assessment of trypanotolerance in crossbred cattle under artificial challenge
Yero Safe Barry, Guinea	March-April 2003	Production and utilisation of <i>Moringa oleifera</i> and <i>in sacco</i> digestibility of feed stuff from Guinea
Mohamed Fatah Cissé, Guinea	March-May 2003	Genetic and phenotypic parameters for growth traits in small ruminant populations in The Gambia
Dr. Amadou Saimou Bah, Guinea	March-June 2003	Control of ecto- and endoparasitoses in the pure breeding herds and flocks at ITC Keneba Station
Momodou Yaya Barry, Guinea	May-August 2003	Pasture improvement at ITC Keneba Station

Training courses/workshops implemented (March-July 2003)

Course/workshop title	Location	Period	Participants
Hand milking techniques and hygienic handling of milk	Conakry, Tanène, Boké: Guinea	28-30 March	Dairy farmers and milk traders
Workshop and training on Intensive Feed Gardens (IFG)	YBK, The Gambia	8-10 April	Livestock farmers, livestock assistants, professionals of DLS & ITC
Hand milking techniques and hygienic handling of milk	Kolda, Tambacounda: Senegal	15-16 April	Dairy farmers and milk traders
Stabling technology for cattle (Training of trainers)	Gabu, Guinée Bissau	28-29 April	Livestock technicians
Draught cattle management (Training of trainers; Training of farmers)	Makeni, Sierra Leone	19-23 May	Livestock technicians & farmers
Improvement of F1 crossbred cattle feeding and management (Training of farmers)	Nafaya, Lariah, Labé: Guinea	3 days per location, May	Cattle (F1) keeping farmers
Awareness training on "Clean/hygienic milking and handling of milk"	ITC, The Gambia	5 May	Milk collectors/processors and vendors
Training on "Clean/Hygienic milk handling and processing, and fermented milk production"	Brikama, The Gambia	19-20 May	Women milk processors
Training on "Clean/hygienic milking and handling of milk"	ITC, Penyem, The Gambia	26-27 May	Herdsmen/milkers
Training of core group on "Milk Processing, Product Making, Quality Management, and Training of Trainers"	ITC, The Gambia	29 May-17 June	Livestock assistants of DLS, staff of ITC and NaNA
Training in yoghurt and flavoured milk production, conducted by "trained trainers"	ITC, The Gambia	25-30 June	Women milk processors
Socio-economic data processing and statistical analysis (Regional group)	ITC, The Gambia	16-21 June	Professionals and technicians from Gambia, Guinea, G.-Bissau, Senegal
Animal health and production data processing and statistical analysis (Regional group)	ITC, The Gambia	30 June - 8 July	Professionals and technicians from Gambia, Guinea, G.-Bissau, Senegal
Oestrus synchronisation and artificial insemination for the production of F1-crossbred cattle (Regional group)	ITC, The Gambia	14-18 July 2003	Professionals and technicians from Gambia, Guinea, G.-Bissau, Senegal
Farmer Field School: Training of trainers (facilitators), conducted by trainers from ILRI Nairobi	ITC, The Gambia	14-25 July 2003	Livestock assistants of DLS, ITC staff

Upcoming training courses and workshops up to December 2003 (subject to modifications)

<i>Moringa oleifera</i> : agronomy, processing, feeding / nutritional value (Regional group)	ITC, The Gambia	5 days, Sept./Oct.	NARS scientists, technicians
Peri-urban integrated agriculture	ITC, The Gambia	2x3 days, Sept./Oct.	Livestock farmers
Purebreeding & selection of trypanotolerant livestock	ITC, The Gambia	2x3 days, Sept.-Dec.	Livestock officers and assistants
Peri-urban integrated agriculture	ITC, The Gambia	2x3 days, Sept.-Dec.	Livestock assistants
Food handling hygiene (ITC, NaNA, DOSH)	ITC, The Gambia	2 days, Oct.	Public health extension personnel
Management of crossbred F1 cattle (Module animal health and milk hygiene)	Kaolack, Senegal	3 days, Oct.	Livestock farmers

Visitors to ITC (March-June 2003)

On the occasion of the ITC Council Meeting, (17-21 March 2003):
 Prof. Stanny Geerts (Chairman), ITM, Antwerp, Belgium
 Dr. Momodou Sompou-Ceesay, Independent Consultant
 Prof. Peter Holmes, Glasgow University, UK
 Dr. John McIntire, World Bank Representative (Dakar)
 Dr. Badara Loum, Deputy PS, DOSA, The Gambia
 Dr. Safiétou Touré Fall, ISRA, Senegal
 Prof. Ola Smith, GFAR, Rome
 Dr. Musa Bojang, DG NARI, The Gambia
 Prof. Karl-Hans Zessin, Free University Berlin
 Prof. Dieter Mehlitz, Observer (GTZ, Germany)
 Mrs. Isatou Cham, Observer (UNDP, The Gambia)

25 March – 18 June:
 Mrs. Patu Shang, FAO International Consultant (MPO), Farmer Cooperatives, FAO/TCP/GAM/2802 (A)
 "Improving Milk Safety and Farmers Income Using the Village Milk System"

12 April - 4 July:
 Mr. Tek B. Thapa, FAO International Consultant (Capacity Building/Dairy Technology), Training, FAO/TCP/GAM/2802 (A)

5-16 May:
 Mr. Anthony Bennett, FAO Livestock Products Officer, and Mr. Frédéric Lhoste, FAO Associate Expert (Milk Development), on a backstopping mission to The Gambia for FAO/TCP/GAM/2802 (A)

25-28 May:
 Mrs. Francesca Ambrosini, Visiting Expert on Research and Development Cooperation, Focal point for Livestock at GFAR Secretariat, Rome, Italy, for discussions on livestock-based project proposal in the regional context, proposed by ITC, ILRI, and partners for IFAD funding

17-20 June:
 Mrs. Ana Boischio, Senior Programme Officer (Ecosystem Approaches to Human Health and City Feeding People), International Development Research Centre (IDRC), Ottawa, Canada, on a supervisory visit in the framework of the IDRC-funded project on urban agriculture at ITC

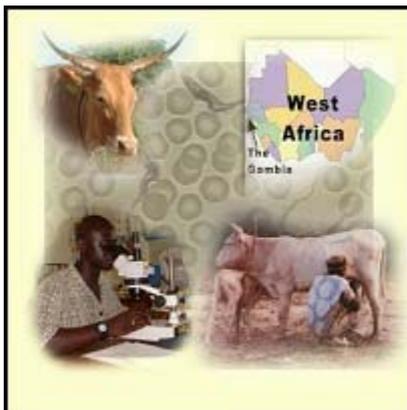
26 June -16 July:
 Prof. Dieter Mehlitz, Germany, on a short-term expert mission to ITC and the Gambian-German Forestry Project for GTZ, Germany

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 also on our Website:
<http://www.itc.gm>



About ITC

The International Trypanotolerance Centre (ITC) is a sub-regional research institution located in The Gambia, West Africa, with livestock rearing and research facilities at Headquarters in Kerr Serigne (Greater Banjul Area) and Stations at Keneba and Bansang. Thus, ITC has access to diverse agro-ecological settings, disease risk areas and livestock production systems in the sub-region.

The mission of ITC is to *contribute to livestock productivity and utilisation in the West African region through the optimal and sustainable exploitation of the genetic resistance of indigenous breeds of livestock for the welfare of the human populations.*

The general objective focuses on the *formulation, implementation and introduction of sustainable socio-economically and environmentally acceptable integrated packages at farmer level, for improved livestock health, production and exploitation.*

**A livestock-based
 Agricultural Research
 Institute dedicated to serve
 the West African Region**