

# UNIVERSITY OF ZIMBABWE

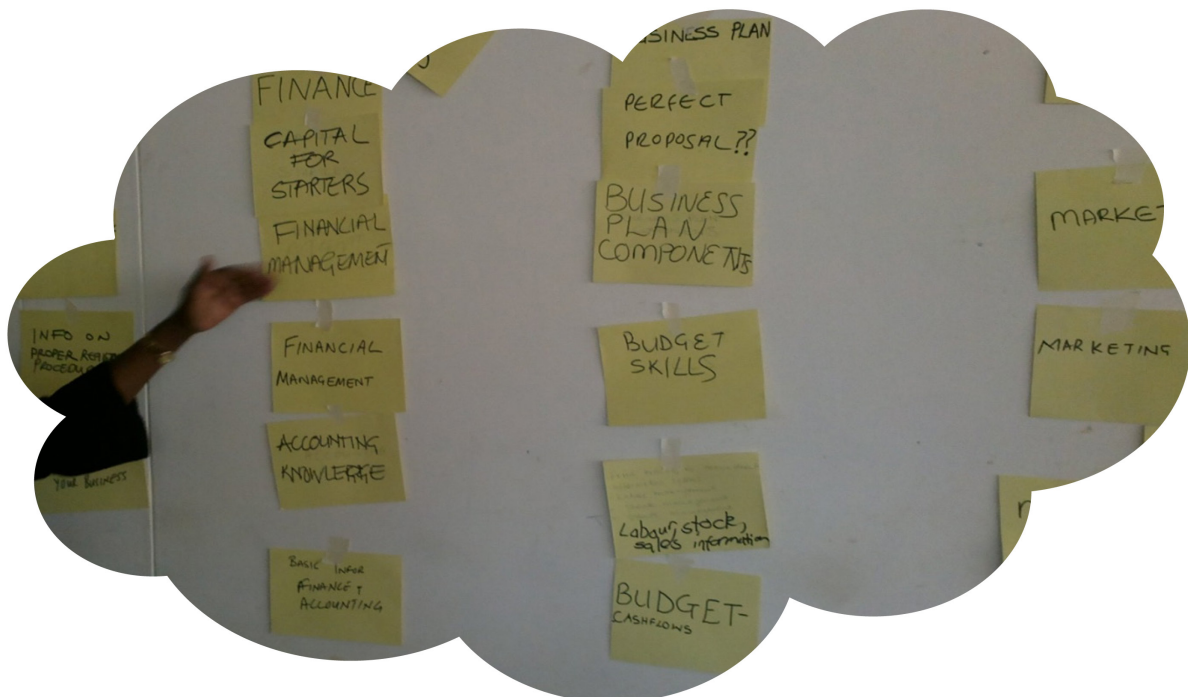


## DEVELOPING A LIVESTOCK FEED BUSINESS INCUBATION MODEL FOR ZIMBABWE GRADUATE YOUTHS

### **Final Technical Report**

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**Submitted 10 May 2013**

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## **Abstract**

This 1 year pre-business incubation project addressed the problem of unemployment of young agriculture graduates and their inability to generate viable and sustainable agribusiness enterprises for employment generation. The gap in commercial livestock feed production was perceived as an opportunity for entrepreneur development among these graduates. The overall objective was to develop and test a livestock feed manufacturing business incubation model for graduate youths in Zimbabwe. A survey was conducted through key informant interviews and a questionnaire to investigate opportunities and constraints to entrepreneurship development of agriculture graduates. Survey subjects were current and former university and college students, lecturers, agribusiness entrepreneurs, agribusiness employees, civil servants and agricultural consultants. The most common forms of agribusiness entrepreneurship among graduates were primary production (80%), processing (32%), manufacturing (19%) trading and retailing (18%). There is thus scope for value addition related agribusiness enterprises. Constraints to entrepreneurship were lack of finance, poor access to land, lack of business skills, lack of business exposure, markets, poor management skills and lack of mentorship. 15 candidate incubatees of diverse age, educational and occupational experiences were recruited through newspaper advertisements and an average of 9 participated in the all project activities. Four approaches for identifying entrepreneurial skills development needs and hence the content of the training modules were used namely: graduate needs that were identification through a surveys, a self administered baseline questionnaire, plenary brainstorming and discussions and training needs assessment during the agribusiness training workshops. Four training workshops were conducted for the incubatees in agribusiness development, feed formulation and feed manufacturing. After the training activities, the incubatees produced business plans of which 57% were rated as bankable. Unbankable business plan were characterized by lack of focus and poor cash flow analyses. Project success factors included a multistakeholder partnership and continuous incubatee skills needs assessment. Project challenges included lack of access to financing to implement incubatee enterprises and inadequate time and resources to go through a full incubation. This business incubation intervention has the potential of solving unemployment problems among the agriculture graduates but the scope of enterprises should be broadened.

- Keywords : graduate, pre- incubation, feed manufacturing, training, lessons

## 1. Project information

**Project Name:** *Developing a livestock Feed Business Incubation Model for Zimbabwe Graduate Youths.*

**IDRC grant number:** 107001-001

**Research institution:** University of Zimbabwe, Zimbabwe

**Time period covered by the report:** 05 April 2012 to 30 April 2013

**Date of presentation to IDRC:** 10 May 2013

### Research team

The team details are shown in below.

**Table 1: Research team**

Name	Gender	Partner Institution	Department
Prisca H. Mugabe	Female	University of Zimbabwe (UZ)	Animal Science
Tinyiko E. Halimani	Male	UZ	Animal Science
Sharai Ncube	Female	UZ	Animal Science
Emmanuel Nyahangare	Male	UZ	Animal Science
Jacqueline Mutambara	Female	UZ	Agricultural Economics and Extension
Augustine Zvinavashe	Male	UZ	Agricultural Economics and Extension
Billiat Chaderopa	Male	Ministry of Small and Medium Enterprises and Cooperatives Development (MSMECD)	Business Development
Matukanzvimbo Davy	Male	MSMECD	Resource Mobilisation and Project Development
Sharon Karonga	Female	MSMECD	Business Development

## **2. The research problem**

The project addressed two development challenges namely:

- i. unemployment of young agriculture graduates and their inability to generate viable and sustainable agribusiness enterprises for employment generation

Zimbabwe's education system has often been criticized for preparing students for white-collar jobs in the formal sector, and failing to equip them with technical and entrepreneurial skills. School leavers and graduates are often ill-prepared to enter self-employment in the informal sector when they fail to find paid employment in the formal sector (Luebker, 2008). An important policy and organizational question is how best to organize and motivate youth to become entrepreneurs and move into self-employment, to become 'job creators' instead of 'job seekers.' The project rationale was thus the need to move away from over-reliance on the traditional employment sectors of agriculture to being proactive in developing "brain-based activities" (ILO, 2005).

- ii. poor availability and affordability of commercial livestock feeds in Zimbabwe

Livestock production in Zimbabwe is generally challenged by high supplementary feed costs which constitute over 70% of commercial production costs. Commercial stock feeds which could bridge this gap are generally beyond the reach of many farmers as they do not meet the smallholder farmer contexts such as small economies of scale and are often unaffordable. The project rationale was that the gap in commercial livestock feed production was an opportunity for entrepreneur development among unemployed young agriculture graduates.

The key research questions for this project were:

### **1. What key gaps need to be addressed in developing graduate livestock feed manufacturing and livestock production entrepreneurs?**

- i. What business, financial, marketing and other skills are required for successful graduate entrepreneurship?

- ii. What support system gaps need to be in place for successful graduate entrepreneurship?

## 2. What is the ideal innovation incubation approach for Zimbabwe's unemployment graduates?

- i. What entrepreneurship models exist and how can they be adapted for the proposed innovation incubation model?

## 3. Objectives

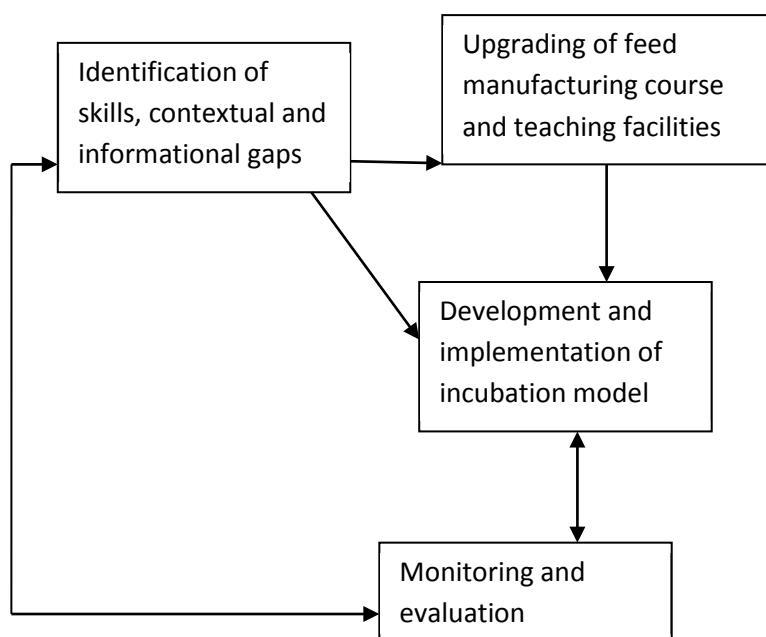
The overall objective of this project was to develop and test a livestock feed manufacturing business incubation model for graduate youths in Zimbabwe. The attainment of specific objectives is described below.

**Table 2: Attainment of objectives**

Specific Objective	Attainment (%)	Comment
1. To investigate opportunities and constraints to entrepreneurship development of agriculture graduates	100%	
2. To incorporate entrepreneurial, business, financial, market and up-to-date technical skills and information into the existing feed formulation training	100%	Four handbooks namely: <ul style="list-style-type: none"> <li>• 2 on agribusiness development,</li> <li>• 1 on feed formulation and</li> <li>• 1 on feed manufacturing</li> </ul> were produced and were rated good to outstanding by at least 90% of the trainees.
3. To develop and test a pilot business innovation incubation model for graduate livestock feed manufacturing entrepreneurs	pre-incubation phase is about 75% complete;  the whole incubation process is about 33% complete	The 1 year available for the project is not adequate for a complete incubation process.  Three to five years is required for effective incubation as is discussed later in this report.

#### 4. Methodology

A modification of the methodological framework presented in the proposal was that the development and implementation of the incubation model is now continuously linked to all other objectives and activities in a continuous learning and adaptation way (Figure 1).



**Figure 1: Methodological framework**

*Objective 1: To investigate opportunities and constraints to entrepreneurship development of agriculture graduates*

A study was conducted to explore graduate employment and business ventures, relevance of curricula to entrepreneurship, issues for consideration to enhance entrepreneurship skills, constraints, opportunities and needs to support engagement in businesses after graduation. Primary data was collected through key informant interviews and a questionnaire (Appendix 1) survey. The target audience were current and former university and college students in various occupations namely current students, lecturers, agribusiness entrepreneurs, agribusiness employees, civil servants and agricultural consultants. Descriptive statistical analyses and ranking were performed on the responses.

*Objective 2: To incorporate identified entrepreneurial, business, financial, market and up-to-date technical skills and information into the existing feed formulation training*

Four approaches for identifying entrepreneurial skills development needs and hence the content of the training modules were used namely:

- i. graduate needs that were identified in the surveys in Objective 1,
- ii. a self administered baseline questionnaire survey on candidate incubatees,
- iii. plenary brainstorming and discussions with the candidate incubatees at the registration workshop prior to training workshop
- iv. training needs assessment during the agribusiness training workshops

**Lesson learnt:** A project learning point here was that the entrepreneurial skills identification and design of training modules should be a continuous process of incubation such that these modules are designed in a manner that allows flexibility in meeting the needs of the cohort of incubatees. In future incubations the project plans that training will be more responsive to the specific identified needs of an incubation cohort rather than having a rigid and standard module. For instance, throughout the project year, the candidates identified certain skills such as financial resource mobilization and accounting as key need areas and repeat and revised sessions were conducted to address these needs. This continuous multi-tooled approach of skills need identification also allows for nurturing the incubatees to a point where they are comfortable in expressing their real needs. The project has learnt that this level of training needs to allow the candidates to 'break out of their shells' and be able to discuss their needs. This can take time for some who are more attuned to the straight-jacket method of instruction which is typical of the university systems. The approach used in this project gives the confidence that that we are addressing real rather than theoretical needs.





Four training workshops (Appendices 2-5) were conducted for the incubatees. In all four workshops there was intensive input from practitioners and experts from agribusiness and the feed manufacturing industry as well as academics from the Departments of Agricultural Economics and Extension, and Animal Science (Table 2).

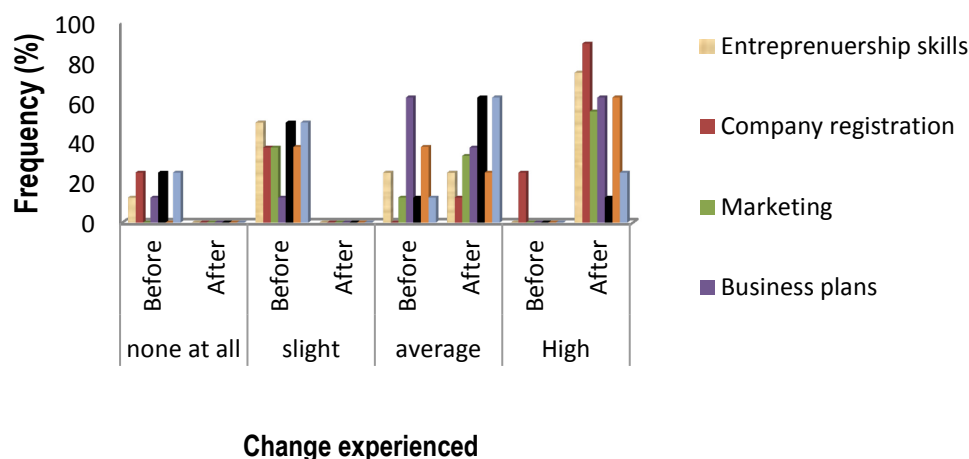
**Table 3: Details of training workshops**

<b>Workshop</b>	<b>Topics covered</b>	<b>Incubatees who participated</b>
Agribusiness 1: 27-29 August 2012	basic strategic tools used in scanning the internal and external business environment, viable business ideas, importance and procedures of formalizing business ventures, basic accounting requirements, financing options, marketing basics	Eleven (73.33%)
Feed formulation: 2-4 October 2012.	opportunities for new business in stock feed industry, 3 fundamental pillars of least cost feed formulation, formulation of simple diets, nutrient requirements of different livestock species	Nine (60%)
Agribusiness 2: 13-16 November 2012	how to prepare a business proposal, the banks' point of view of a viable business proposal, monitoring the success of a business, market research and market planning in the feed manufacturing industry, networking in the industry, possible business models, human resources issues	Eight (53%)
Feed manufacturing: 11-14 December 2012	plant equipment, plant design ,types, procurement, storage and processing of raw materials commonly used in Zimbabwe, processing, of stock feed plant, packaging and presentation, business plan development	Nine (60%)

Rather than review and evaluate the training modules through a stakeholder consultation workshop as was originally intended, we used the continuous feedback and training needs assessment within the training workshop to develop the modules.

Hard copy versions of the modules were prepared just before each workshop and the incubatees were later given electronic copies on CD.

The incubatees continually reported improved understanding and appreciation of agribusiness realities as shown in the example of a training evaluation below:



**Figure 4: Knowledge levels before and after Agribusiness training**

*Objective 3: To develop and test a pilot business innovation incubation model for graduate livestock feed manufacturing entrepreneurs*

1. After the project inception workshop, a project management team was established from the Department of Animal Science, Department of Agricultural Economics and Extension and the Business Development Department of the Ministry of Small and Medium Enterprises and Cooperatives Development.
2. An Incubation Centre was set up in the Department of Animal Science. This is a dedicated room for project meetings and trainings which is manned by a project assistant. Having a room dedicated as the Incubation Centre in the Department of Animal Science has been a key success factor for various reasons. Most of the incubatees did not have access to office space and computing facilities. They used the Incubation Centre mainly to develop their business plans and to access the internet. The dedicated room also enabled the scheduling the numerous meetings and training activities without scheduling clashes with the rest of Animal Science activities and without incurring high venue costs.
3. After a learning visit by the project leader to incubators in Mozambique and South Africa, the project came to understand that the incubatee selection and training

activities that were scheduled in the 1 year project timeframe could only lead to pre-incubation. The advice from consulted incubator practitioners such as Ideialab and Technoserve was that effective incubation should last between 3.5 to 5 years. As a result of this advice and the actual experience with incubatees, the focus of the project in this 1 year has been on pre-pre and pre-incubation. This report thus focuses on these two phases which are requisite to the incubation model development.

4. The original plan for incubatee selection was as follows: The selection of incubatees would be preceded by running the upgraded feed manufacturing course for Animal Science graduates after which interested candidates would apply for admission into the business incubation by presenting a business concept to a selection committee. The targeted 15 to 20 selected candidates would be a mix of very recent graduates and those with some field experience. They were to go through participatory training for the production of full business plans for feed manufacturing with or without associated intensive livestock production (preferably poultry and pig production due to short production cycles). The business plans would be used to secure financing from the participating banks. After this stage, about 12 successful candidates would be accepted into the incubation program. This original plan for incubatee selection was modified as explained below:
  - a. Immediately after the project inception workshop, the following advertisement for candidate incubatees was run in two of the most circulated public newspapers In Zimbabwe namely the Business Herald of 7 June 2012 and the Sunday Mail of 3-9 June 2012:



**UNIVERSITY OF ZIMBABWE**  
Animal Science Department

**BUSINESS INCUBATION FOR  
UNIVERSITY GRADUATES**

The Animal Science Department of the University of Zimbabwe is piloting business incubation for entrepreneurial development in livestock feed manufacturing and livestock production. The incubation will enhance agri-business and networking skills for competitive productivity and successful business financial resource mobilization.

Applications are invited from persons with:

1. A University qualification, preferably in livestock production or closely related areas
2. Demonstrable involvement or potential for involvement in commercial livestock and/or livestock feed production would be an added advantage
3. Ability to attend monthly training sessions of 3-7 days, over 1 year
4. Ability to contribute to basic training costs.

Interested persons should submit proof of qualifications, *Curriculum vitae*, as well as a 250 word (font size 12, single spaced) statement of intent, explaining why they should be selected to:

The Business Incubation Project Coordinator, Department of Animal Science, University of Zimbabwe, P. O. Box MP 167, Mt. Pleasant, Harare by **16 June 2012**.

15 candidates expressed interest in the project as summarized in Box 1.

**Box1: Some facts about the applicant incubatees**

- 6 females, 9 males
- 24 to 50+ years old!
- Education: 9 BSc., 1 MSc., 1 BVSc., 1 ACCA, BCom., IMM
- Universities attended: 6 UZ, 4 MSU, 1 ZOU, 3 other
- 4 Run own ventures
- One in computers & communication
- One runs a farm and wants to add value to his soya and maize
- Two jointly run an agro-chemicals business
- Marketers – 3
- NGO experience – 3
- Employed – 10

- b. Due to the limited number of initial applicants and due to the diversity of their backgrounds, the project team decided not to impose tough selection at the initial stages. This was also because from other incubators' experiences, drop-outs of 5-10% were to be expected just at the pre-incubation stage. Therefore maintaining the initial 15 candidates was expected to leave us with reasonable numbers even in the event of drop-outs.
5. A half-day registration workshop was conducted on 30 June 2012 in the Department of Animal Science to familiarize the 15 candidates with the project. Main presentations were project description, feedback on self-administered baseline survey, entrepreneurs' constraints and opportunities, expectations from the project and a project workplan. A brainstorming activity was conducted during the workshop on the needs of these potential incubatees.
6. After the registration workshop, 4 training workshops were conducted as described in Table 2. As indicated in the table of trainings, the workshop attendance rate ranged from 11 (73%) of the initial number admitted to 9 (60%). This was an acceptable rate as those who could not commit to the process quickly dropped out.  
Lessons learnt: It was apparent that some of the drop-outs had misinterpreted the project as a potential funding facility and not the entrepreneurship development facility that it was meant to be. After engaging Technoserve, a potential future expert future project partner, the project team has since learnt that we could have employed better and proven incubatee selection tools. These will be employed in future selection, possibly with the participation of Technoserve.
7. As a result of project activities, the incubatees were expected to be involved in real life running of their own businesses located outside the Department of Animal Science. This expectation has had to be revised due to the unrealistic time frame and also due to serious financial constraints of the incubatees. The project instead focused more on the development of business plans and to exposing the incubatees to diverse examples and options of capitalization. Two examples are the inclusion of a presentation on franchising by a successful graduate businesswoman who runs an Irish pub franchise in Zimbabwe, and a presentation of a Technoserve funded feed manufacturing outgrower/franchise hub (ABS TCM).

8. For monitoring and evaluation, the original plan was that Incubatees would be required to set and report on bimonthly performance on business parameters such as marketable product quantities and quality, sales turnover, production flow, production trends, employment created, growth in the business assets, revenues earned, additionality of benefits at incubating clients as compared to those in the open market space (Lalkaka, 2001), loan servicing and networking in the industry. This stage has not yet been reached. The project team however devised alternative performance monitoring activities namely:-
  - a. Development of a business plan: A deadline for submission of the final business plan was set at 20 December 2012 and the incubatees were required to make at least 2 class presentations of their draft plans with feedback from expert training resource persons and their peers.
  - b. An 'outcome' evaluation session was conducted on the last day of the last training workshop. The students were asked to make a class presentation on what had changed in their practices and attitudes to entrepreneurship since joining the project. These impromptu oral presentations were audio-recorded and transcribed as summarized in Box 4.
9. The Incubator evaluation process was planned originally as step-by-step analyses of the factors within the incubator and some outside (Hackett and Dilts, 2004). An evaluation framework would be designed to cover three main sets of criteria: impacts, effectiveness and sustainability (Mian, 1997; Hackett and Dilts, 2004). Except for the case presented in Box 2, this evaluation cannot yet be performed on the early pre-incubation phase since the incubatees have not been able to implement any new or enterprises or new businesses strategies.

### Box 2: Incubatee monitoring

A follow-up visit was made on 12 March, 2013, by project team representatives to assess 1 incubatee's progress

## Description of enterprise

- agricultural extension officer operating on a 50m x 40m plot
- has 500 -3.5 weeks old broilers
- there is more space available to construct more units
- A very prolific borehole is under development

## Future plans

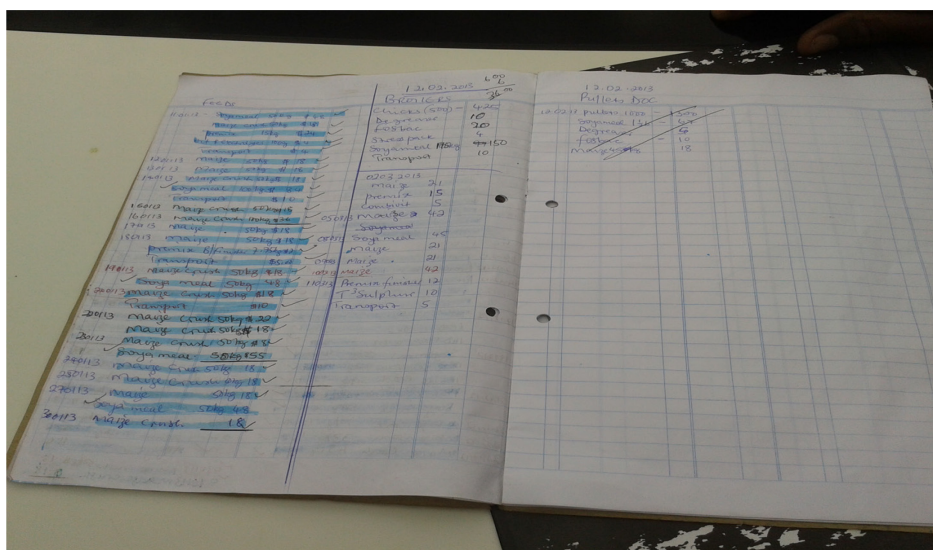
- Raise funds from selling table eggs and then use the funds for setting up a feed manufacturing unit.

Advice given to him

- To focus on the table egg production business and ignore the feed manufacturing business as he would require a lot more capital to set it up and build a name than would required in the egg production business
- To make up his mind on what he wants to do between layers and broilers as it is not advisable to do both in his kind of set up. Given the electricity challenges, it was thought that it would be more appropriate if he would consider focusing on the egg production business. It would also be easier to market the eggs than to market meat
- He was also advised that his expansion programme must be based on the market. If he was to go into layers and produce 4000 eggs per day, he would need a very good market.
- To this effect he was advised to pursue registration of his business and be able to tap into support opportunities
- Could consider some horticulture activities as support income generation

Noted improvements attributed to incubation programme

- He has started to capture records, which records represent the cash outflow and inflows.
- He however is not using the records for decision making as no analysis has been done so for using the records. For example he could use the records to calculate his break even prize, selling price and also partition his cost to see where he is losing it with regard to cost control.



## Project lessons

- The incubatee has a very good mature and determined vision but needs to be nurtured a lot more into having a refined and progressive focus
- He needs to be helped to realize the great potential of his situation



10. At the end of agribusiness 2 training, incubatees were expected to come up with business proposals by 20 December, 2012. Seven incubatees completed this task. The proposals were given to independent assessors from two different banks with agribusiness units. The assessors used their banks' criteria in assessing the projects' bankability or fundability (Box 3). Fifty-seven percent of the proposals submitted had potential to be funded according to the decision by either one or both of the assessors. Given that this was the first time to do proposals, and the nature of the assessment, it is believed that the group has shown a lot of potential. With more practice and individual coaching on the identified proposal weaknesses, the incubatees have potential to produce bankable proposals thus in this regard one of the objectives of training, to equip students with skills to develop business proposals was met.

<b>Box 3: Bankers' comments on the business plans</b>	
<b>Fundable business plans comments</b>	<b>Non-fundable business plans comments</b>
<ul style="list-style-type: none"> <li>• A viable project well demonstrated in its cash flow projections and the assumptions accompanying the financial plan</li> <li>• Viability is well displayed in the financials i.e., the marginal costing and the projected income statement.</li> <li>• The business model appears to have been given some considerable thought and it is one that the bank would consider funding.</li> <li>• The business model is small and simple enough for a beginner. The bank can be interested in funding</li> <li>• It is well researched but not stating how much the required funding is and also not showing how costs and income would relate in a cash flow projection.</li> </ul>	<ul style="list-style-type: none"> <li>• Poor business model with regard to an unclear arrangement with U.Z and marketing strategy</li> <li>• Cashflow assumptions not practical in the broiler industry and cashflow also not showing repayment strategy</li> <li>• The borrowing entity (individual/company) not clear</li> <li>• The items appearing in the cashflow projections show that the project's monthly variable costs actually outstrip the monthly inflows, an unviable project a bank would not fund.</li> <li>• The financial requirement not stated</li> <li>• The personnel and expertise behind the project not clear</li> <li>• The nature of the product, its competition, and its markets not mapped out clearly</li> <li>• This project on the surface seems viable, but lacks the detail that would demonstrate its viability</li> <li>• Not enough information to assess the borrower</li> <li>• Applicant has not carried out sufficient research on the environment</li> <li>• Viability of each enterprise is not being clearly brought out</li> <li>• Neither the amount nor the purpose being applied for is stated anywhere in the proposal and the cashflows presented are not very clear on this aspect.</li> <li>• There appears to be lack of focus in the way the model is structured as the promoters seem to want to do stockfeeds for all livestock classes at once.</li> </ul>

*Lesson learnt:* An innovative lesson here was that of using mock evaluations of the business plans by external experts in the banking sector, rather than using internal (academic) evaluations. All the incubatees took the comments seriously and appreciated the experience. The comments on non-fundable proposals also provide lessons in what areas to keep focusing on during the trainings. These areas include cash flow planning, project focus, viability and market research.

*Area of need:* Unfortunately, there was not enough time in the project to follow up on the fundable plans to where they would be submitted to a bank. Even if they were submitted, most would probably face challenges of high bank interest rate, requirement for collateral and lack of operational space in some cases. The proposed extension of the incubation project would address these issues and the revolving-fund supported initiative at UZ Farm will help in building the incubatees bankability.

## **5. Project activities**

The following activities (Table 3) were executed:

**Table 4: Project activities**

Activity supported under the project	Time line (2012/2013)											
	may	jun	jul	Aug	sep	oct	nov	dec	jan	feb	mar	apr
Learning visit												
Project inception meeting, seminars s and workshop	X	X										
Advertise for incubatees and selection		X										
Incubatees baseline		X	X									
Opportunities/constraints study	X	X	X									
Training modules development		X	X	X	X	X	X					
Agribusiness 1 training				X								
Feed formulation training						X						
Agribusiness 2 training							X					
Feed manufacturing training								X				
Incubatees business plan development					X	X	X	X				
Business plan evaluation									X			
Feedback of business plans evaluations									X	X		
Project management team meetings	X	X	X				X	X	X	X	X	
Publicity	X	X		X					X			
Meetings with UZ Pro-Vice Chancellor, Technoserve, ABS TCM		X			X			X		X	X	
Project evaluation											X	
Project termination										X	X	

### **5.1. Lessons learnt on project implementation**

The project success was due to the following factors:

1. Partnership among UZ Departments of Animal Science, Agricultural Economics and Extension, Ministry of Small and Medium Enterprises and Cooperatives Development ensured the exchange of ideas and sharing of responsibilities across various expertise requirements.
2. Training workshops effectiveness was a result of vast networks of the project management team and stakeholders with real-world practitioners in business and feed manufacturing.
3. The hiring of a project assistant enabled efficient day-to-day implementation of activities. There was overall technical and logistical support from the Department of Animal Science. The dedicated project room enabled easy logistical arrangements for meetings and trainings.
4. The identification of the entrepreneurial skills needs was done not as a once-off activity but continuous process. As a result, each training workshop also incorporated and emphasized on and included identified needs from preceding workshops and activities.
5. Although it was still pre-incubation, the project exposed the incubatees to many diverse real-world situations and options for agribusiness development such as franchising and outgrower opportunities as well as the mock evaluation of their business plans by real bankers.

### **5.2. Project implementation challenges**

1. Some incubatees had commitments that made it difficult to attend all training activities. Some were not able to produce the business plans
2. Most incubatees did not have financial resources to try-out their business ideas, even on a small scale.
3. Some incubatees did not comprehend the concept of incubation and hence were not able to follow through with the project.

## **6. Project outputs**

### **6.1. Documentation**

1. An interim technical and financial project report at the end 6 months 1 was submitted and accepted by IDRC as per the requirements of the Project Management Contract.
2. Four training modules hard copies were produced for
  - i. Agribusiness1
  - ii. Feed Formulation
  - iii. Agribusiness 2
  - iv. Feed Manufacturing
3. Four training workshops reported in were conducted for an average of 9 incubatees in August, October, November and December, 2012.
4. The following implementation reports were produced
  - i. 4 training workshop reports (Appendix 2-5)
  - ii. Inception workshop report (Appendix 6)
  - iii. Baseline survey report (Appendix 7)
  - iv. Incubatees self interim outcome report (Box5)
  - v. Business plans evaluation report
  - vi. Follow-up report to 1 incubatee's farm (Box 2)
  - vii. Seven business plans were produced by the incubatees and 4 were rated bankable by two independent assessors (Box 3)
5. Special feature article " Incubating Animal Science graduates for self-employment " was published by Tinyiko Halimani in the UZ WEEKLY, Vol. 1. Issue 5 20 July 2012. This weekly publication is done through the Information and Public Relations Office of the University of Zimbabwe.
6. A draft manuscript for the constraints and opportunities survey has been developed. This manuscript will be completed by end of June 2013.
7. A draft research brief has been produced at the recommendation of the Senior Programming Specialist. The brief manuscript will be completed by end of May 2013.
8. A publication on the pre-incubation experiences will be produced by f August 2013.
9. A project evaluation report was produced by an independent evaluator

## **6.2. Capacity development**

- The main capacity building was for the project management team in agribusiness training and incubation development. Agribusiness is not currently within the Animal Science curriculum and the project has provided an important learning platform for the project team and the department. The experiences have already influenced the current curriculum review process in the department.
- The Ministry of Small and Medium Enterprises partner has welcomed the novel experience and opportunity to work with graduate incubation.
- This project was implemented after a long time of research project inactivity in the Department of Animal Science and so it provided a peer mentoring platform of 5 members of staff by the project leader in research, project implementation, management and networking.
- The focus on feed manufacturing limited the interested candidates and hence the incubation scope. Also the interested incubatees are not capable of going straight feed manufacturing because of financial constraints. They cannot get loans from banks due to high interest rates and the demand for collateral. Broiler production has thus been commonly identified by the incubatees as a potential income generation activity towards bigger enterprises.
- Innovative outputs were engagement of the private sector to collaborate with UZ in the incubation of graduates. The project is jointly developing a proposal with Technoserve for revolving funding by the banking sector to enable phase 2 incubation at the University of Zimbabwe Farm. This will be an innovative way of modernising the UZ Farm Teaching Unit into a Centre of Excellence while providing an advanced incubation platform beyond the training workshops so far provided through the concept of social entrepreneurship. The proposal is to broaden the scope of incubatees to beyond feed manufacturing only but any other agro related area such as horticulture and dairy.
- The project is also developing an alliance with a high-tech feed mill ABS TCM which is looking for decentralised outgrower partners. ABS TCM recognizes the value of the UZ incubator as a skills training partner.

- The capacity of team members to work in a multidisciplinary team and to implement subthemes was improved for
  - Mrs Sharai Ncube (Agribusiness development coordination, networking, project management)
  - Mr Emmanuel Nyahangare Feed formulation and feed manufacturing coordination and networking
  - Eddie Manhovo (project assistance)
  - Dr Jaqueline Mutambara- research capacity
  - Dr Prisca Mugabe(team management)
- The equipment capacity for the Department of Animal Science was improved by the acquisition of 5 desktop computers, a printer, a laptop, projection equipment and feed manufacturing equipment.

### **6.3. Sustainability**

The institutional capacity of the Department of Animal Science was improved by the pre-incubation experience. Certification by UZ and expansion of the incubator to the UZ Farm with support from other partners will enhance the UZ Farm teaching value.

The project team has formed an alliance with Technoserve and has had enriching experiences in developing a collaborative concept for funding by the banking sector. The Country Director of Technoserve has vast experience in incubations and in Africa and beyond.

### **6.4. Policy and practice**

Animal Science is adopting some agribusiness skills in its curriculum review

The proposed phase 2 of the incubation at UZ Farm will enable the incubatees to be monitored for a further year within the UZ system. The UZ certification will improve their application value for bank loans.

## 7. Project outcomes

### 7.1. Generation of new information

The project has produced new information (red boxes) in answer to the research questions as illustrated below:

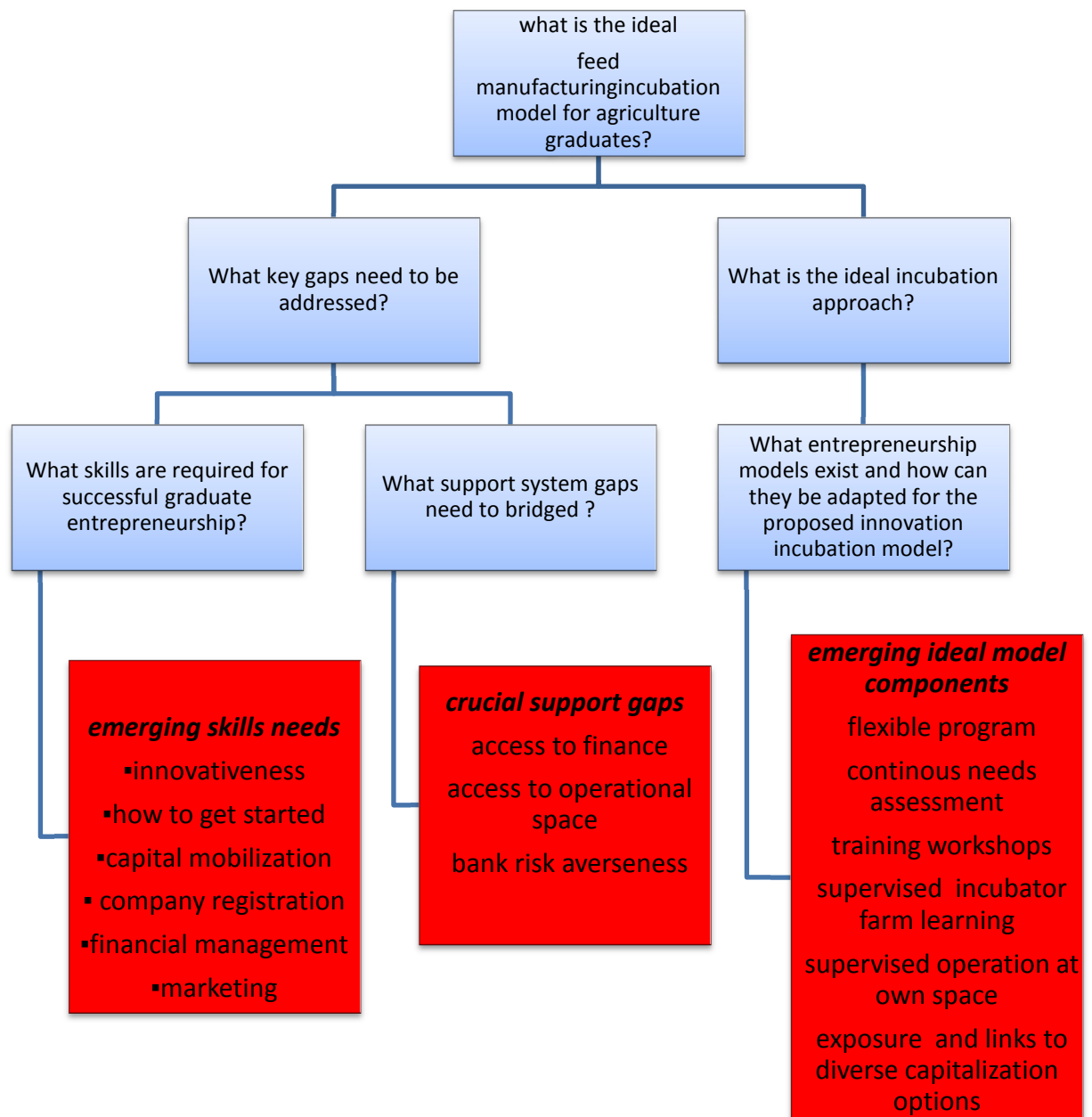


Figure 5: Incubation model attributes emerging relative to the research questions



## 7.2. Incubatees' changes

The main outcome is a post graduate training for entrepreneurial development which is not just another certificate but has tangible results such as the production of bankable business proposals by some incubatees and change in attitude as in Box 4

### **Box 4 Incubatees interim outcomes as reported by them**

- My eyes have been opened on the business way of doing things
- Used only to keep production records e.g., mortality, but now also know the importance of keeping financial records
- Started keeping records more systematically
- Have taken a vibrant approach to marketing my porkers and so far have secured a verbal contract with a butchery
- Had a closer look at my cost structure and noted that my overhead costs are too high.
- Before the training I had a lot of business ideas but now am more focused on broiler production
- Before the training I was in the business of buying and selling cattle but have now realized that I was working for nothing as I could hardly break even
- When I joined I wanted to do feed manufacturing and consultancy, now thinking of feed manufacturing in focusing on dairy and poultry feed
- I now know how to do the business plan so I will not just plunge into the market
- Have been making broiler feed manually and now I know the basic machinery needed to improve on the quality of the feed
- I am also able to calculate profits
- I also feel very networked as a result of the training
- We have formalized meetings and now document more information than before
- Now banking all cash inflows before use so as to track activities
- Glad that our previous loan application was not successful because we now realize that we were not ready to handle that money

### **7.3. Policy influence**

1. A report on the application for the accreditation of the business incubation training by the University of Zimbabwe was produced (Appendix 9). The Project was given 3 options of issuing certificates to incubatees and has chosen the Certificate of Participation which allows flexibility of tailoring the incubation activities. The Certificate would be a useful bargaining tool for the incubatees when they approach the banks for financing.
2. Involvement of the UZ Pro-Vice Chancellor (Business Development) and the UZ Public Relations Office afforded publicity for the project and the project was invited to make presentations at different fora within the UZ system (such as the UZ Farm Strategic Planning meeting). This not only opened platforms for advice and critical discussions but resulted in the project being given permission to expand its activities onto the UZ Farm. The UZ Farm activities are going to focus on practical agribusiness management activities by the incubatees. The project team is currently mobilising further resources for this crucial piloting phase of incubation model development.

### **7.4. Lessons for the broad design elements**

The narrowing of scope to feed manufacturing made it difficult for potential candidates to realise immediate prospects. The project has since decided to broaden the scope to include not just Animal Science but agriculture graduates and agribusiness situations

#### **7.4.1. What would be done differently**

- ❖ I would broaden the scope of agribusiness scenarios.
- ❖ I would also plan for a longer incubation of at least 3 years. Unfortunately the funding available did not permit for this

#### **7.4.2. Value of the project relative to the investment**

The change in perception, attitude and practice by some of the incubatees (Box 5) was very good value for the investment. We are confident that as with other incubators elsewhere, if we could get more resources we could complete the incubation and have resulting entrepreneurs

## **8. Conclusion**

For successful incubation of agribusinesses for University graduates, some of the key skills that need to be addressed are innovativeness, how to get started, capital mobilization, company registration, financial management, marketing and the crucial support gap are access to finance, access to operational space and bank risk averseness. A successful business incubation model will involve: flexible program, continuous needs assessment, training workshops, supervised incubator farm learning, supervised operation at own space and, exposure and links to diverse capitalization options

## **9. Overall recommendation**

1. This business incubation project was a novel idea which has generated a lot of interest within the University. Without the funding, it would not have been possible.

We recommend that IDRC considers extending the project so that even the IDRC funds spent so far will achieve more tangible results.

## 2. APPENDICES

## APPENDIX 1

**PROJECT: Developing a livestock production and feed manufacturing, Business incubation model for graduate youths in Zimbabwe**

**ACTIVITY 2: Investigating Opportunities and Constraints to Entrepreneurship Development of Agricultural Graduates.**

**By**

**Dr J Mutambara, Department of Agricultural Economics and Extension. University of Zimbabwe.**

### Questionnaire

This questionnaire was designed to Investigate Opportunities and Constraints to Entrepreneurship Development of Agricultural Graduates in Zimbabwe as contribution to Developing a Livestock Production and Feed Manufacturing Business Incubation Model for Graduate Youth in Zimbabwe. The target elements in the study are employees in agricultural training institutions, staff in relevant ministries, students enrolled in agricultural universities and colleges, grandaunts from agricultural universities and colleges, entrepreneurs in agriculture and agribusiness sectors and other relevant organizations. The information obtained from this survey will be used confidentially for the purpose of this study without specifying individual persons or organization. Questions and clarification can be forwarded to Dr J Mutambara, email: [jmuzenda@yahoo.co.uk](mailto:jmuzenda@yahoo.co.uk), Tel 0772482561.

Date .....  
Questionnaire number .....  
Enumerator's name .....

1. Status of respondent .....  
1.College student 2. University student, 3. University Lecturer, 4 college lecturer, 5. Agribusiness entrepreneur, 6. Agribusiness employee, 7 Government officer, 8. Agricultural consultant 9. Other (specify) .....  
.....
2. Do you interact with agricultural graduates in Zimbabwe? 1. Yes 2. No
3. If yes, specify how? .....  
.....
4. If yes, How long have you been interacting with them? .....
5. How many agribusiness entrepreneurs do you know? .....
6. What is their business? (Indicate percentage concentration per business type).

Business type	Proportion

7. What is the employment rate of agricultural graduates in Zimbabwe in the following disciplines?

- a. Agricultural economics/management/Agribusiness .....
- b. Animal science .....
- c. Crop science .....
- d. Agric engineering .....
- e. College graduates .....

8. Who are the main employers of agricultural graduates in each discipline? (farms, banks etc (indicate proportions))

- a. Agricultural ..... economics
- b. Animal science .....
- c. Crop science .....
- ..... Agricultural-engineering
- ..... College-graduates

9. What proportions of agricultural graduates are into their own businesses in Zimbabwe?

- a. Agricultural economics/management/Agribusiness .....
- b. Animal science .....
- c. Crop science .....
- d. Agric engineering .....
- e. College graduates .....

10. If any, what kinds of businesses do they venture into?(indicate proportions per business type)

- a. Agricultural-economics/management/Agribusiness .....
- b. Animal science .....

c. Crop science

.....  
.....  
.....

d. Agricultural engineering

.....  
.....  
.....

e. College graduates

.....  
.....  
.....

11. Please indicate the number of agricultural graduates engaged in the following business types that you know?

Business type	Number of graduates involved
Small (5-10 employees)	
Medium (11-50 employees)	
Large (over 50 employees)	

12. Do you think the current agricultural education curriculum at present in Zimbabwe is relevant to entrepreneurship development of graduates?

..... 1. Yes 2. No

13. If yes, what is particularly helpful in the curricula

.....  
.....  
.....  
.....

14. If no, List the key elements you would like to see in the curricula?

.....  
.....  
.....

..... 15. How can the relevant institutions adjust their training approach to enhance development of entrepreneur in our graduates?

.....  
.....  
.....

16. Can you rank the major constraints faced by agricultural graduates in starting and doing agro-businesses in Zimbabwe by percentage weights?

.....  
.....  
.....  
.....  
.....

17. What are the agribusiness opportunities for agricultural graduates in Zimbabwe?

.....  
.....  
.....  
.....

18. What are your policy recommendations for successful development of entrepreneurship among agricultural graduates in Zimbabwe?

.....  
.....  
.....

**END, THANK YOU**



## **APPENDIX 2**

### **Report on Agribusiness 1 training held from 27<sup>th</sup> to 29<sup>th</sup> of August 2012 in the Department of Animal Science**

**Prepared by Mrs Sharai Ncube, lecturer, Department of Animal Science**

#### **Introduction**

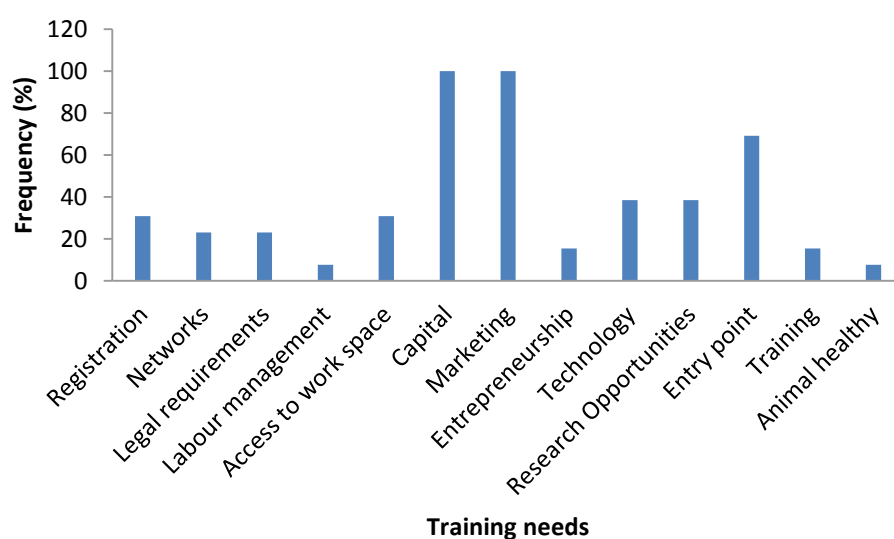
The training was held at the University of Zimbabwe, Animal Science Department from the 27<sup>th</sup> to the 29<sup>th</sup> of August 2012. Eleven (73.33%) students out of the 15 candidates selected for the incubation participated. Two (13.33%) of the incubatees communicated and excused themselves for Agribusiness 1 because of other commitments, also indicating their availability for the next sessions. However, the other two (13.33%) did not communicate their positions despite the team's effort to contact them.



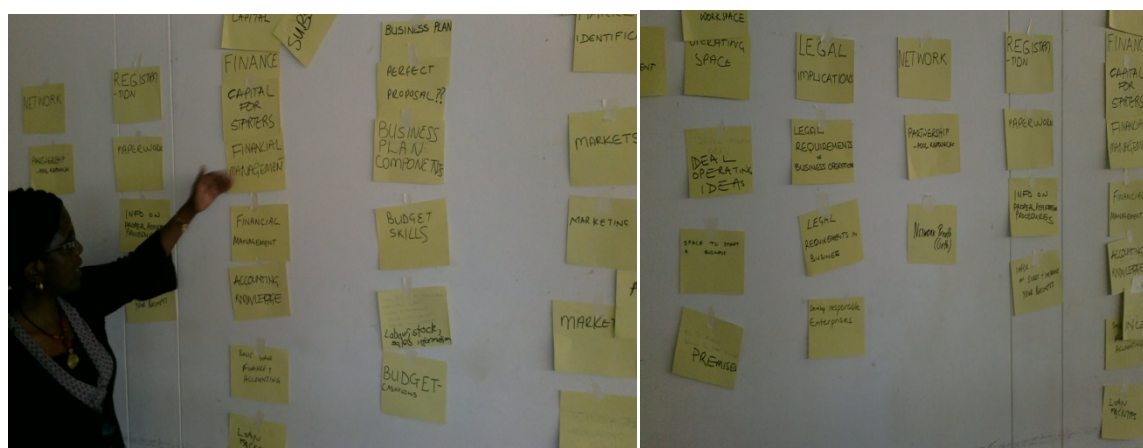
#### *Agribusiness 1 Participants*

Agribusiness 1 was based on the training needs identified by the incubatees during the registration workshop held on 30 June 2012.

During the registration workshop, it had emerged that 100% of the incubatees needed to be assisted in ways of sourcing capital as well as marketing (Figure 1). The next issue ranked important was how to identify a business entry point within the animal feed manufacturing value chain. Incubatees indicated a need to be taught how to scan the business environment so as to identify the most viable point along the value chain. Other needs identified by the incubatees are as shown in Figure 1 and these included company registration, work space, entrepreneurship skills, labour management, technological requirements and how to form networks.



**Figure 6: Incubatees' training needs analysis**



*Dr P H Mugabe leading the brainstorming session during training needs analysis at registration*

# Agribusiness 1 training

## Resource Persons

**Mr D Nikisi (Business School, Chinhoyi University of Technology):** *Entrepreneurship and new venture creation*

**Mr B. Chaderopa (Ministry of Small to Medium Enterprises and Cooperative Development):** *Structure and forms of businesses*

**Dr P Zvinavashe (Department of Agriculture Economics, U.Z):** *Strategic planning for your business*

**Mr E. M Kok (Kugona Kurima):** *Systems of managing your accounts*

**Engineer R Nazare (Department of Agriculture Engineering, U.Z):** *Managing change within a livestock feed production business*

## Training Objectives

At the end of Agribusiness 1, incubatees were expected to:

1. Understand basic strategic tools used in scanning the internal and external business environment
2. Be able to scan the business environment and come up with a viable business idea
3. Understand the importance and procedures of formalising their business ventures
4. Understand the basic accounting requirements of their businesses
5. Have an appreciation of financing options and marketing basics in the current operating environment

In order to address agribusiness issues identified by the incubatees, agribusiness training was divided into two trainings. Agribusiness 1, the subject of this report was an introduction to basic and general business issues and was given five sessions as indicated above. These covered entrepreneurship development, identification of entry points along the value chain, legal requirements and company registration issues, sourcing of capital, marketing issues, as well as basic accounting issues.

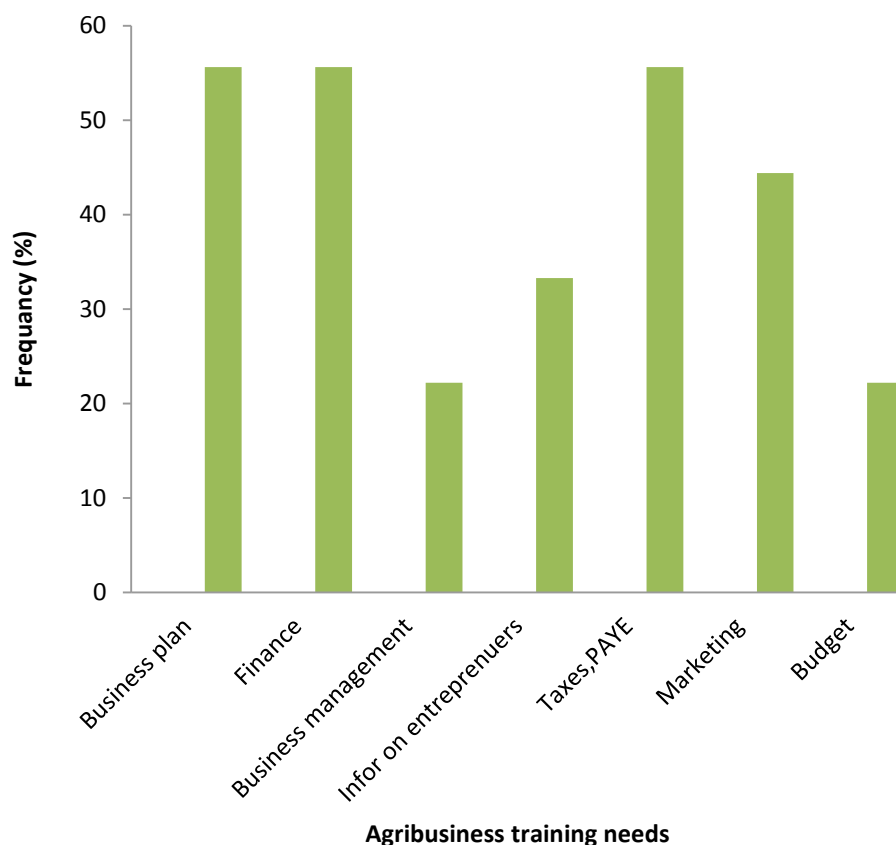
Day 1 of the training focused on entrepreneurship development led by Mr Nikisi and how to register the different forms of businesses under the current economic situations with Mr Chaderopa from the Ministry of Small and Medium Enterprise Development as the resource person. Discussions tackled challenges to do with small businesses and how the challenges can be turned into opportunities. Having been given an insight on the types of businesses that the incubatees could venture into, the legal requirements, the procedures of formalizing the businesses, the incubatees indicated an interest in coming up with a business together as a group where they can be incubated from. Their brainstorming options were to go into poultry, piggery and/or consulting business.



***An Incubatee leading the group initiated brainstorming session for a cooperative/group business idea***

In order to stay focused on the needs of the group, incubatees were asked at the end of the Day 1 to identify agribusiness issues they thought were important (Figure 2). More than 50% of the students indicated the need to be taught a business plan, financing options and a redo of the taxation and Pay As You Earn (PAYE) issues which had been covered earlier during the day. Although it had been briefly introduced in the first session, the business plan section

had been scheduled for Agribusiness 2. Financing options were going to be dealt with in the last day of training.



**Figure 7: Agribusiness training needs assessments at the end of day 1**

Marketing was also introduced later in the training but would be dealt with in greater detail in Agribusiness 2. Budgeting issues were to be dealt with during the last sessions of the training. With regard to taxes and PAYE, incubatees said they needed clarification on what should be done by beginners. Further clarification is available from the Ministry of Small to Medium Enterprises and Cooperative Development. In general, the training remained focused on the needs of the incubatees as we continuously referred to them for gap identification.

The second day of the training dealt with strategic planning and management of businesses with Dr Zvinavashe as the resource person. The main focus was to emphasise the need for a vision and mission of a business and how these should tally with your strategic objective. The day ended with a discussion on the strategic tools one can use to make decisions. Such tools

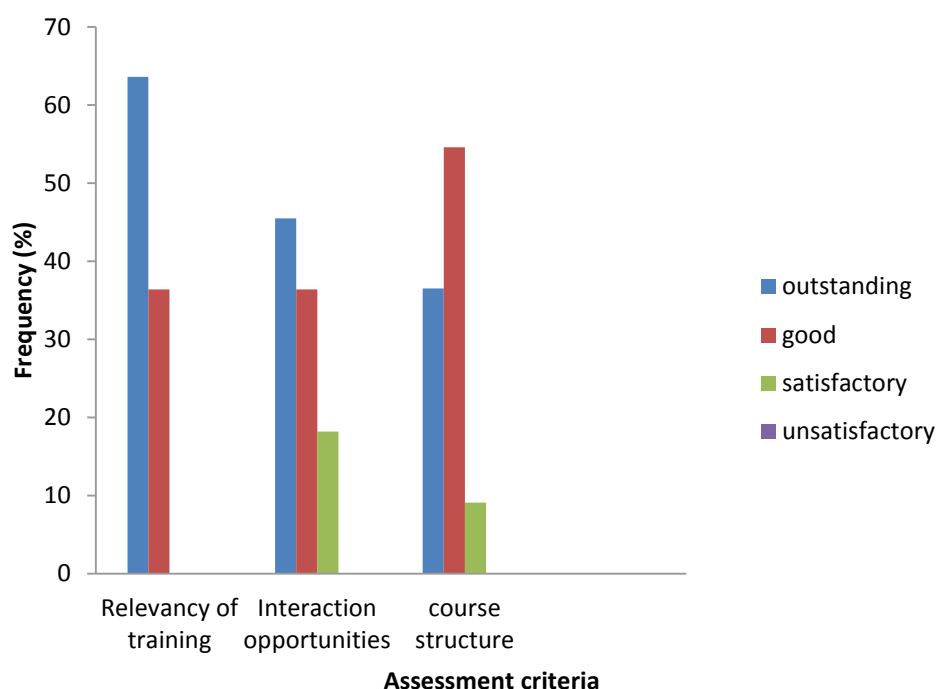
as PEST (Political, Economic, Social and Technological)( analysis for the external business environment and SWOT (Strength, Weaknesses, Opportunities and Threats) analysis for the internal environment were discussed and recommended as business opportunity scanning tools. Projected budgets and cash flows were recommended as financial tools in checking possible viability of a business idea before a venture is established.

The first presentation on the third day as led by Mr Kok dealt with systems of managing accounts, financing options and marketing issues for both smallholders and well established firms. After the presentation, the students agreed that given the operating environment the most viable option to start a business was to start small as opposed to borrowing from finance houses because currently, the interest rates are too high (between 25 and 30%). The students also got a better appreciation of budgeting and cash flow projections as financial tools used in decision making.

Engineer Nazare, the facilitator for the second session of day 3 addressed issues of managing change in livestock feed production the view point being that success in any business is about managing changes and adapting well to the new environment. The presentation highlighted the different possible business points along the value chain. Five points were identified and these are research and development of feed manufacturing, sourcing of raw materials for production of livestock feeds, production of livestock feeds, distribution of livestock feeds and uses of feeds for livestock production. Entry requirements, opportunities and challenges for each possible business point were participatorily analysed in plenary. This presentation was particularly important in helping incubatees identify a point along the value chain on which they have the greatest potential and opportunities given the current operating environment.

### **Evaluation of agribusiness 1 training**

After completion of Agri-business 1 all the incubatees conducted an evaluation of the day's sessions. (See attached form Appendix 1). The overall assessment was that the topics were relevant to their needs. Interaction opportunities and course structure were rated satisfactory to outstanding (Figure 3).



**Figure 8: Overall course assessment**

What also came out from the students is the need to be as practical as possible during sessions especially on accounting issues with a suggestion of actually showing students some computing packages and also possibly get people from the field to give their practical experiences.

### **Identification of business ideas and areas anticipated in subsequent trainings**

After agribusiness 1 training, it was expected that the incubatees should at least have an idea of what they would like to venture into so as to fine tune the technical focus of the incubation programme. Of the 10 students who completed the evaluation questionnaire, their business ideas at the end of the training were as follows;

Business idea	Number of people
Feed manufacturing	2
Feed manufacturing and some livestock production activity	3
Pig and poultry	1
Beef and layers	1



Incubatees were also asked to identify areas to be covered during Agribusiness 2. They indicated the following areas;

- Cost centers
- Bankable business proposals
- Accounting and packages in use
- How to acquire working space and working capital
- How small businesses can grow on rented space
- Marketing
- Economics of feeding livestock
- Human resources management
- Interaction with successful business people

Some of the issues that came up during discussions were to do with feed formulation or manufacturing and these were postponed to the next feed formulation training although efforts to give answers were also made. Such issues included use of feed additives/ growth promoters (the official position for the Zimbabwean industry), technical issues to do with feed manufacturing, the provision of software or packages to do the actual formulation, possible suppliers of manufacturing equipment and their capacities, work space availability, interaction with small scale feed manufacturer/s and possibly draw lessons through their experience. It is thought that such information can be of use to those responsible for structuring the feed formulation/manufacturing sections as we remain focused to the needs of the incubatees.



### **Project learning points**

1. It is important to always refer to the incubatees so as to keep focused on their needs, for example there is an indication that incubatees need some hands on nurturing through some group business idea
2. Given the preliminary project ideas from the incubatees there may be need to cover other technical areas along the value chain besides feed formulation and manufacturing only. This would include technical animal production issues covering poultry, piggery and beef production.

### **Conclusion**

The training objectives were achieved with the majority of students either refining or coming up with a business idea. The few who could not indicate their business ideas indicated that after the training, they needed time to refocus and refine their ideas and this is an indication of some initiated strategic thinking process. Having been equipped with strategic tools to scan the environment for viable business ideas, it is not expected that students will confine to the stated ideas as some of them may change focus. It was agreed that incubatees start working on their business plans so that in Agribusiness 2, those can be refined and incubated upon.

**Appendix 2a**

UNIVERSITY OF ZIMBABWE

BUSINESS INCUBATION FOR UNIVERSITY GRADUATES

EVALUATION FORM: Agribusiness 1(27 August-29 August 2012)

Criteria	Outstanding	Good	Satisfactory	Unsatisfactory
Relevance of training material	4	3	2	1
Interaction opportunities	4	3	2	1
Course structure	4	3	2	1

What information were you anticipating to cover in Agribusiness 1

- 1.
- 2.
- 3.
- 4.

Please indicate areas that need re-visitation:.....

.....

What are your expectations in Agribusiness 2 in order of priority? .....

.....

.....

After all these lectures can you say you have identified/refined your business idea YES ☐ NO ☐

IF YES, Please state the idea:.....

IF NO, Please explain why.....

.....

.....

Any other comments to improve the training program:.....

# UZ - IDRC

## IDRC Innovation Incubation Project 2012

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Feed Formulation Training Report

**02 – 04 October 2012**

Report Prepared

by

**Mr. Emmanuel T Nyahangare, Training Coordinator**

## Contents

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## 1 1.0 Introduction

Following the successful completion of the Agribusiness 1 workshop, the feed formulation course was conducted from the 2<sup>nd</sup> of October to the 4<sup>th</sup> of October 2012. The main themes of the course were perspective of the stock feed industry in Zimbabwe; , nutrient requirements of various species and different methods of formulating feed.

### 1.1.1 1.0.1 Training objectives

This training was designed to equip incubates with knowhow of practical stock feed formulation for different types of livestock. At the end of the course incubates were expected to:

1. Identify opportunities for new business in stock feed industry
2. Describe the 3 fundamental pillars of least cost feed formulation
  - a. Chemical analysis of feed and feed ingredients
  - b. Nutrient requirements of different livestock species
  - c. Availability of ingredients
3. Formulate simple diets using simultaneous equations and the Pearson square method
4. Use a computer software for formulating diet for any livestock species
5. Describe the nutrient requirements of different livestock species

The participation of resource persons from the Industry gave the incubates opportunities to get up to date and first hand information from the daily challenges and opportunities in the industry. Opening remarks from the Chairperson of Animal Science and participation by the project coordinator and other members of staff generally gave a very relaxed and friendly atmosphere that created the correct “incubation” temperatures for the incubates.

## **1.2 1.1 Participation and attendance**

A total of 9 students i.e., 60% of the 15 candidates selected for the incubation attended the training programme, over the 3 day training period. Only one incubate had indicated that they would not attend because of work related commitments. There were no other formal apologies from other absent members. For those who attended there was maximum participation in discussions arising from presentations and explorations of business ideas with the resource persons and amongst the incubates themselves.

## **1.3 1.2 Presentations**

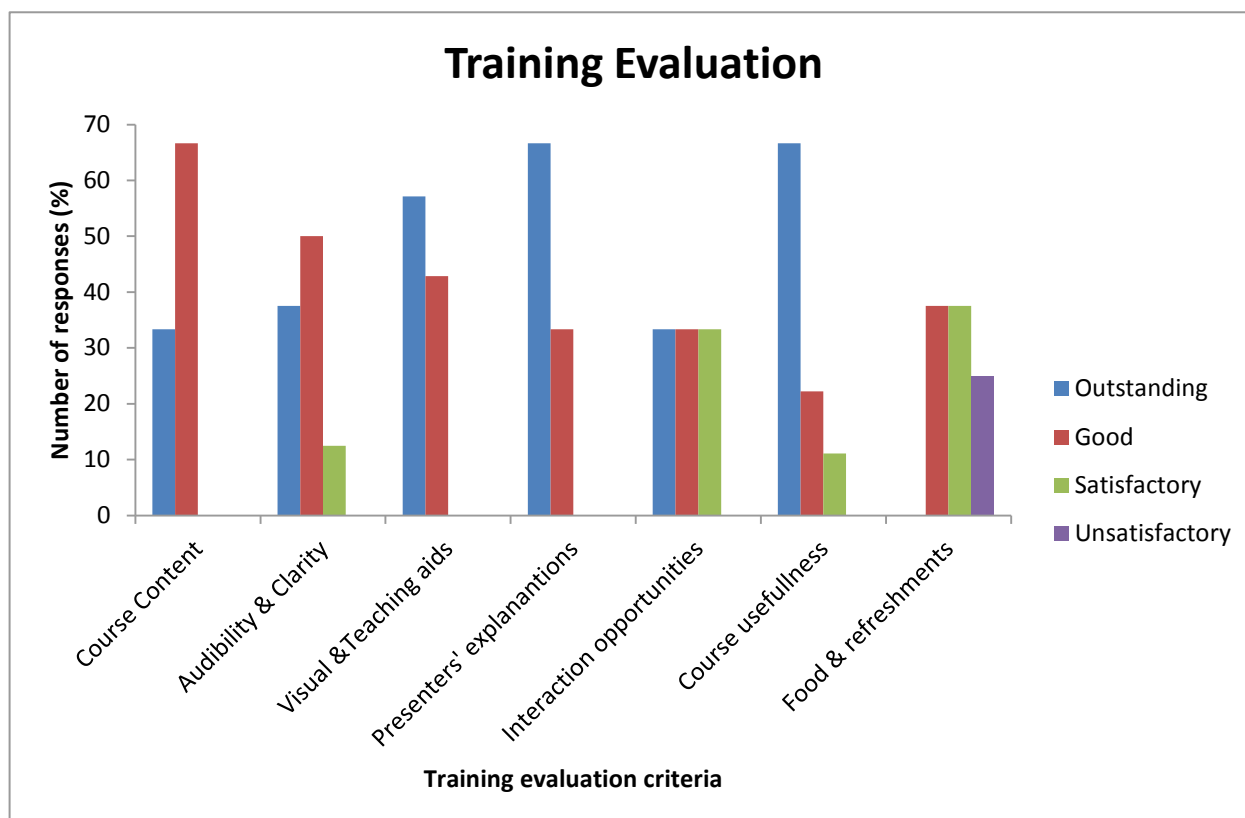
The training was divided into 3 thematic areas. Theme 1 focused on a broad overview of the stock feed industry in Zimbabwe. As potential industry players it was imperative that participants had a real feel of the hard facts in the industry and the regulations governing operations. The invited presenters were practitioners with years of experience in the stock feed industry. The technical director for one of the largest stock manufacturing industry and the current chairperson of Stock feeds Manufactures Association, Mr Fungai Mungate, dissected the industry and helped expose the potential business opportunities for upcoming members. A small scale feed producing company Loanfin, represented by the Mr Russah Mbiriri (Finance Director) and Mr Justice Moyo (Managing Director) gave an insightful presentation on how they started and the challenges they also met along the way. Mr Lovemore Mtetwa, an independent consultant who has also worked with several feed manufacturing firms wound up with giving an analysis of small stock feed start up with examples of companies that have tried it before.

In Theme 2, there were elaboration on 2 pillars of stock feed analysis focusing on chemical analysis and nutrient requirements for selected livestock species of poultry (broilers and layers), sheep and goats, beef cattle, pigs and dairy cattle. In addition to the Department of Animal Science academic members of staff there were also 2 industry based presentations from Mr Shingai Musamba (National foods LTD & Hubbard) and Mr Chamunorwa Shonhiwa from the Pig Industry Board (PIB).

Last but not least there was focus on the science and art of feed formulation in theme 3. Incubates were trained to use 3 methods of formulation, the Pearson square method, Simultaneous equations and Computer based formulation with demonstrations of 2 softwares. One of the trial and error methods generated enough interest with incubates requesting for purchasing of the software. The details of the course content and the presenters are as shown in the programme in Appendix 1.

#### **1.4 1.3 Course Evaluation**

At the end of the training the incubates evaluated the course giving their responses evaluation forms Appendix 2. The major highlights from the evaluation (Fig 1) was that the incubates regarded the course as outstandingly useful and that the cast of presenters from both industry and academia gave a balanced account on the feed industry in Zimbabwe. All the participants also felt that after the presentations their business proposals were refined and others had new ideas and several possible entry points to the feed manufacturing industry. There was however concerns that the section on nutrient requirements could have been handled differently as it did not really add value for most participants who had an animal science background. The need for more examples of people in the agro business industry was also emphasized so that participants are in touch with the real industry issues. There was an unfortunate setback was on the 1<sup>st</sup> day where participants and resource persons had an attack suspected from food poisoning but the resourcefulness of the project management team was appreciated greatly.



**Fig 1: Incubates responses to course evaluation**

Judging from the interaction with the participants and the responses from them on the evaluation and the positive energy showed during the discussions , the objectives we had set at the beginning of the course were satisfactorily met. We wanted the incubates to know they can really start a feed manufacturing business and at the end of it the general feeling was there are business opportunities that can be exploited and they wanted to try them. After going through the computer based formulation session there were also requests for availability of the software and there was willingness to use their resources for purchase. Again that shows that the course was appreciated and had encouraged most of them. We are hopeful that as we prepare for the second training on Feed Manufacturing that we will be able to completely demystify stock feed manufacturing. We are also making efforts to have as many practical people from industry to share experiences and highlight potential pitfalls likely to be met in manufacturing. We are also planning to visit both small and large scale feed producing companies in look and learn sessions.



## **1.5 1.4 Conclusion**

After the training, there is sufficient base now to look at Feed manufacturing and hopefully give birth to good feed businesses in the near future from this group of incubates. The experience we have got as organizers will surely also make this transition as smooth as can be and the training as enjoyable and useful as is possible.



## UZ - IDRC 2012 - Feed Formulation Training Programme

### Objectives

This training is designed to equip incubatees with knowhow of practical stock feed formulation for different types of livestock. At the end of the course incubates should be able to:

6. Identify opportunities for new business in stock feed industry
7. Describe the 3 fundamental pillars of least cost feed formulation
  - a. Chemical analysis of feed and feed ingredients
  - b. Nutrient requirements of different livestock species
  - c. Availability of ingredients
8. Formulate simple diets using simultaneous equations and the Pearson square method
9. Use a computer software for formulating diet for any livestock species
10. Describe the nutrient requirements of different livestock species

### Training Content

Topic	Facilitator	Time
<b>DAY I 02/10/12</b>		
<b>1. Opening Remarks</b>	Dr Saidi (Dept.Chairperson)	0915 -0920
<b>2. Training Objectives</b>	ET Nyahangare	0920 – 0930
<b>3. Feeds and Feeding Overview in Zimbabwe</b>	Mr F Mungate (SMA, Chairperson)	0930 - 1100
<ul style="list-style-type: none"> <li>- Who is producing feed in Zimbabwe?</li> <li>- What are the challenges facing the industry</li> <li>- Ruminant vs non ruminants feed</li> <li>- Market analysis</li> <li>- What are the gaps for exploitation</li> <li>- Differences between Zimbabwe and the region and the word</li> </ul>		
<b>Tea Break</b>	<b>All</b>	<b>1100 - 1130</b>
<b>4. Starting a Feed manufacturing business</b>	Mr Mbiriri (Lonfin Feeds)	1130 – 1230
<ul style="list-style-type: none"> <li>- Practical lessons from starting small</li> </ul>		
<b>5. Evaluation and Analysis</b>	Dr T Halimani	1400 - 1600
<ul style="list-style-type: none"> <li>- Nutrient analysis</li> <li>- Feed analysis</li> <li>- Factorial method of analysis</li> </ul>		

<b>DAY 2 (03/10/12)</b>		
<b>6. Nutrient requirements of animal species</b>		
- Requirements for poultry	Mr S Musamba	0900 – 1030
- Requirements for dairy cattle	Mr B Masunda	1030 – 1130
<b>Tea Break</b>	<b>ALL</b>	<b>1130 – 1145</b>
- Requirements for pigs	PIB – Mr C Shoniwa	1145 – 1245
<b>LUNCH</b>	<b>ALL</b>	<b>1245 – 1400</b>
- Requirements for beef cattle	Mr T Mutibvu	1400 – 1500
- Requirements for sheep and goats	Mr Kagande	1500 – 1600
<b>DAY 3 (04/10/12)</b>		
<b>7. Feed Formulation methods</b>		
- Pearson square method	E T Nyahangare	0900 – 1000
- Simultaneous equations	ET Nyahangare	1000 – 1230
<b>LUNCH</b>	<b>ALL</b>	
- Computer based feed formulation	Mr L Mtetwa	1230 – 1400
- Industry practices		1400 – 1600
- Demonstration of one software		
<b>8. Closing Remarks</b>	Dr PH Mugabe	1600 - 1605

## Training evaluation form

University Of Zimbabwe

IDRC Feed Formulation Training (02 – 04 October 2012)

### Evaluation form

Please respond to each statement by putting a circle around the number, which most closely describes your response

Criteria	Outstanding	Good	Satisfactory	Unsatisfactory
Course content including clarity of Objectives	4	3	2	1
Audibility & clarity of presentations	4	3	2	1
Use of Visual & Teaching aids	4	3	2	1
Presenters' explanations of Concepts & Principles	4	3	2	1
Interaction opportunities; discussion, participation, independent thinking	4	3	2	1
Course usefulness	4	3	2	1
Food & Refreshments	4	3	2	1

After these presentations can you say you have identified/refined your business idea **Yes/No**

Explain your answer

.....  
.....  
.....

Specific areas for improvement:

.....  
.....  
.....

Other comments including notable areas of excellence

:.....  
.....  
.....  
.....



Picture 1: Closing luncheon for incubates and facilitators

## **APPENDIX 4**

### **Report on Agribusiness 2 training held from 13<sup>th</sup> to 16<sup>th</sup> of November 2012 in the Department of Animal Science**

**By Mrs S. Ncube**

#### **Summary of Presentations**

The second training on agribusiness issues was run from 13th to 16th of November. A total number of 8 students attended, which is 53.33% of the total number of incubatees. A variety of topics were covered based mainly on the needs as identified by the incubatees during the last agribusiness training. The topics focused on how to prepare a business proposal, the banks' point of view of a viable business proposal, monitoring the success of a business, market research and market planning in the feed manufacturing industry, networking in the industry, possible business models as well as dealing with human resources issues in challenging environments. Given the nature of our incubatees, it was also found ideal that they be made aware of business department and etiquette issues as they get started with their business.

With such a wide variety of topics, the resource persons also came from a variety of backgrounds, with representations from captains of industry, associations, farmers and academia. The focus of day one was to link the theoretical expectations in a business plan to what the financial institutions or possible funding institutions would consider to be a viable business proposal. As such Mr Kok a consultant from Kugona Kurima, walked students through all information required to prepare a good proposal, emphasizing on a good market research before embarking on a project. To augment the theoretical underpinnings was a presentation from Mr C Kopera of ZB Bank Agribusiness unit. He introduced the students to the current financial products in the market, with a special focus on what ZB has to offer currently. He emphasized that all the financial products on the market require a viable proposal among other documents accompanying the application for funding. Funding criteria is based on a number of things among which there is collateral although the incubatees felt that would automatically screen them out. A discussion with students showed that they would still need training on the financial aspects of preparing a business proposal.

Day two focused on assessing the potential of one's business as well as franchising as a possible business model. Dr Hungwe, who is running a franchise under O'Hagan's gave her success story under that model. This was in preparation for a presentation from Dr Mugabe, whose purpose was to highlight the possibility of having such a facility under livestock feed manufacturing with ABS, a new venture, which is not only strategically situated for the students, but also comes in hand given the difficulties those interested in feed manufacturing would face especially in sourcing work space and the equipment. There was a positive response from students after the ABS presentation by Dr Mugabe. However, given the fact that Dr Mugabe was doing it on behalf of ABS owners, there were more questions than answers. It is hoped that Dr Makoni, one of the owners who is currently based in Kenya, will create an opportunity to interact with the students before December 31, 2012. Students were also given an opportunity to present their draft proposals.

In day three the students enjoyed the practical marketing tactics from Mr Nyoni, from National

foods limited. The presentation focused and emphasized the importance of doing a through market research so as to know who this customer is, and as such how to efficiently service such a market. The day ended with a presentation from Mr Fungai Mungate, in his capacity as the chairperson of the feed manufacturers' association. His task was to show how students can network in the industry. A variety of networking routes were identified ranging from the suppliers of inputs, farmers, associations, NGOs and others such as research and regulatory organizations.

The last day of training focused on managing the human resources, contract farming as a business model and business department and etiquette. Mr Shumba from the Blue ribbons group focused on the importance of a motivated human capital. A case study was given to illustrate how disastrous it can be if this aspect of an organization is not well managed. A broiler contract farmer Mr Zawe also gave his experiences in contract farming, highlighting the challenges he has been facing and how has dealt with them. The discussion with Mr Zawe was also very enriching for students as he is also a member of the Livestock and Meat advisory council and a chairperson of the Poultry Producers Association. As such students also got clarity on what the association has to offer to its members as this was also mentioned to be one association to network with. He really emphasized that although they cannot offer financial assistance, they have contacts and information that may assist students as they start their businesses. During the business department and etiquette lecture, Mrs Tsikirayi from the Graduate School of Management highlighted that for small businesses, it is very difficult to separate the business from its owner. As such it is important to dress, communicate and act professionally all the time.

## Evaluation Summary

Knowledge before and after the training was assessed to check on the impact of the training (figure 1).

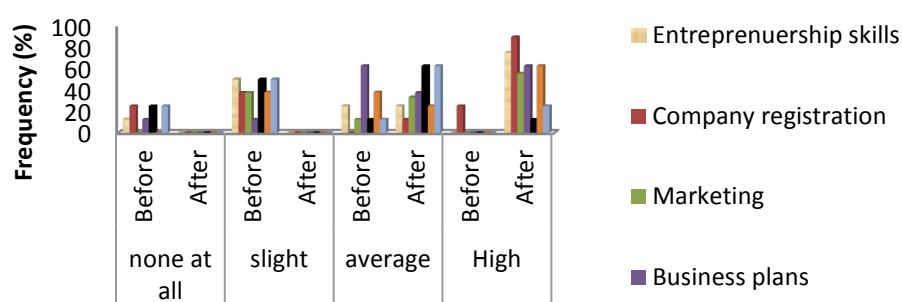


Figure 9 Knowledge levels before and after Agribusiness training

As is seen in figure I above there was an improvement in the knowledge status of the students after the training with 100% of the students having at least average knowledge after the training in the different assessed areas. It was also in the interest of the project to identify the individual positions (Table 1) after the three trainings so far so as to identify their business ideas. This would help the project to focus the incubation resources on what the students like to do as we try to develop an

appropriate incubation model for the Department.

**Table 5: Detailed analysis of individual studnets after Agribusiness 2 training**

<b>Student</b>	<b>Business idea</b>	<b>Progress so far</b>	<b>Perceived strength</b>	<b>Greatest fear</b>	<b>Proposed action to overcome</b>	<b>Areas needing attention</b>
Farai Vhevha	Chicken, rabbit	Market research, considered funding option, draft proposal	New entrepreneurial skills	No land and capital	Need capital	Financials , marketing
Madoda Neil	Broiler, layers, chick production	Doing broilers, to start on layers	Technical know how, entrepreneurial mind	Financial resources	To improve on financial management	Marketing, Networking, business deportment and etiquette
Mashopane Amos	Broiler, feed manufacturing	Draft proposal , market research, initializing company registration , mobilizing resources	Management skills, understanding financials, entrepreneurial skills	Business location/space	More market research	Feed manufacturing , financial management, performance assessment
Farirai Matanhire	Poultry, rabbit	Mobilizing capital, searching for land, draft proposal	Ability to penetrate into market	Shortage of raw material	Strong government and financial support	Stock feed manufacturing
Dadirayi Chiwara	Pig, Rabbit??	Draft proposal	Improved financial understanding,	Fluid market for porkers and also unorganized	More training	Financial management, record keeping
Munyaradzi Musamba	Stock feed manufacturing	Business plan	Financial management , networking	Capital mobilization	Collateral, security , bank guarantor	nil

## Highlights



- Most immediate business ideas are around some animal production activity. Only one is a straight feed manufacturing focus
- All have started working on business proposals
- Looking at the perceived strength after training, it can be said that the training has had an impact however the impression gotten from the students during the training and from the above table is that there is need to re-do the financial aspect of training
- The greatest hindrance in the implementation of the business ideas according to the table above are working capital and working space

#### **Proposed way forward for the project**

- Help students overcome their fears. So far a practical proposal would be to use the U.Z farm and encouraging students to work in clusters. The challenge is in merging ideas and plans as others are only improving on what they already have while some will be starting from scratch.
- A more focused training approach now needed possibly a hands on approach in financial management and marketing issues in relation to the adopted business idea, either as clusters or as individuals

# UZ - IDRC

## IDRC Innovation Incubation Project 2012

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Stockfeed Manufacturing Training Report

**11 – 14 December 2012**

Report Prepared

by

Mr. Emmanuel T Nyahangare, Training Coordinator

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## 2 1.0 Introduction

The feed manufacturing training was conducted on the 11<sup>th</sup> to the 14<sup>th</sup> of December 2012. This was an important programme for the incubatees coming after earlier training on how to formulate livestock feed. In this training participants got to appreciate the issues that surround actual manufacturing of stock feeds at different levels of on-farm feed production, small scale commercial and large scale commercial feed manufacturing. The main project objective of this training was to model participants into businesses of stock feed manufacturing. Agribusiness 1 and Agribusiness 11 were important pre- requisite courses for this training providing participants with proper business management and the motivation to be a successful entrepreneur. Feed manufacturing training offered the technical details of the business of making stock feeds crucial for making technical decisions about making animal feeds.

The contents of the course included general designs of stock feed manufacturing plants, procuring and processing of raw materials and packaging and product presentation. At the end of the training a look and learn tour at 3 stock feed manufacturing companies at different operational levels were done. As was in the Feed formulation training the bulk of the facilitators were people actively involved in industrial production of feed and this again proved very beneficial for our incubatees. The support of members of staff in the department of Animal science and project partners continuously gave the training a good support base enhancing the learning atmosphere consistent with maintaining a good incubation environment.

### 2.1.1 1.0.1 Training objectives

This training was designed to equip incubates with knowhow of practical stock feed manufacturing for different types of livestock species. At the end of the course incubates were expected to:

11. Refine and model their stock feed manufacturing business plans with real practical information

12. Identify the different types of equipment needed for a feed manufacturing plant at different levels of operation
13. Outline the general design of a stock feed manufacturing plant
14. Identify different types of raw materials commonly used in Zimbabwe, their procurement, storage and processing
15. Describe the processes of grinding and pelleting of feed
16. Design a costing template for stock feed plant
17. Describe the packaging and presentation of finished products

## **2.2 1.1 Participation and attendance**

A total of 9 students of the 15 selected candidates for the incubation attended the programme over the 3 day training period. There was a lot of positive energy during the interactive presentations as the incubatees further refined their business ideas with the technical information coming in from the presenters.

## **2.3 1.2 Presentations**

Animal scientists and current livestock feed practitioners formed the team giving the presentations. The industrial and practical experience ensured the training was balanced between academic theoretical feed production and practical feed production. One of the presenters was the nutritionist of the largest stock feed manufacturing company in Zimbabwe (National Foods Pvt Ltd), Mr P. Makotsa. He led the discussions on general design of a stock feed plant, equipment inventory and different ways of ensuring micronutrient stability during processing. Mr C. Ndavambi of Windmill Pvt Ltd, a medium scale producer of stock feeds also shared his experience with aspects of effective grinding and mixing of raw materials in the feed making chain. He also presented on issues to do with legislation governing setting up and running a feed company. While the presentations were largely futuristic in terms of the level of mechanisation the discussions also explored various small scale starting points perhaps more relevant for a very small feed business. Mr L. Mtetwa a private

consultant with experience with several feed manufacturing companies in Zimbabwe gave a presentation on effective raw materials sourcing and the various challenges associated including price dynamics, transportation, quality and processing. He also presented on quality assurance as a crucial stage in the feed production chain Dr T. Halimani (Department of Animal science) gave a presentation on product packaging and presentation as an important component of feed production. The discussion emphasized on making sure that the products must advertise themselves and “speak” to customers.

Engineer Nazare with the department of Soil science and Agriculture engineering and a business consultant in his own right shared about potential business opportunities for small scale feed producers in the work he is doing for Dairiboard Zimbabwe Limited. This generated a lot of interest from the incubatees who really felt it was a worth pursuing opportunity. He also shared costing templates to help participants see how their finances would look like if they were to venture into actual production. These templates could be used for decision making when an enterprise is making a loss or a profit.

Perhaps the most interesting presentation was presented by Dr Makoni from ABS. He shared on their new feed plant being set up in Harare and the opportunities in their business model for innovators who wanted to start feed manufacturing. It was also motivational to hear how they were planning to upstage the big feed producers in the country.

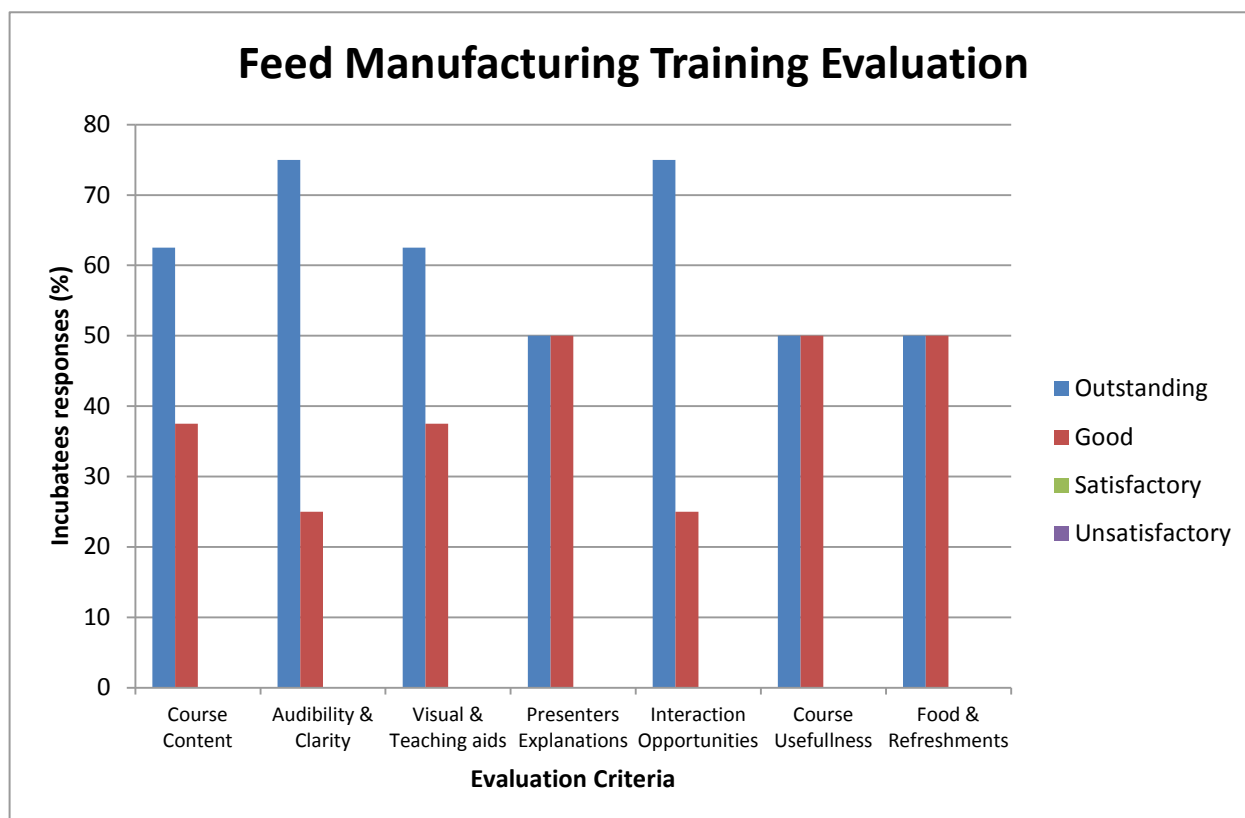
## **2.4 1.4 Industrial Operations visit**

As part of the learning procedure there was a look and learn visit organized on the last day of training. Three companies were visited, a starting up feed company (ABS), a small scale feed producing company (Feed mix Pvt Ltd) and a large scale commercial feed company (National foods). The visits were meant to show the incubatees real life production processes and reinforce the theoretical concepts learnt during the presentations. The different scales of operations were meant to show them that it is possible to start small and grow into a big manufacturer. The interactions

with management of the different companies also gave the students insights on real issues affecting feed production companies.

## **2.5 1.5 Course Evaluation**

Evaluation forms were given to the incubatees at the end of the training to find out about the usefulness of the training to them. The responses from the selected evaluation criteria are as shown in Fig 1. Again there was general appreciation that the training added value and most of the responses were in the region of good to outstanding.. Notable areas of excellence were the eye opening trips to the 3 feed producing companies. Other outstanding presentations were the discussions led by Dr Makoni and Engineer Nazare. Most incubates felt inspired and challenged into action through their insights. One specific area that was raised as a potential area of improvement was that perhaps the project should have been directly linked to a particular bank for access of finance to fund the different business ideas. Another participant also suggested that the fostering period should have exceeded one year to about 3 years to fully nurture their business ideas to maturity.



**Fig 1: Incubates responses to course evaluation**

## 2.6 1.6 Conclusion

After the training, I am confident that the training generated enough excitement and inspiration to see some small feed plants establishing from the farms and the industry. I am also hopeful that the industrial connections that we have established will continue to be helpful to our incubates as they start their projects.





## UZ – IDRC\* Feed Manufacturing Training Programme

11 – 14 December 2012

University of Zimbabwe

### Background

The Feed Manufacturing Short Course explores, in detail, the major elements of modern feed manufacturing and examines advances in feed technology. The course will include a tour of operational industrial facilities National Foods, Feed mix Pvt Ltd and ABS

### Training Content

Topic	Facilitator	Time
<b>DAY I</b>		
9. Opening Remarks	Dr Saidi - Animal Science	09 15 -09 20
10. Training Objectives	ET Nyahangare -Facilitator	09 20 – 09 30
11. Overview of feed processing and feed plant design	P Makotsa – National Foods	09 30 – 10 30
<b>TEA BREAK</b>	<b>ALL</b>	<b>10 30 – 10 45</b>
12. Equipment inventory for a small start up feed manufacturing plant	P Makotsa – National Foods	10 45 – 11 45
13. Sourcing raw materials for maximum return a. Raw materials purchase b. Raw materials quality c. Storage d. Processing e. Liquid ingredients	L Mutetwa – LM AgriConsultancy	11 45 – 12 45
<b>LUNCH</b>		
6. Product Quality & Legislation a. Quality factors & assurance b. Measures of quality c. Hardness & Pellet Durability Index d. Legislation	<b>ALL</b>  L Mutetwa – LM AgriConsultancy	<b>12 45 – 14 00</b>  14 00 – 16 00
<b>DAY 2</b>		
7. Manufacturing Engineering	Engineer Nazare – Agric. Engineering	09 00 -11 00
8. Milling		

<ul style="list-style-type: none"> <li>a. Particle size reduction and grain processing</li> <li>b. Control of dust emissions and EMA requirements</li> </ul>	C Ndavambi (Windmill)	11 00 – 12 00
<ul style="list-style-type: none"> <li>9. Effective Mixing <ul style="list-style-type: none"> <li>a. Types of mixers</li> <li>b. Required equipment</li> </ul> </li> </ul>	C Ndavambi (Windmill)	12 00 – 13 00
<b>LUNCH</b>	<b>ALL</b>	<b>13 00 – 14 00</b>
<ul style="list-style-type: none"> <li>10. Packaging &amp; Product presentation</li> <li>11. General Stockfeed plant management</li> </ul>	Dr T Halimani – UZ	14 00 – 16 00
<b>Day 3</b>		
Overview of day 2		
<ul style="list-style-type: none"> <li>12. Micronutrient stability in feed processing <ul style="list-style-type: none"> <li>a. Pelleting</li> <li>b. Extrusion</li> <li>c. Use of an expander</li> </ul> </li> </ul>	E T Nyahangare P Makotsa - National Foods	09 00 – 09 30 09 30 – 10 30
<b>TEA BREAK</b>	<b>ALL</b>	<b>10 30 – 10 45</b>
<ul style="list-style-type: none"> <li>13. Project Overview &amp; Way forward</li> </ul>	B Chaderopa / Dr Mugabe – MSMECD/UZ	10 45 – 12 45
<b>LUNCH</b>	<b>ALL</b>	<b>12 45 – 14 00</b>
<ul style="list-style-type: none"> <li>14. Techno serve /IDRC collaborative Initiative</li> </ul>	Dr Makoni (Techno serve)	14 00 – 15 00
<b>Day 4 (LOOK &amp; LEARN VISITS)</b>		
<ul style="list-style-type: none"> <li>Feed mix</li> <li>National foods</li> <li>ABS</li> </ul>	John Taylor  P MAKOTSA – National Foods Dr N Makoni	10 00 – 11 15  12 00 – 13 00
<b>LUNCH</b>	<b>ALL</b>	<b>TBA</b>
Closing remarks	Mrs Ncube (IDRC)	14 00 – 14 30

## Appendix 11: Training evaluation form

University Of Zimbabwe

IDRC Feed Manufacturing Training (11 – 14 December 2012)

### Evaluation form

Please respond to each statement by putting a circle around the number, which most closely describes your response

Criteria	Outstanding	Good	Satisfactory	Unsatisfactory
Course content including clarity of Objectives	4	3	2	1
Audibility & clarity of presentations	4	3	2	1
Use of Visual & Teaching aids	4	3	2	1
Presenters' explanations of Concepts & Principles	4	3	2	1
Interaction opportunities; discussion, participation, independent thinking	4	3	2	1
Course usefulness	4	3	2	1
Food & Refreshments	4	3	2	1

After these presentations can you say you have identified/refined your business idea **Yes/No**

Explain your answer

.....  
.....  
.....

Specific areas for improvement:

.....  
.....  
.....

Other comments including notable areas of excellence

:.....  
.....  
.....  
.....

## **APPENDIX 6**

### **Developing livestock production and feed manufacturing business incubation model for graduate youths in Zimbabwe.**

**Workshop at Holiday Inn 27 June 2012**

**The following summarizes presentations given by various presenters who participated at the inception workshop for developing a livestock production and feed manufacturing business incubation model for graduate youths in Zimbabwe.**

Registration for the workshop started at 08.30 and workshop started on schedule with Dr T. E. Halimani welcoming and introducing participants. He further spelt out the workshop objectives which were to lurch and develop an innovation incubation model suitable for Zimbabwe.

Mrs Helen Siringwani from the Dean's Office highlighted statistics which showed that previously, half of the Faculty of Agriculture graduate students were absorbed for employment into government departments with the remainder going to work for NGOs, private companies, international companies, became self employed or remain unemployed. Trends had changed, and there was very little employment opportunities among these traditional employers requiring both university education and student search for employment to refocus towards use of the skills they have accumulated to start their own businesses as way of creating their employment and employment opportunities for others.

Mr Chaderopa from the Ministry of Small to Medium Enterprises and Cooperative Development revealed the SMEs support services they provided. These included enabling a legal and regulatory environment, information, technology transfer, training, financing, research and development and market access.

The Project leader, Dr P. H. Mugabe gave the project overview. The aim of the project was to develop an incubation model and select a group of incubates among Animal Science graduates and train them agri-business and entrepreneurship skills that can be developed through training in livestock feed manufacturing and livestock production. She shared lessons learnt from successful established incubation projects she visited in Mozambique and South Africa. She noted that a successful incubator needed funding as they are not self reliant and sustainable. However there were global forums and networks' which could be used raising funds. She further noted various forms of incubation models, several issues and implications to do with value chain. These incubation projects needed ample time for establishment.

The Project was then officially launched by the University of Zimbabwe Pro-vice Chancellor, Dr Munyanyiwa. He saw the project as a tool of solving the unemployment problem among graduate students and the general population. Graduates students would use their intellectual backgrounds to commercialize research results. This would create wealth for the country.

Mr Mutibvu talked about the importance of knowledge on feeds quality and feeds manufacturing. Feeds manufacturing was one the business activities which had potential impact on solving production constraints especially in the semi-arid regions.

Dr Mutambara analysed the animal feed value chain. Dr Mutambara showed the inter-linkages between various players in the feed chain from feed input producers to the final consumers of animal products. The demand for animal feeds is derived from the demand of beef and other final products. The availability of raw materials was important until the production of the end product (meat). Issues discussed included finance, livestock management, regulations enforcement, low production capacity in industries and markets.

Mr Gororo presented a case study of Marondera peri-urban area among smallholder chicken entrepreneurs. The study revealed that broiler production was mainly done by women and was popular as a major source of income.

Mr Moyo, a rural development specialist reported on a successful ostrich production project which was done in Bulawayo Province to improve livelihoods of rural farmers through exporting ostrich products. He reported other success stories in other provinces.

Mr Faranisi, a University of Zimbabwe graduate shared his experience in agribusiness development emphasizing how he used his academic and industrial knowledge to grow a broiler, layer and day-old chick production enterprise.

Mr C. Yobe, a banker discussed the concept of agro-preneurship. The concept related to use of academic expertise and develop business and entrepreneurial expertise to commercial production. He stated that banks fund projects after checking on project viability, proposed loan repayment plan and by checking on the applicant's financial track record.

Dr Halimani gave an overview on the fourteen candidates to be considered for the incubation. Ten are employed with four self employed, three marketers and three in NGOs. There will be screening before the final incubatees are selected.

**The participants then engaged in brainstorming about the UZ incubator.**

Key issues arose from the brainstorming. There were concerns on whether the feed manufacturing model was the basis of the incubation. This was said to be the area related to the project team as it was within the scope of their knowledge and specialization (Animal Science). The model(s) to be used for the project could not be specified but would be developed as the projects starts running. The business incubation was seen as an opportunity for the graduates to be able to learn on entrepreneurship and accessing loans from banks. This could be achieved by registering the incubation business as formal business organizations and running it commercially. Incubatees could be grouped into specific businesses which are registered as companies. Mentoring was noted as key to producing successful business persons. Graduates could be linked to successful business persons such as farmers as tenants which would make it easier for incubatees to negotiate for bank loans once they were in Business. These strategies would help ensure sustainability. It was important to have a measure of success. Success would be measured by progress evaluations made at specific time lines, ability to penetrate market, and product sales. The most important factor in business failure was attributed to business attitude not funds availability. Candidates need motivation to stay committed to the project. Educating them on changing their mindset on how to make money out of knowledge acquired during their academic years was crucial. They needed to appreciate corporate governance and be dedicated citizens. Concern was raised over the one year period of running the project. Suggestions were that project should be of high and immediate impact yielding quick results. This could mean a project with a short conversion cycle or the achievement of the objectives. In order to reduce costs during this period, a pilot project would help in ensuring that incubatees do not moves to Harare always for resources thus not losing focus. The number of applicants was considered too few but it was not considered a problem as what is needed are keen people who would be motivated and yield results, not numbers. Applicants' age ranged from 24 to 48 years. No selection has been done yet considering the ages but age diversity is interesting when comparing results. The line of business was open and each incubatee would focus on an area of interest to maximise on yielding results. Integrated businesses would also add value. Of importance would be the motivation the candidates get after joining the project.

### **The presentations ended by looking at the way forward for the UZ Incubation Project.**

Dr P. H. Mugabe noted that there was need to evaluate several models and adapt one best suited for Zimbabwe. In the process it was important to engage with applicants to get baseline, clarify vision, do performance gap analysis, revise work plan and define end product. Through talking with the candidates and the vision put across, a way forward can be made basing on the challenges they face in establishing business.

## BUSINESS INCUBATION WAY FORWARD

### BRAINSTORMING SESSION (INCEPTION WORKSHOP 27/06/12)

- Attitude change
- Incubates to have business etiquette
- Corporate governance
- Social responsibility
- Mentoring
- In the industry
- Level of education / experience?

#### How to optimise one year to ensure high impact

- Urgency
- Commitment
- Business plan development
- Funding is not cash only, can be other services
- Complementarity
- M and E
- Focused impact
- Define high impact
- Tangible goal
- Achievement of stated objectives
- Use of available resources
- Use of UZ farm

#### Kinds of impact that could be expected

Graduates should have started a livestock feed enterprise

#### How to measure impact

- Participatory benchmarking
- Baseline information about incubates
- Measurement after defined time
- Turnover, profitability
- Number of new employees
- Quality parameters

#### At what point do we say an incubatee is now a business person?

What do we want to achieve in one year?

What competitiveness do we expect?

Register a company

- Run it successfully (possible within a year)

Incubation is a way of processing the candidates, how do we go about this?

There is need for clarity in project goals

Funding the candidates

Pilot study with all candidates in one specific place with all resources

- However there is risk in lumping people
- Compare with technoserve?
- How different are the interventions going to be/  
Gaps in the value chain, how to exploit them  
Changing their mindset  
Define their intentions eg the tobacco tenant farming scheme where there was mentorship

#### WAY FORWARD

Explore models

Engage with applicants

- Baseline
- Clarity vision
- Gap analysis
- Revise workplan
- Defining end product.



## **APPENDIX 7**

### **Baseline Survey for the Livestock Production and Feed Manufacturing Business Incubation Model for Graduate Youths in Zimbabwe**

#### **1.0 Introduction**

University of Zimbabwe through the Department of Animal Science in collaboration with the Ministry of Small and Medium Enterprises and Cooperative Development embarked on a livestock production and feed manufacturing business incubation model for graduate youths in Zimbabwe. For purposes of monitoring and evaluation, of the project, it is imperative to know the pre-intervention conditions and status of the enterprises or incubates in order to measure or assess achievement of the outcomes and impact of the project hence a baseline survey was carried out. The baseline survey information will also play a critical role in informing and guiding the programming of the project activities. The initial phase of the incubation model has identified 15 candidates to be incubated.

A self administered questionnaire was sent to all the candidates to obtain information on parameters such as their asset base, number of employees, annual turnover of their enterprises, production methods and installed capacity, challenges and training needs, extent of how they are formalised in terms of registration for tax, forms of businesses and licensing by local authorities and how they manage their business information.

#### **2.0 Findings**

53% of the incubates responded and revealed the following:-

	Parameter	Remarks
1	Started to operate an enterprises	6 have started some kind of an enterprise whilst 2 have not indicated whether they started or not. There are high chances that they have not yet started.
2	Formalisation	Only one of the 6 who have started has registered a form of a business but all are operating informally as they are not registered for tax, not licensed with the local authorities. The two who have not started have not yet registered their enterprises
3	Number of Employers	Of the six who started, one enterprise is employing four people, one has three, two of them are employing two each and one has no employees.
4	Asset Base of the Enterprises	Six did not disclose while two indicated that they asset base of \$1180 and \$12 000 respectively.
5	Annual Turnover	Only two of those who have started indicated their annual turnover, the rest did not.
6	Production Methods	Manual
7	Installed Capacity	All did not indicate their installed capacity except for one who has a capacity to keep 300 chickens.
8	Keeping Records	Record keeping very limited and less comprehensive to effectively manage a business. They mostly keep cash and receipt books
9	Challenges they face	Limited access to finance, workspace, markets
10	Access to finance from financial institutions	Only one has indicated that he once accessed money from a financial institution while rest have not. They are largely using their own funds and family contributions
11	Training Needs of the enterprises	The following areas were indicated as their training needs:- Business Plans, marketing, company registration, financial management, feed formulation and manufacturing, quality

		assurance, entrepreneurship,
--	--	------------------------------

## APPENDIX 8

**Table 6: An analysis of the training impact so far**

Incubatee	Project impact so far
Vimbainashe	<ul style="list-style-type: none"> <li>• My eyes have been opened on the business way of doing things</li> <li>• Can now confidently attempt to do a budget and cashflow than before</li> <li>• Have since started a small broiler unit. Started with 100 and now doing 300 birds at a time</li> <li>• Used only to keep production records eg mortality, but now also know the importance of keeping financial records</li> </ul>
Mercy	<ul style="list-style-type: none"> <li>• Before the training started, I had no idea of what was going to happen, no getting clear what I want to do</li> <li>• Have since started on a small broiler project on the 19<sup>th</sup> of November and also looking to sell my first group in a week.</li> <li>• Have a record system in place</li> <li>• I prefer buying straight feeds because I believe pellets are more effective</li> <li>• Have also been exploring rabbit production since agribusiness 2 training</li> <li>• Have 3 rabbits already with one pregnant doe</li> </ul>
Dadirai	<p>Have always been running an 18 sow piggery unity and because of the training I have had to reassess the business and made the following changes</p> <ul style="list-style-type: none"> <li>• Started keeping records more systematically</li> <li>• Have taken a vibrant approach to marketing my porkers and so far have secured a verbal contract with a butchery</li> <li>• Had a closer look at my cost structure</li> </ul>

	<p>and noted that my overhead costs are too high.</p> <ul style="list-style-type: none"> <li>• My rentals have also been recently increased and looking closely into my cost structure, I am considering to suspend operations, sell off my stock and start to develop my own piece of land</li> <li>• As such because of the training, I think I need to re-plan my direction because I believe I am in this situation because from the beginning I did not do things right.</li> </ul>
Farai	<ul style="list-style-type: none"> <li>• Before the training I had a lot of business ideas but now more focused on one, broiler production</li> <li>• Have since dug a well in preparation of the projects</li> <li>• Looking at starting the broiler project in February 2013</li> <li>• Mother is the financier so far and have also been sharing what I have learnt with her</li> </ul>
Amos	<ul style="list-style-type: none"> <li>• Before the training I have been in the business of buying and selling cattle but have now released that I was working for nothing as I could hardly break even</li> <li>• I have since seen a business opportunity in the low-veld, broiler chick production</li> <li>• I intent to produce chicks but starting from eggs so that I reduce the capital outlay required</li> <li>• Have done the proposal and end of February I should start</li> <li>• Will rent land and sell some of my 8 cattle for startup capital</li> </ul>
Gororo	<ul style="list-style-type: none"> <li>• When I joined I wanted to do feed manufacturing and consultancy</li> <li>• Now thinking of feed manufacturing in Marondera focusing on dairy and poultry feed</li> <li>• So far have a company name-Optifeeds</li> <li>• I now know how to do the business plan so I will not just plunge into the market</li> <li>• Still have to look for working space</li> <li>• Working with a colleague who is already in a successful business, so kind of banking on his experience</li> </ul>
Neil	<ul style="list-style-type: none"> <li>• Now my eyes have been opened</li> <li>• Fear has been removed</li> <li>• Have been making broiler feed manually</li> </ul>

	<p>and now I know the basic machinery needed to improve on the quality of the feed</p> <ul style="list-style-type: none"> <li>• Have a stand for a feed manufacturing plant</li> <li>• Have been doing broilers but long term plan is to do egg production</li> <li>• Will use proceeds from broilers to start the egg production and feed manufacturing business</li> <li>• Did not know how to make cash flows, now I can</li> <li>• I am also able to calculate profits</li> <li>• Also thinking of producing chicks and already have quotations for incubators</li> <li>• If the poultry ventures fail, will go into cattle pen fattening</li> <li>• I also feel very networked as a result of the training</li> </ul>
Farai and Munyaradzi	<p>Have always run an agro-chemical company- Thermal agriculture but the training has had in impact in the way we run the business</p> <ul style="list-style-type: none"> <li>• Attitude towards business transactions has changed. For example we have formalized meetings and now document more information than before</li> <li>• Assessed the operations and noticed that some of the challenges in cashflow management was due to the informal way we handled our transactions</li> <li>• Now banking all cash inflows before use so as to track activities</li> <li>• Glad that our previous loan application we did before was not successful because we now realize that we were not ready to handle that money</li> <li>• We also feel very networked</li> </ul>

#### Some quotes from incubatees

