

2012-2013
Semester I&II

COURSE AGLS6003[AL60C]
TROPICAL LIVESTOCK
DEVELOPMENT
[Livestock Development for Small Tropical States]

in
THE M.Sc. IN TROPICAL ANIMAL SCIENCE AND PRODUCTION
PROGRAM

DEPARTMENT OF FOOD PRODUCTION
FACULTY OF SCIENCE and AGRICULTURE,
THE UNIVERSITY OF THE WEST INDIES,
ST. AUGUSTINE CAMPUS,
TRINIDAD & TOBAGO, WEST INDIES.

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2009

MODULE I - COURSE INTRODUCTION

UNIT 1

INTRODUCTION

Welcome to this program of study on Livestock Development for Small Tropical States. This unit will introduce you to the course in one session, **and** at the end of this you should also become aware of exactly what will be expected of you.

Session 1 Mechanics and Operations of the Course

UNIT 1: Learning Objectives

When you are finished with this unit, you will be able:

1. to understand how this course is organized;
2. **to know what is expected of you during this course; and**
3. to familiarize yourself with the time-activity requirements of this course.

Welcome to "Tropical Livestock Development (Livestock Development for Small Tropical States) "!!!

Since 1999-2000 this course has been "improved", in that it now highlights the particular unique problems encountered with Livestock Development by Small Tropical States like that of ours in Trinidad and Tobago and the other Small Island States of the Caribbean.

The course material has been organized in such a way that it could be offered both in the "face to face (classroom)" and "distance" modes. We have experimented with this course since 2000-2001 in three (3) very important ways:

- (i) **firstly, by offering the delivery of this course in both modes at the same time;**
- (ii) **secondly, by introducing a conference/workshop as part of the course work, as it is hoped that this would help to bring the reality of the world into the classroom;**
- (iii) **thirdly, to facilitate this new approach and to make the course work load more enjoyable and easier on the part-time students we are spreading the course over two (2) semesters, but you will be registered for this course in the second semester at the end of which the exam will be taken; and**

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- (iv) fourthly, we have introduced the “Future Vision Simulation Game” approach. This will be described for you in a separate unit.

The distance mode would be offered out of the M.Sc. in Agriculture and Rural Development and the face to face / classroom mode would be offered within the M.Sc. in Tropical Animal Science and Production, the programme in which you are registered.

The Protocol for the Distance Conference is given to you in the paper by Garcia and Munoz (1999).

We hope that you will be as excited as we are about this new attempted innovation in teaching and your invitation to participate in this conference will be handed out to you with this course introduction handout. Also you in the classroom at St Augustine would be put in touch with the distance students out there in the Caribbean. This should prove to be exciting and interesting.

This version is being done in the face-to-face mode. As you follow the material contained within this course on **Livestock Development [Livestock Development for Small States]**, we would like you to know that we have tried our best to make it into a series of reading- and reflection- type activities, aimed at making your learning process an enjoyable one. The ultimate goal is to facilitate your becoming more knowledgeable and more appreciative of what is “Livestock Development” within the “Small State” context, especially the **Tropical Small States**.

Should you have any questions, comments, compliments or complaints, please let us know! PLEASE MAKE FULL USE OF THE ELECTRONIC COMMUNICATION TECHNOLOGIES THAT ARE NOW AVAILABLE TO US. PLEASE COMMUNICATE WITH ME THROUGH THE GROUP E-MAIL ACCOUNT

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Most of all however, relax and enjoy the freedom to learn at your own pace particularly as most of you who are taking this course are working full-time and are part-time post-graduate students..... So please make the best possible use of your time and of the reading materials provided to you in the three volumes. You would also note that you have been provided with an adequate course text, produced at great effort by the course lecturers. All lectures and course modules are available as FILES in the Google group G Mail Account and they can be easily downloaded.

I would like you to also play close attention to the Units 1 to 4 of the Course AGLS6001 Tropical Animal Science as the material overlap to your benefit.

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Course Description

What is Livestock Development? Sustainable Livestock Development. Agricultural Diversification and Livestock Development, Factors influencing Livestock Development: Globally, the Tropics, Neo-tropics and the Caribbean. Some technical imperatives: demand for livestock products; efficiency criteria; choice of production technology; Gender Issues, Livestock Production Systems: pastoralism, ranching, intensive and extensive production systems; landless livestock production systems, integrated systems. The nature of Livestock products and the market for Livestock products. Government, The State and the Livestock Sector, the Private Sector's and Government's role in Livestock Development, The Third Sector, International Trade and the effect of GATT and WTO on Livestock Development in the Developing Tropics. Livestock Development from the Small State's Perspective.

The Rationale behind this Course

This course is about discovering the peculiarities of Livestock Development in Small States. The guiding idea here is '**smallness**'; what it is and how it fits into the 'bigger global picture'. An example of this would be for you to be able to answer the following question "how does a government and a state go about optimally matching its needs locally with what exists outside of its boundaries, so as to arrive at an acceptable accommodation"?

The course manual would contain the basic lecture content and opportunity for you to ask yourself questions and to reflect. The majority of the readings would be in the "Special Reserve" Section of the Main Library. Within these readings are the tools which would empower you to make practical decisions about Livestock Development in any Small State. We know that the persons who will be taking this course would come from a wide variety of backgrounds. You could be a middle-level manager in the livestock industry, a policy-maker in a government ministry, or you may be taking post-graduate courses in agriculture and rural development. No matter what your background may be, we hope you will find that the concepts and perspectives contained in this course would supply you with a tool kit that empowers you to perform your functions or job, or do your business as it relates to Livestock Development (LD) of your Small State. We have also 'flavored' the material to be sensitive to the needs of the Caribbean and Small Tropical States'.

What assumptions have we made about you?

The following list constitutes some assumptions we have made about you:

- most of you are mature and have some work experience;

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- you possess graduate level matriculation qualifications (either the academic requirements or based on your life or work experience, i.e. your experiential learning);
- you may or may not have had taken a formal course in economics; and
- you may be employed either in the private sector [PS], government administrative sector [GS], or Non- Governmental Organizations [NGOs].

If you do not fall into any of these categories, could you please let us know so that we could better relate to you and your needs? We would like to know about all our students and we would like you to feel very comfortable in our

OPEN CLASSROOM

What Will You learn?

The Overall Learning Objectives of this course are as follows:

- 1. to provide an understanding of Livestock Development;**
- 2. to provide an awareness of the political, social, economic and environmental issues that affect Livestock Development;**
- 3. to describe the major Livestock Production Systems;**
- 4. to provide an understanding of the effect which the Government and the Private Sector can have on Livestock Development;**
- 5. to understand the dynamics surrounding the International Trade in Livestock Products; and**
- 6. to be familiar with possible Alternative Approaches to Livestock Development for Small States in the future.**

What Skills Will You Acquire?

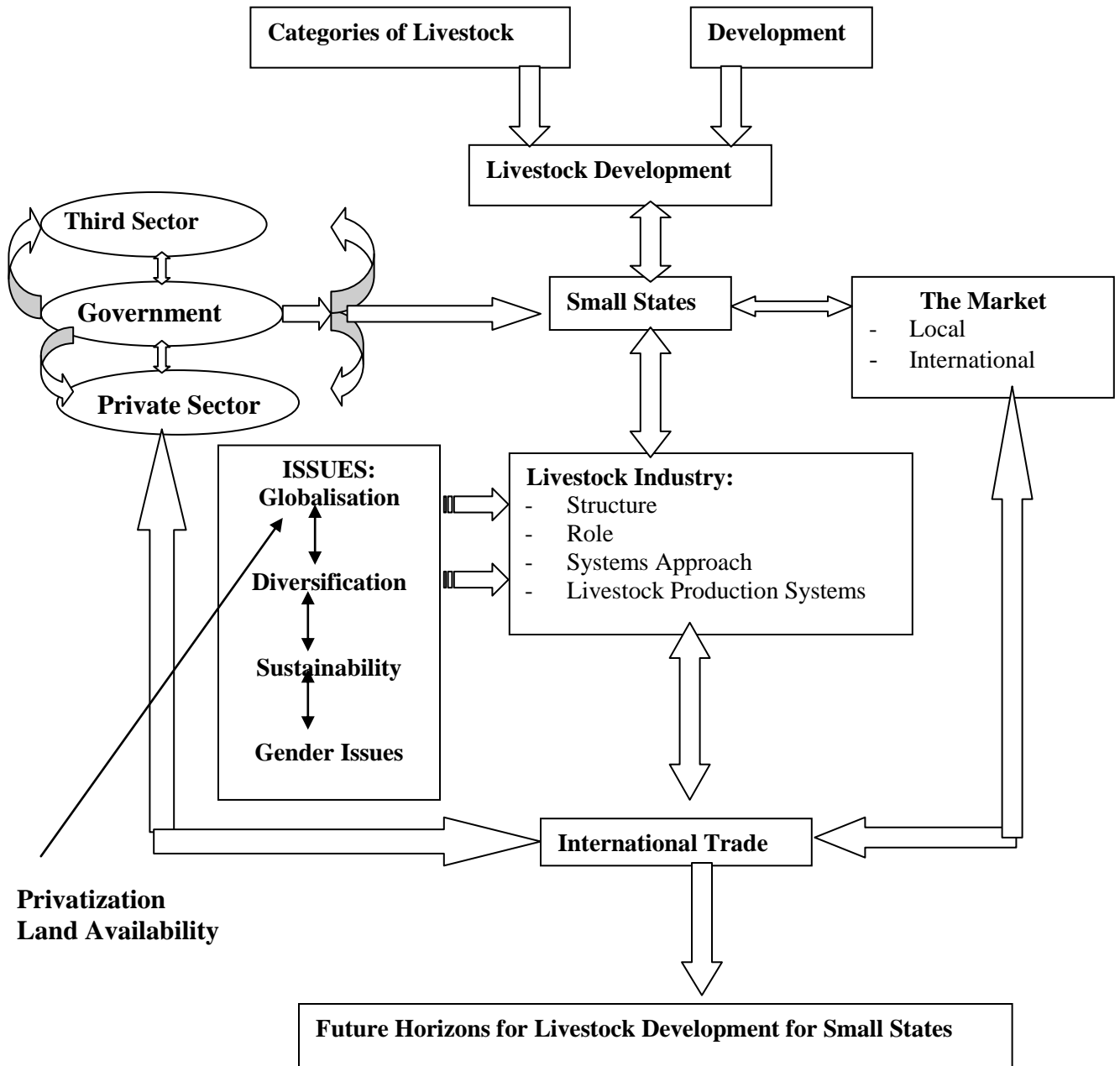
After you have completed the material in this course, you will be able to analyze Livestock Development issues practically. The following are some of the questions, which you would be able to answer:

- How do the intricacies of the livestock sector operate within the small state scenario?
- What relationship exists between the livestock sector and the rest of the society?

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- How would the above relationship impact on general development and what affects the development of this livestock sector?
- What are the implications of international trade and globalization on the sustainability of the livestock sector within a small economy?
- What alternatives exist for small states in developing their livestock sector?

The Course Logic Diagram:



Please make every effort to fully understand this Course Logical Framework. This is the whole course in a nutshell!!!!!!!!!!!!!!!!!!!!!!



IMPORTANT TO NOTE!!!!!!!!!!

⇒ **This course would be offered over Semesters I and II and the Final Examination will be at the end of Semester II.** AGLS6004 Advanced Ruminant Production Systems would also be taught over Semesters I and II. It will be taught on the EVEN weeks, **while AGLS6003 will be taught in ODD weeks. However, both courses would be introduced to you together in weeks #1 and #2.**

⇒ **The Course was originally written for “Distance Offering” or to be offered as a “Correspondence Course”. So that the Units and the Suggested Readings will be given to you as this forms the basis of the Course Material.**

⇒ **The course will be conducted using the “Future Vision Game Simulation”. This Game uses the techniques developed by NEXT [Nick Marsh and Ian Ivey of the NEXT Cooperation of New Zealand]. The activities involve the use of “Sector Foresighting”/ “Future Vison”/ “FutureSim” techniques.**

⇒ **The Sector that we shall be looking at is the “Livestock Industry/Sector of Trinidad and Tobago”. The Sector would be similar in the other Caricom Countries.**

The Class would be divided into companies representing different Vertically Integrated Livestock Industries. The Companies would be

- 1] A Vertically Integrated Small Ruminant Industry,
- 2] A Vertically Integrated Duck Industry,
- 3] A Vertically Integrated Agouti Industry,
- 4] A Vertically Integrated Rabbit Industry and
- 5] A Vertically Integrated Guinea Pig Industry.

⇒ **The details on the game to be played and the brief on the companies will be given in the “Game Manual”.**

General Instructions

How is this course Organized?

You can consider this step you have taken as a learning adventure - hunting for new information. This would require you to have a map so that for you to locate this information in the quickest possible time. The **Course Logic** outlined on the previous page presents you with such a map that shows the interrelationships existing among the different concepts covered in this collection of sixteen (16) units. We shall now present you with the framework outlining how the material is organized within this course, and which would be contained within your experimental course manual.

The first thing you'll find is a **Module**. This is the main subject area you will study. This course has **six (6) modules**, and each begins with an **Introduction**, with sub-levels called **Units** each of which has specific **Learning Objectives**. Each **Unit** is divided into sessions. A **Session** is the amount of material we reconunend you cover at a particular sitting or study period. Along with its accompanying readings and activities, this could take you between 1 to 3 hours if you are studying on your own. You will see that as we go into the middle of the course the **Sessions** may become incrementally more intense, and as you proceed into the latter half of the course you may find that you cover the sessions more comfortably.

Introduction The ‘Introduction’ section, welcomes you to the module, tells you what it is about, the goals of the module, and instructions specific to the module.

Learning Objectives These describe what you should know or what tasks you should be able to complete successfully at the end of the module.

Each **Unit** is an individual subject of instruction. This course has **sixteen (16) units**. There may be several of them concerning one area is very large. Each unit provides a **lesson in one or more sessions, with several activities which includes reading, and summary**.

Unit Summary This section summarizes the important areas of the unit.

Activities These are assignments you must complete. They include: Activities (A.1), and Readings, (R.1).

Activity The Activity (A) rein-forces concepts which will assist your learning. Each unit contains at least one or more activities, possibly a book or factual text, or a directed reading associated with the unit.

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Reading

The Reading (R) reinforces concepts which will assist your learning. Each unit contains at least one or more Readings, possibly a book or factual text, or a directed reading associated with the unit. As this course is being done in the face-to-face mode, all readings referred to as "**Accompanying Readings**" and "**Texts**" are available in the **Special Reserve Section of the Main Library**.

TMA/ASSIGNMENTS

These involve activities or assignments.

Accompanying Readings

This section includes papers and other materials necessary for increasing your knowledge on the specific subject being dealt with in the unit. This would contribute to your being better **prepared for the examination. All accompanying readings are available in the "Special Reserve" Section of the Main Library.**

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Course Outline

MODULE I -	INTRODUCTION
UNIT 1:	COURSE INTRODUCTION
UNIT 2:	INTRODUCTION TO LIVESTOCK DEVELOPMENT
MODULE II -	SMALL STATES
UNIT 3:	SMALL STATES DEFINED
MODULE III -	LIVESTOCK
UNIT 4:	THE MODEL OF A TYPICAL LIVESTOCK INDUSTRY
UNIT 5:	ROLE AND FUNCTIONS OF LIVESTOCK [LIVESTOCK UTILIZATION]
UNIT 6:	THE SYSTEMS APPROACH TO LIVESTOCK PRODUCTION AND RESEARCH
UNIT 7:	LIVESTOCK [ANIMAL] PRODUCTION SYSTEMS: INTRODUCTION AND EXTENSIVE SYSTEMS
UNIT 7a:	LIVESTOCK [ANIMAL] PRODUCTION SYSTEMS: INTENSIVE SYSTEMS
UNIT 7b:	LIVESTOCK [ANIMAL] PRODUCTION SYSTEMS: INTEGRATED PRODUCTION SYSTEMS
UNIT 8:	THE 'OTHER' LIVESTOCK SECTOR
UNIT 9:	ISSUES FACING LIVESTOCK [ANIMAL] PRODUCTION
MODULE IV -	ECONOMIC FACTORS AFFECTING LIVESTOCK DEVELOPMENT
UNIT 10:	ECONOMIC vs FINANCIAL FACTORS
UNIT 11:	ECONOMIC FACTORS AFFECTING LIVESTOCK DEVELOPMENT
UNIT 12:	MICRO AND MACRO ECONOMIC FACTORS AFFECTING DECISION MAKING
UNIT 13:	FINANCIAL FACTORS AFFECTING DECISION MAKING
MODULE V -	THE SECTORS, TRADE AND LIVESTOCK DEVELOPMENT
UNIT 14:	THE SECTORS [THE GOVERNMENT, THE PRIVATE SECTOR AND THE THIRD SECTOR]
UNIT 15:	INTERNATIONAL AND LOCAL, TRADE IN LIVESTOCK PRODUCTS
MODULE VI -	COURSE EPILOGUE
UNIT 16:	APPROACHES TO LIVESTOCK DEVELOPMENT FOR SMALL STATES BEYOND THE YEAR 2000

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We would now like you to take note of five (5) very important features of the material contained within this course.

FIRSTLY:

Unit 7 is broken up into three (3) parts as follows: 7, 7a and 7b. Those of you having a strong Livestock Agriculture background may not need to spend too much time on this unit. We would suggest, however, that you pay attention to Unit 7b. At the end of this first Unit or Lecture, we would identify the profile and experience of the students in this class and we would decide on the area that would have to be emphasized in the classroom this semester.

SECONDLY:

Units 10, 11, 12 and 13 may be simple revision for those of you with a Business or Agricultural Economics background. However, for those of you with a Life Sciences or Agriculture background, please pay particular attention to the concepts covered in these units. We have included in the course, a text [Richard G. Lipsey: an Introduction to Positive Economics] which is a very good introductory text on Economics. **BUT, please manage your time!**

THIRDLY:

This course has not taken a mathematical or strongly applied economics approach. What we have done here is to provide you with a "**thinking tool kit**". We believe that at this juncture of humanity's existence on earth, there is a very dynamic situation which has been flavored by:

- ✓ “a very dynamic and fluid world political system that has countries very interrelated and interconnected”,
- ✓ “the recent Financial and Economic separation of the World into
I] Underdeveloped or Developing countries and
II] The Developed Countries now being split into two (2) camps for the first time:

(1) The North Atlantic-Eurocentric Economies or Countries

- **Wherein countries on both sides of the Atlantic are experiencing financial, economic and social problems and this has implications for the rising prices of exported foods of livestock origin;**
- **For the first time economies such as Spain, Greece, Portugal had had to go to the World Bank and the International Monetary fund for support, with countries such as the UK, France and Italy also on the brink of Economic Instability.**

(2) The Brazil, Russia, India, China, and South Africa [BRICS] with these Economies becoming very strong;

- ✓ “continuous scientific discoveries”,
- ✓ “communication channels previously unmatched in the history of mankind”,
- ✓ "the realization that our global food security could be at risk as we continue to produce larger and larger quantities of food from an ever-narrowing genetic plant and animal resource base, from less and less land , and with the need to feed more and more people",
- ✓ “We have also come to realize that there is a wealth of under-utilized animals about which we know very little, or towards which our attitudes must change, hence in Unit 2, the technical part of the course begins by first introducing you to the Animal Kingdom, then taking you through the concept of "Livestock", and a classification of animals from a human utility standpoint.

This course was first offered in September 1995. This is therefore the 18th year that this course is being offered. Since 1995 much has changed in the world. I would like to repeat what I offered to you in the background to the course AGLS6001 Tropical Animal Science. Some of these changes are now listed for you.

1] The World’s Social and Socio-economic context has been shaken

- **2001:** 9/11 and all its international ramifications
- **2007-2012:** Global Financial Crisis- the crash of the International Financial Institutions and Wall Street
- the Financial Insolvency of countries of the European Union [Spain, Portugal, Italy, Greece and others]
- the Financial Instability of the following Economies: the USA, UK, France];
- The increase in Trade in Grains and the continued increase in World Markey Prices of Grains for direct human use and for animal feed [this is because of an increase in purchases of food on the world market by countries with large populations such as China and India;

2] Changes in the International Supply Chain for Food of Plant (grains and animal feed) and Animal Origin;

3] International Crop Failures in the countries which are the major food exporters [Australia, Russia, USA];

4] The beginning of the Production and Use of Grains for Energy Production and the decrease in the supply of Grains for direct Human Consumption and for Animal feeding, in this regard food is being diverted away from humans;

Bioethanol is an alcohol made by fermentation, mostly from carbohydrates produced in sugar or starch crops such as corn or sugarcane. Cellulosic biomass, derived from non-food sources such as trees and grasses, is also being developed as a feedstock for ethanol production. Ethanol can be used as a fuel for vehicles in its pure form, but it is usually used as a gasoline additive to increase octane and improve vehicle emissions. Bioethanol is widely used in the USA and in Brazil. Current plant design does not provide for converting the lignin portion of plant raw materials to fuel components by fermentation.

In the current corn-to-ethanol production model in the United States, considering the total energy consumed by farm equipment, cultivation, planting, fertilizers, pesticides, herbicides, and fungicides made from petroleum, irrigation systems, harvesting, transport of feedstock to processing plants, fermentation, distillation, drying, transport to fuel terminals and retail pumps, and lower ethanol fuel energy content, the net energy content value added and delivered to consumers is very small. And, the net benefit (all things considered) does little to reduce imported oil and fossil fuels required to produce the ethanol.

Although corn-to-ethanol and other food stocks have implications both in terms of world food prices and limited, yet positive, energy yield (in terms of energy delivered to customer/fossil fuels used), the technology has led to the development of cellulosic ethanol. According to a joint research agenda conducted through the U.S. Department of Energy,^[7] the fossil energy ratios (FER) for cellulosic ethanol, corn ethanol, and gasoline are 10.3, 1.36, and 0.81, respectively.

<http://en.wikipedia.org/wiki/Bioethanol#Bioalcohols>

5] The evolution of new approaches at animal Production within the Tropics and Neo-tropics as follows:

- Matching the Animals with the Available Feed Resources [Thomas Reginald Preston <http://www.utafoundation.org/P&L/preston&leng.pdf>]

- Matching the Available Animals [including Neo-tropical animals] with the Available Feed Resources [Gary Wayne Garcia]
- Making the Tropical Farms into Net Producers of Energy [Lylian Rodriguez (2010)];

6] The Opening up of Communication and sharing of Scientific Knowledge [SK] and Indigenous Knowledge [IK] and Technologies between and among South-South countries [with Brazil, China, Nigeria and South Africa sharing their IK and SK with Developing Countries];

7] There is the beginning of the awareness of the consciousness among Neo-tropical and Tropical Animal Scientists that there is and will be the need to move away from the previous North Atlantic and Euro-centric thinking about how we should proceed with Animal Production and Animal Production systems within the Tropical and Neo-tropical regions of the world and

8] The expanded use and availability of information on the Internet.

In light of the above the course this year is being given a focus change with very little attention being paid to Animal Health issues. In this regard the following important references will be focused on during this course over this year:

**[i] Harry Archimede and Gary Wayne Garcia [2010]
A Guide to the Use of Sugarcane and its By-Products as Animal Feed:
A Manual for Farmers and Livestock Production Specialists.
Infinity Sales and Services and GWG Publications, Trinidad and Tobago,
135 pages [This will be sent to you via email.]**

**[ii] Lylian Rodriguez [2010]
Integrated Farming Systems for Food and Energy in a
Warming, Resource-depleting World. Ph.D. Thesis
<http://edoc.hu-berlin.de/dissertationen/rodriguez-lylian-2010-10-12/PDF/rodriguez.pdf>**

**[iii] University of Tropical Agriculture Website
<http://www.utafoundation.org/>**

[iv] Livestock Research for Rural Development

<http://www.lrrd.org/>

I would like you to become familiar with these references. It would be important for you to have a good appreciation of the restructured course this year.

I am including three other references for this course:

[v] Devendra, C, (2010). *Small Farms in Asia: Revitalizing Agricultural Production, Food Security and Rural Prosperity*. Akademi Sains Malaysia, 175 pages. **This book would have to be purchased as it is not available electronically.**

[vi] Devendra, C, (2010). Concluding Synthesis and the Future for Sustainable goat Production. *Small Ruminant Research* **89 (2010): 125-130**

[vii] Herveau, B (2002?). *The Multifunctionality of Agriculture*. INRA, France

[viii] Brown-Uddenberg, R. C.; Garcia, G.W; Baptiste, Q. S.; Adogwa, A. O.; Counand, T. and Sampson, T. (2004). **The Agouti Booklet and Producers' Manual**
Wildlife Farmers' and Producers' Booklet #1, The Open Tropical Forage-Animal Production Laboratory [OTF-APL], Department of Food Production, Faculty of Science and Agriculture UWI, St Augustine. GWG Publications, 24 Sagan Drive, Champs Fleurs, Trinidad and Tobago. **ISBN#: 976-95123-0-3**

[This will be sent to you via email.]

FOURTHLY:

There is one particular unit [Unit 15] that is written differently from the rest of the other units. We would, however, like you to first browse the unit then sit and read it carefully with the necessary reflections. This unit has no follow up readings. **However, before going through this unit in the classroom we must insist that it must first be read by all students.**

You will then end this course on two high points:

- [1] changing views on traditional Livestock (Animal) Production; and
- [2] changing strategies for livestock industries.

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FIFTHLY:

NOT THIS YEAR

The course begins in Semester I and is examined at the end of Semester II.

We would like you to also note that there are **two (2) sets of activities, which** would involve you and your Lecturers. These are the **tutorials** and the **three 3 Course Assignments which takes place over semester I and II.**

TMA #3 will have three parts:

- (i) the Organizing and Execution of a Livestock Workshop using the protocol of Garcia, Munoj, Ruiz and Cubillos Model [Garcia & Munoj, (1999)] originally planned. But this year we would attempt a conference or Seminar on the Livestock Industry in Trinidad and Tobago, I have provided you with the details in the first class; **BUT for this year the Livestock Workshop would be a Workshop for the Wildlife/Neo-tropical/Non-domestic Farmers in association with the Wildlife Unit of the Forestry Division. This will be on SATURDAY 7th NOVEMBER.**
- (ii) The analysis of the Workshop Findings;
- (iii) This analysis to be presented in a Group Seminar Format and a Group writeup.

When you go to **the Schedule for this semester** you would note that **Tutorial #1** comes in the first week of the course and it is aimed at clearing up all your doubts or any questions which you may have about this program of study.

If you miss this tutorial, please fax us or e-mail your questions to us as soon as possible, so that your tutor could respond in a timely manner.

Dr Garcia's e-mail: garygwg1@gmail.com

SOME ADVICE

- [1] **Make every effort to attend the classes and tutorials.**
- [2] **Do all of the assignments on time.**
- [3] **Communication with the lecturers is important.**
- [4] **Pay attention to the time utilization bulletin at the end of each unit.**
- [5] **You must make a meaningful contribution to your working group.**

Course Administrative Organisation

Time Frame	Length of Course Period of Instruction	- 13 Weeks Spread over Sem I&II																								
Activities	<p>3 Assignments</p> <p>Tutor Marked Assignment #1 [TMA#1] - General Type Questions on Modules I and II</p> <p>Tutor Marked Assignment #2 [TMA#2] - Assignment to Link concepts from Modules III and IV</p> <p>Course Project/ Tutor Marked Assignment #3 [TMA#3] - Group Case Study: The Game Presentation and Written Report</p>																									
Student Evaluation:	<table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Continuous Assessment: [Assignments</td> <td style="width: 30%;"></td> <td style="width: 10%; text-align: right;">= 50%</td> </tr> <tr> <td>TMA #1</td> <td style="text-align: right;">- 5 %</td> <td></td> </tr> <tr> <td>TMA #2</td> <td style="text-align: right;">- 5 %</td> <td></td> </tr> <tr> <td>Course Project Presentation</td> <td style="text-align: right;">- 10.0%</td> <td></td> </tr> <tr> <td>Individual Participation in the Group Activity</td> <td style="text-align: right;">- 10%</td> <td></td> </tr> <tr> <td>Company Final Report</td> <td style="text-align: right;">- 20.0%</td> <td></td> </tr> <tr> <td> Final Exam</td> <td></td> <td style="text-align: right;"> = 50%</td> </tr> <tr> <td>Total</td> <td></td> <td style="text-align: right;">= 100%</td> </tr> </table>		Continuous Assessment: [Assignments		= 50%	TMA #1	- 5 %		TMA #2	- 5 %		Course Project Presentation	- 10.0%		Individual Participation in the Group Activity	- 10%		Company Final Report	- 20.0%		 Final Exam		 = 50%	Total		= 100%
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Total		= 100%																								

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COURSE SCHEDULE

DATES	WEEK # Of Semester I	UNIT#	ACTIVITY	READINGS (R) OR ACTIVITIES (A)
Tues 4th September	1	Unit 1: Introduction to Courses AGLS6003 and AGLS6004	Tutorial #1 Session 1	
Saturday 8th September		Future Simulation Game START UP Formation of Companies Company Activity #1		
Tue 11th September		Discussions with Carl Khan [LLPIB] Robin Phillips [Arawak Chicken] Robert Best [Livestock Consultant] Peter Darsant [Duck Farmer] and Cicero Lallo on the Poultry Industry of Trinidad and Tobago		
Saturday 15th September	2	Unit 2: Introduction to Livestock Development	Session 2	R2.1; R2.2
		Unit 2: Introduction to Livestock Development	Session 3 Session 4	R2.3 R2.4; R2.5; R2.6; R2.7
Tuesday 18th Sept	3	Unit 3: Small States Defined	Session 5 Session 6	R3.1; to R3.7; A3.1; A3.2
	3	Unit 4: The Model of a “Typical” Livestock Industry	Session 7 Session 8	R4.1; R4.2; L4.1 R4.3; R4.4; R4.5
	3	Unit 8: The ‘Other’ Livestock Sector	Session 21 Session 22 Session 23	R8.1; R8.2 R8.3; to R8.9
Saturday 22nd Sept	3	Week End Field Trip 7:30 am Sir Frank Stockdale Blg. South Eastern Hunters Association- The Other Livestock Sector		
Sunday 23rd Sept	4	Week End Field Trip 7:30 am Sir Frank Stockdale Blg. Sugarcane Feeds Centre		
Tue 2nd Oct Oct.	5	Unit 5: Role and Functions of Livestock [Livestock Utilization] The Multifunctionality of Agriculture and of the Livestock	Session 9	R5.1; to R5.4

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		Sector		
		Future Simulation Game Company Activity #2		
Tue 16 th Oct Oct.	7	Unit 6: The “Systems” Approach to Livestock Production [Directed Reading]	Session 10	R6.1 & A6.1
Tue 30 th Oct.	9	Unit 6: The “Systems” Approach to Livestock Production NOTE CAREFULLY 5% of Coursework	Session 11 TMA #1 DUE	R6.2; R6.3; R6.4 A6.2
Saturday 3 rd November	9	Future Simulation Game Company Activity #3		
Tue 13 th Nov	11	DUVALI Public Holiday		
Tue 27 th Nov	13:	Unit 7: Livestock Production Systems [Introduction and extensive Systems]	Session 12	R7.1
		Unit 7: Livestock Production Systems [Introduction and extensive Systems]	Session 13	R7.2; to R7.8
		Unit 7: Livestock Production Systems [Introduction and extensive Systems]	Session 15	R7.9; R7.10
B R E A K				
Tuesday 8 th Jan 2013		Unit 12: Economic vs. Financial Factors Unit 13: Economic vs. Financial Factors Future Simulation Game Company Activity #4	Session 30 Session 31 Session 32 Session 33	R12.1 R12.2 R13.1; R13.3
		NOTE CAREFULLY All of Unit 7 is really revision for you all as you are all well trained in Livestock.		
		Unit 7a: Livestock Production Systems [Intensive Systems]	Session 16	R7a.1
		Unit 7a: Livestock Production Systems [Intensive Systems]	Session 17	R7a.2
		Unit 7a: Livestock Production Systems [Intensive Systems]	Session 18	R7a.3

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		Unit 7a: Livestock Production Systems [Intensive Systems]	Session 19	R7a.4; to 7a.7
		Unit 7b: Livestock Production Systems [Intensive Systems]	Session 20	R7b.1; to R7b.6 A7b.1
		<p>Note: This Unit is complemented by the very first reading that I gave you all in the class during the third week.</p> <p>Unit 8: The 'Other' Livestock Sector</p> <p>The Role of the Banking Sector and Development Banks in Livestock Development -Dr. Lennox Sealey -Mr. Mariano Browne On dates to be determined!</p>	<p>Session 21 Session 22 Session 23</p>	<p>R8.1; R8.2 R8.3; to R8.9</p>
SEMESTER II				
SEMESTER II WEEK 1 Tuesdays 5-7PM Tuesday 22 nd January	1	Unit 14: The Sectors [The Government, the Private Sector & the Third Sector]	Session 34 Session 35	R14.1; R14.2 R14.3
Tuesday 5 th Februaury	3	<p>Future Simulation Game Company Activity #5 Discussion and Evaluation of the Status of progress and how the Companies worked during the Break</p> <p>NOTE CAREFULLY Assignment Due 5% of Coursework</p>	TMA #2	
Saturday 9 th February Carnival Saturday	3	Future Simulation Game Company Activity #6		

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Tuesday 19th February	5	Unit 9: Issues Facing Livestock Production	Session 24 Session 25	R9.1; R9.2; R9.3 R9.4 and L9.1
	5	Unit 9: Issues Facing Livestock Production	Session 26	R9.5
	5	Unit 9: Issues Facing Livestock Production	Session 27	R9.6
	5	Unit 10: Economic Factors Affecting Livestock Development	Session 28	R10.1; A10.1
	5	Unit 11: Economic Factors Affecting Livestock Development	Session 29	R11.1;R11.2; R11.3
Tuesday 5th March	7	Future Simulation Game Company Activity #7		
Tuesday 19th March	9	Unit 14: The Sectors [The Government, the Private Sector & the Third Sector	Session 34 Session 35	R14.1; R14.2 R14.3
Friday 29th March	10	Good Friday		
Sunday 31st March	11	Easter Sunday		
Monday 1st April	11	Easter Monday		
Tue 2nd April March	11	Unit 15: International and Local Trade in Livestock Production Unit 15: International and Local Trade in Livestock Production	Session 36 Session 37 Session 38 Session 39	R16.1 R16.2; R16.3
Tue 16th April	13	Unit 16: Approaches to Livestock Development for Small States Beyond the Year 2000		
Saturday 13th April		PRESENTATIONS		

Exams will be between 22nd April to 17th May 2013

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[I] TUTOR MARKED ASSIGNMENT #1

- 1] *What is Development?* [1%]
- 2] *Conceptualize and Describe the Vertically Integrated Model of the Poultry Industry in Trinidad and Tobago* [4%]

DATE DUE: Tuesday 30th October 2012

[II] TUTOR MARKED ASSIGNMENT #2

- 1] List and explain the reasons why the Poultry Industry can be described as being a successful livestock industry in Trinidad and Tobago and possibly the Caricom Caribbean. [2%]
- 2] Do a SWOT [Strengths, Weaknesses, Opportunities and Threats] Analysis of the Poultry Industry in Trinidad and Tobago. [2%]
- 3] List and explain what you consider the most important strength and weakness of the Poultry Industry in Trinidad and Tobago. [1%]

DATE DUE: Tuesday 5th February 2013

[III] COURSE ASSIGNMENT/ TUTOR MARKED ASSIGNMENT #3

This is your Company Assignment:

Course Project Presentation	- 10.0%
Individual Participation in the Group Activity	- 10.0 %
Company Final Report	- 20.0%

DATES:

Target Date for Presentation: Saturday 13th April 2013

Submission of Written Report: Monday 15th April 2013 @4pm