



Farm Mechanization &  
Conservation  
Agriculture for  
Sustainable  
Intensification



**Report on the Business Model Design Training**  
**Conducted over the period 23<sup>rd</sup> to 28<sup>th</sup> June, 2014**  
**Adama, Ethiopia.**



**Organized by**

**International Maize and Wheat Improvement center (CIMMYT), International Development Enterprise (iDE) and the Food and Agriculture Organization of the United Nations (FAO)**



Farm Mechanization &  
Conservation  
Agriculture for  
Sustainable  
Intensification



<b>Contents</b>	<b>Pages</b>
<b>Objectives of the training</b> .....	<b>4</b>
<b>Day 1</b> .....	<b>6</b>
• FACASI project design	
• Overview of the market system and business models for small mechanization -concepts and challenges	
• Understanding the market system	
• Mapping the market system	
<b>Day 2</b> .....	<b>14</b>
• Review of the small mechanization sector in Ethiopia	
• Key informant discussions with public and private sector stakeholders	
• Intervention logic analysis and application	
<b>Day 3</b> .....	<b>19</b>
• Introduction to business modelling	
• Analyzing the business model	
• Preparation of checklists for business model analysis	
• Understanding critical success factor	
<b>Day 4</b> .....	<b>25</b>
• Meeting with business model stakeholders	
➤ Kaleb, Union/Cooperatives, operators and farmers Business models	
➤ METEC, Regional bureau and operators	
• Analysis of the business models	
<b>Day 5</b> .....	<b>27</b>
• Mapping the business model	
• Upgrading the business model	
• Pitching, negotiation, contract preparation and deal making	
<b>Day 6</b> .....	<b>31</b>
• Understanding profitability	
• Examples of business models in practice	
• Ranking of business models	
• Application of the training to objective 2 of FACASI and preparation of a semester work plan for immediate implementation	



Farm Mechanization &  
Conservation  
Agriculture for  
Sustainable  
Intensification



## **Annexes**

List of participants

Training materials

Market development checklists

Business development checklists

Business model analysis and finding



Farm Mechanization &  
Conservation  
Agriculture for  
Sustainable  
Intensification



## Overview

The Farm Mechanization and Conservation Agriculture for Sustainable Intensification (FACASI) project is International Maize and Wheat Improvement Centre (CIMMYT)-led initiative to improve access to mechanization, reduce labor drudgery, and minimize biomass trade-offs in Eastern and Southern Africa, through accelerated delivery and adoption of 2WT-based technologies by smallholders.

The FACASI project has four principal objectives:

1. To evaluate and demonstrate 2WT-based technologies to support CA systems, using expertise and implements from Africa, South Asia and Australia.
2. To test site-specific commercial systems to deliver 2WT-based mechanization.
3. To identify improvements in national institutions and policies for wide adoption of 2WT-based mechanization.
4. To improve capacity and create awareness of 2WT-based technologies in the sub-region, and share knowledge and information with other regions.

## Training on Business Modelling

### Overall objective

The overall objective of the training is to create awareness amongst newly recruited CIMMYT agribusiness development officers and their counterparts of the FACSAI project and their roles and responsibilities whilst developing their practical skills in market development and business modelling.

### Specific objectives

- To understand and apply a market system methodology through conducting a market assessment of the local market actors
- To understand the roles of relevant market actors and how the business functions
- To identify interventions in market system using a basic intervention logic analysis
- To understand and apply a business model analytical tools to design and upgrade business models
- To understand the role of business relationships in building sustainable business models for 2WT technologies
- To develop skills for pitching, negotiation, contract preparation and deal-making and the application of support instruments.

### Participants and participation

The participants of the training included the CIMMYT newly recruited agribusiness development officers for Ethiopia, Kenya, Tanzania and Zimbabwe as well as NARS counterpart staff from each of the FACASI project countries. A total of 11 participants attended the training, 5 from Ethiopia (including a representative from iDE), 2 from Kenya, 2 from Tanzania and 2 from Zimbabwe. See annex for the participant list.



Farm Mechanization &  
Conservation  
Agriculture for  
Sustainable  
Intensification



## Process

The training programme included a theoretical overview of the methodologies for market development and business modeling required for the FACASI programme followed by a series of practical exercises designed to take the participants through the key activities of business model design. Learning was conducted through discussion, practice and reflection with an emphasis given to practical aspects of instruction for application in the field.

A total of 4 trainers were involved engaged on the training program: David Kahan (CIMMYT), Richard Rose and Conor Riggs (iDE Bangladesh) and Heiko Bammann from FAO.

CIMMYT was responsible for the overall design of the training programme with focus on the analysis, design and upgrading of the business models. The conceptual content was followed by practical field exercises designed to reinforce the theoretical learning sessions. FAO supported the training by presenting their experience in inclusive business modelling and developing a methodology for an assessment of Critical Success Factors.

iDE's role in the training focused on building skills in: (1) conceptualizing and analyzing the market system; (2) Identifying interventions in the market system; (3) Designing market-based interventions through focusing on the changes in business models; and, (4) Implementing the interventions through making deals with the private sector. iDE's contribution to the program drew upon various industry tools from iDE and other market development/ facilitation organizations that were selected for use in FACASI.



Farm Mechanization &  
Conservation  
Agriculture for  
Sustainable  
Intensification



## DAY ONE

**FACASI Project design**

**Understanding the market system**

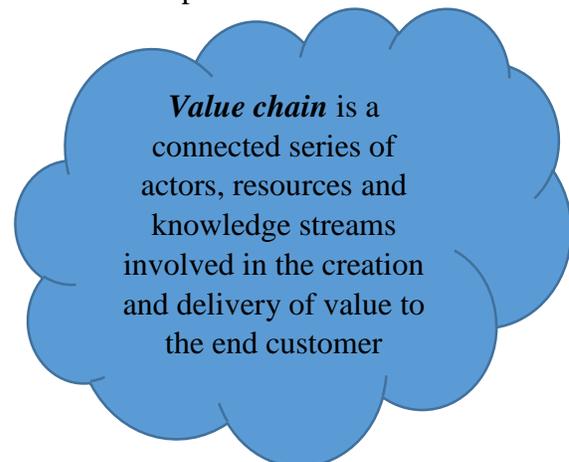
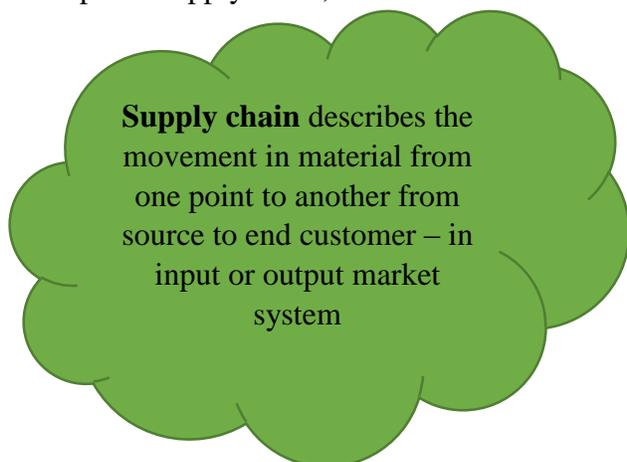
**Mapping the market system**

## FACASI project Design

After welcoming the participants, Dr. David Kahan, the Regional Agribusiness Development Specialist (CIMMYT) opened the training with a session aimed at ‘getting to know each other’. This was conducted in a way that the participants were expected to assess their perceived strengths and weakness relating to agribusiness and business modelling. The assessment of weaknesses provided the baseline to evaluate the impact of the training programme on the participants. This was followed by a presentation given by Ato Frew Kelemu – an engineer and researcher at Melekassa Agricultural Research Center - on the agricultural sector in Ethiopia, the role and potential for mechanization and the challenge and constraints of farm power in the country. It was also emphasized that a paradigm shift was needed to move towards small mechanization technologies in order to increase agricultural productivity in both Ethiopia and SSA in general. It was also emphasized that FACASI is taking a lead in this process by improving access to mechanization among smallholder farmers, reducing labor drudgery and minimizing biomass trade-offs through the accelerated delivery and adoption of 2WT based technologies. Finally, Ato Frew described the objectives of FACASI with particular emphasis given to the engineering and agronomic aspects of Objective 1: Evaluate and demonstrate 2WT based technologies to support CA systems.

## Understanding the Market System

David Kahan gave an overview presentation on Objective 2 - Identifying commercial models for testing delivery of 2WT services to smallholders. The rationale for this objective is the scaling-up of technologies which can best be achieved by following a demand driven approach to develop business linkages and alliances with supply chain stakeholders – the private sector. This can further be strengthened by linking to the market. It was noted in the presentation that the prerequisites for mechanization in SSA rests on the existence of effective demand, the economic use rates of machinery and the development of a machinery and equipment supply chain. The presentation tried to clarify the differences in terminology and definitions associated with market system. The concepts of supply chain, value chain and business models was explained in detail.



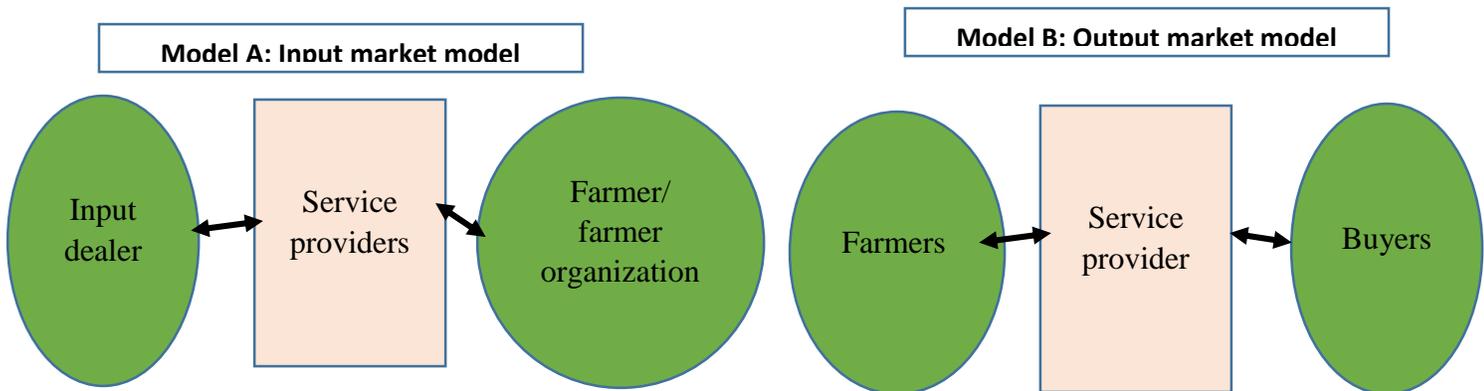
## Mechanization Value chain approach



Definitions of business models were presented and some of the anomalies regarding its application were discussed. It was noted that the business model concept was not used consistently both in research and in business practice (Hedman and Kalling, 2003) and the term is often used sloppily “being stretched to mean everything and ending up meaning nothing” (Magretta, 2002). The point was also made that the quantitative evaluation of business models is difficult, because they are mostly only developed informally (Heinrich and Winter, 2004) and the dynamic characteristics of a business model were difficult to predict owing to the interdependencies of value networks and complex feedback dynamics (Sterman, 2000), (Warren, 2002).

A point was also made that to support the mechanization supply chain some consideration needs to be given to accessing output markets. The interrelationship between input and output markets was highlighted in supporting crop productivity and sustainable intensification. These relationships suggested that development of the mechanization supply chain may in some cases require development of interlinked business models. This was highlighted as follows: 1) Business model A: For mechanization: the farmer is the customer 2) Business Model B: For agricultural produce: the farmer is the supplier.

## Different business model approach for input and output market



In understanding the business model concept emphasis was placed on the need to generate profitable revenue and a system of delivery to keep the revenue flowing. Three key concepts were presented: 1) the offering: the goods/ services on offer; 2) monetization: the benefits/ value of the offering; and 3) sustainability: how to sustain the business model. Some key principles of business modelling were also listed as including market linkages (notably linking farmers to output markets, in order to increase their purchasing power); promotion (through branding); capacity-building of private service providers (manufacturers, installers); and bundling - development or strengthening of services (e.g. information, agricultural training, etc.) embedded in the price of the product.

It was also noted that smallholder farmers could be linked to mechanization, technologies and input supply networks through three 'driver' models:

- Producer-driven models - motivated and led by small scale producers based on collective action for increased farmer participation.
- Supplier driven models - involving importers, dealers that organize farmers into a source of demand involve commercial farmers organizing farmers into suppliers i.e. contract farming
- Intermediary models – commonly led by NGOs and involve the provision of technical assistance and support to identify and improve smallholder linkages.

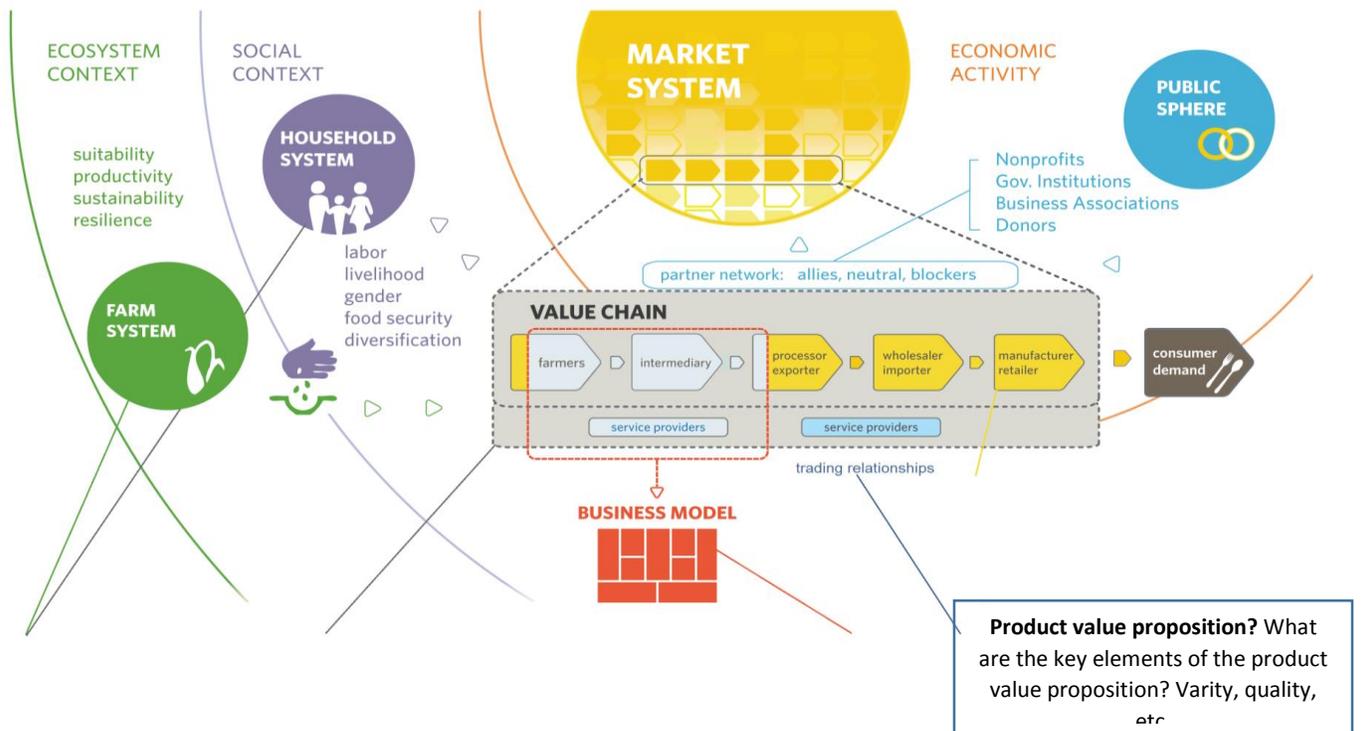
The presentation went on to highlight some of the challenges facing FACASI. The presenter went on to give examples of 'good practices' in the development of business models to guide the training.

## Understanding market system

### Richard Rose and Conor Riggs

iDE began by introducing the range of tools employed in the project cycle – under the key areas of ‘Analyzing Markets’, ‘Identifying Interventions’, ‘Developing Interventions’, ‘Deal-making’, and ‘Implementation’. On the Inclusive business models, the poor on the demand side as clients and customer, and on the supply side as employees, producer and business owner at the various point in the value chain and the relationship are the result of business models that don’t leave behind smallholder farmers are explained.

## MAPPING BUSINESS MODELS AMONGST OTHER DEVELOPMENT APPROACHES



### Livelihood Strategy

What is needed at household level and agricultural system level to increase gains and reduce risks?

### Upgrading strategy

What is needed at the farm and processing level to meet the product requirement and to include assets poor farmers?

### Business model

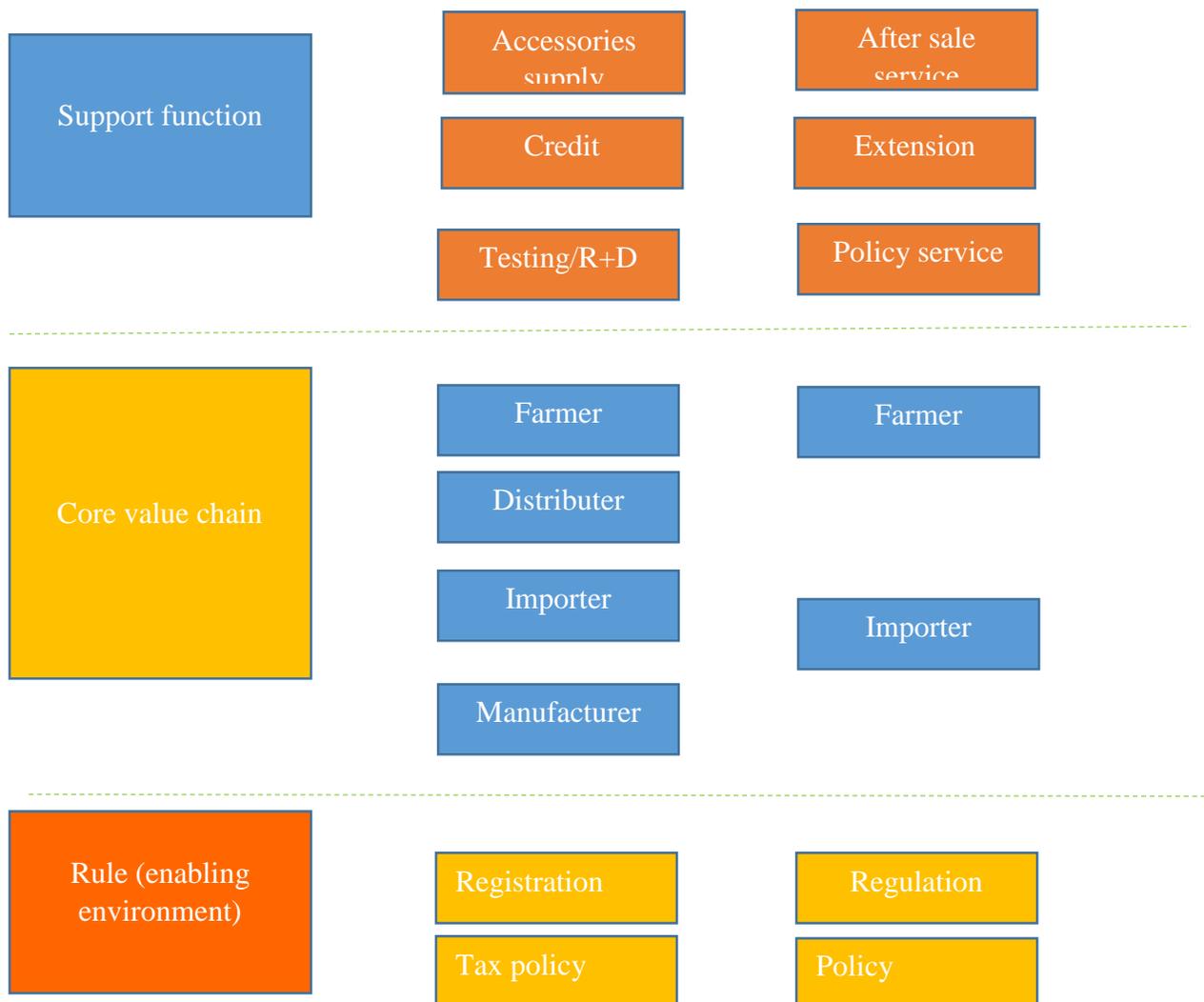
Is there a viable business model for the intermediary that support the service needed for inclusive sourcing

### Inclusive and durable trading relationship?

Can we improve the supply chain coordination? Market linkage?

### Exercise one

The session focused on enabling participants to use two tools under the ‘Analyzing Markets’ area: using the Making Markets Work for the Poor (M4P) conceptual framework as a lens for understanding market systems, and the literature review guideline as a means of derive information on the market system from secondary literature. The trainers conducted an exercise to embed understanding of the M4P framework drawing on **iDE’s** Understanding Market Systems Guideline 2, where participants in the two groups brainstormed the functions of the mechanization market system in Ethiopia and then represented this through applying notes to a market system canvas.





### Literature review and exercise

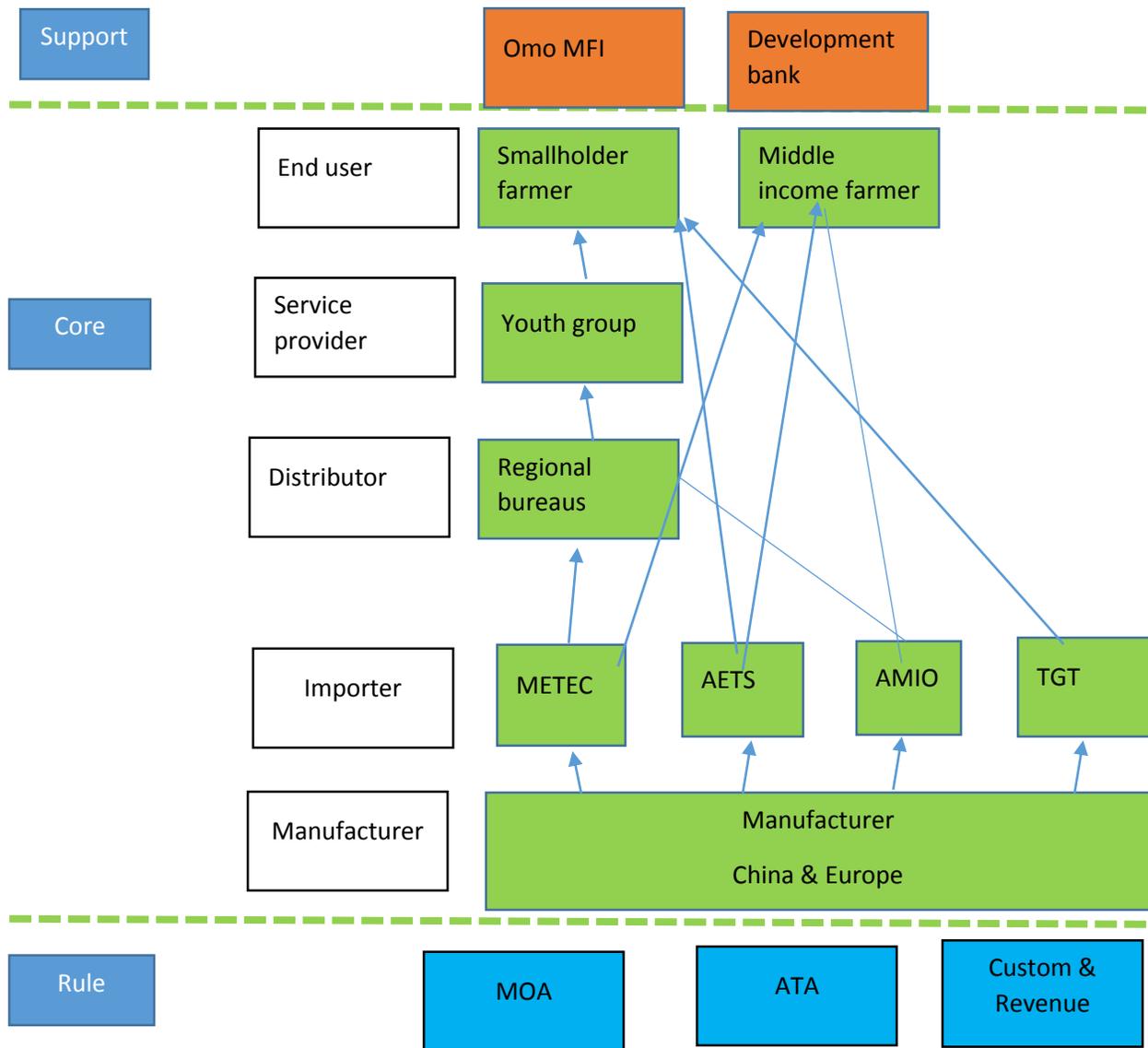
A literature review was conducted based on iDE’s Literature Review Guideline 3. CIMMYT provided the participants with secondary information and data on small mechanization in Ethiopia as background information for analysis. As part of the exercise the participants were expected to review the secondary sources and identify information that could contribute to developing a profile of the mechanization market system and its dynamics. Information/ knowledge gaps were also identified for further market investigation.

Profile	Dynamics	Gap
<ul style="list-style-type: none"> <li>• Introduced in 1950</li> <li>• 90% of farmers landholding less than 2 Ha</li> <li>• Poor access to finance</li> <li>• Three level of different agro – ecological zone</li> <li>• 36% of small holder farmers agricultural land is 1-2 ha and engaged in subsistence farming</li> <li>• Level of mechanization is very low.</li> <li>• The power land ratio stands at 0.45hp/ha, which is less than the standard minimum of 0.5hp/ha</li> </ul>	<ul style="list-style-type: none"> <li>• Tractor increase from 2,932 to 5,000 in 2013</li> <li>• Planter from 493 in 1999</li> <li>• Lack of physical machinery</li> <li>• Farmer behavioral and per capital</li> <li>• Awareness of agricultural machinery</li> <li>• Presence of local manufacturer; artisan ; importer ; distributor ; foreign</li> <li>• Agriculture production has not been enough to meet the demand of the population</li> <li>• Small and medium companies mainly private mostly foreign</li> <li>• Lack of comprehensive agricultural mechanization strategy and institutional capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Information gap</li> <li>• No information on 2WTs (status, demand and general information)</li> <li>• No information on appropriate technology</li> <li>• Skill development for artisans</li> <li>• No policy and strategy</li> <li>• Lack of credit</li> <li>• Perception on 2WTs</li> <li>• 2WTs pricing</li> <li>• No documentation on mechanization</li> </ul>

## Mapping the market

### Richard Rose and Connor Riggs

This session focused on enabling the participants to use the market map tool to conceptualize the market system for agricultural mechanization in Ethiopia. The session was designed to take the information from the literature review and map this spatially onto a market-map canvas – ensuring that the core value chain, supporting functions (services), and rules (enabling environment) are represented. The key relationships between the market actors were added to the draft market map prepared by the participants.





Farm Mechanization &  
Conservation  
Agriculture for  
Sustainable  
Intensification



## DAY TWO

Overview of mechanization sector in Ethiopia

Key informant discussion and exercise

Intervention Logic Analysis

## Overview of mechanization sector in Ethiopia

### Dr. Abebe Fanta



Dr. Abebe, from Haremaya University, provided an overview on the mechanization sector in Ethiopia including its history and development, obstacles and opportunities and a vision for the future. The presentation made special reference to conservation agriculture and some of the challenges regarding its adoption amongst smallholder farmers.

## Key informant discussion and lesson learnt

### Led by Dr. David Kahan

In this session, the participants were tasked to prepare a checklist of issues for discussion with key representatives of the public and private sector involved in small mechanization. The purpose of the exercise was to familiarize the participants with the methodology and tools for conducting key informant discussions and develop the skills needed in interviewing and recording the information collected on the small mechanization sector. Some of the issues listed by the participants are given below.

### General

- The role of agriculture in the country's economy
- Farmland area and estimated number of farm households directly depending on agriculture
- Proportion of farmland operated using tractors, animal draught power, and human muscle
- Regional distribution of these power sources in the country.
- National level trends in the number of tractors (2WT, 4WT separated) operating in the country
- Estimated number of importer involved in the agriculture mechanization in general

### Policy issues

- Government plans to promote mechanization as part of the country's Growth and Transformation Plan (GTP).
- Conduciveness of the enabling environment for private sector involvement in the mechanization business
- Policies/ strategies that support agricultural mechanization
- The role of the government in agricultural machinery market

### Market

- Size of the 2WT sector
- Size of the 2WT sector compared to the 4WT sector
- Annual import of 2WT and domestic manufacturing
- Market growth for agricultural machineries and anticipated demand
- Growth trends in Ethiopia compare to other countries in the region



- Trend in supply and demand for small mechanization

### **Promotion**

- Ways of identifying farmer demands
- Mechanization operations conducted by smallholder farmers
- Ways of promoting mechanization technologies.
- Types of technologies being promoted.
- Success in promotion
- Organizational responsibility for promoting farm mechanization
- Strategy for adoption by smallholder farmers
- Best practices in promoting mechanization technologies
- Way of reaching the end-user.
- Specific target markets

### **Extension and training**

- The current role of the extension system in the agricultural mechanization sector
- Background and skills of Das in providing mechanization support to the sector
- Skills sets of local distributors.
- Mechanization technologies covered by the extension system over the past 5 years

### **Finance**

- Challenges that actors in the mechanization supply chain face with respect to the mobilization of finance (working capital/ investment capital).
- Ways of tackling these challenges.

### **Machinery hiring and support services**

- Development of the tractor hiring market
- Comparison of hiring services and self-ownership of mechanization
- Mechanized operations through hiring services
- Business structure of mechanization hiring operations and ways of dealing with constraints (profitability, seasonal demands, quality of operations etc.)
- Potential for the development of spare part manufacturing.

Following the group discussions with key informants (public and private sectors) the groups presented their findings at a plenary session. This was followed by discussion.

The key points that came out of the analysis are summarized below.

### **Current status**

- Agricultural production and productivity is low
- Lack of policy and strategy for mechanization
- Awareness gap on mechanization
- Inadequate credit access to farmers
- Limited linkage among actors



- Low market demand for 2WTs
- High government involvement in the mechanization market

**Public sector**

- The government is aware of the need for agricultural mechanization
- There are not enough government extension service providers trained in agricultural mechanization
- The level of mechanization in Ethiopia is still low with farmers using hand and animal drawn equipment
- METEC a government parastatal purchased 3,000 2WT for sale to farmers through loans guaranteed by the Ministry of Agriculture and administered by MFIs.

**Private sector**

- There is some private sector involvement in agricultural mechanization e.g. AMIO, AETS and TGT etc.,
- Machinery is imported from China, India, Europe and Turkey
- Much needs to be done to promote 2WT among farmers.
- Emphasis may need to be given to the design and organization of practical training programmes by both the private and public sectors.
- Limited private sector involvement in the provision of extension services to farmers e.g. after sales services and training
- Cost of tractors can be reduced by manufacturing some parts in Ethiopia
- AMIO imported 25 walking tractors but have only managed to sell 4 units to farmers and 8 units to regional bureaus over a three year period.

Strengths
<ul style="list-style-type: none"> <li>• Government recognition of mechanization sector to replace 50% of oxen by power farm</li> <li>• Existence of private sector and commitment to work with smallholder farmers</li> <li>• Establishment of new mechanization directorate under the Ministry of Agriculture</li> </ul>

Weakness
<ul style="list-style-type: none"> <li>• Awareness gap towards mechanization</li> <li>• No clear policy and strategy</li> <li>• Smallholder farmers are fragmented</li> <li>• No manufacturing industries</li> <li>• High tax rate</li> <li>• Foreign exchange policy</li> <li>• Lack of testing and standardization</li> <li>• Extension system lack of knowhow on mechanization</li> </ul>



**Intervention Logic Analysis Framework**  
**Richard Rose and Connor Riggs**

The ILA serves as a useful analytical tool to enable the identification of entry points in market systems and is used to analyze qualitative data following field investigation. The intervention logic comprises a seven stage methodology. Broadly it can be understood as follows: (1) a problem analysis is undertaken to identify the problems currently in the sector; (2) the underlying causes are identified to each of the identified problems; (3) current service provision is mapped and understood; (4) the key factors in the enabling environment are identified; (5) weaknesses in the services are identified through engagement with the local private sector and other stakeholders; (6) interventions are designed to strengthen service market capacity and strengthen the enabling environment for the core service provision; and, (7) activities are designed to deliver the interventions.

The session focused on taking the participants through the steps of the ILA up to stage 5. This enabled the participants to understand the systemic weaknesses in the market system for small-scale mechanization in Ethiopia. These weaknesses were related back to their market map.

Problem	Rule	Support service	Weakens
Farmers have no money to buy agricultural machineries	Farmers lack of collateral to access loan	Financial services	Lack of private sector involvement innovative capital loan
	Farmers low productivity	R & D	
	Expensive technology for farmers	Insurance (compensation)	Lack of government support on R& D
Farmer's resistance to change (mindset change on 2WT)	Cultural behaviors (Risk aversion)	Extension service (Public and private)	Limited knowledge of mechanization
	Farmer's lack of education	Training and education	
	Inadequate demos	Practical training service	Lack of practical training by the extension worker
	Lack of hand-on experience	Media (NEWS & advertising)	



Farm Mechanization &  
Conservation  
Agriculture for  
Sustainable  
Intensification



### **DAY THREE**

**Introducing Business model**

**Analvzing business model**

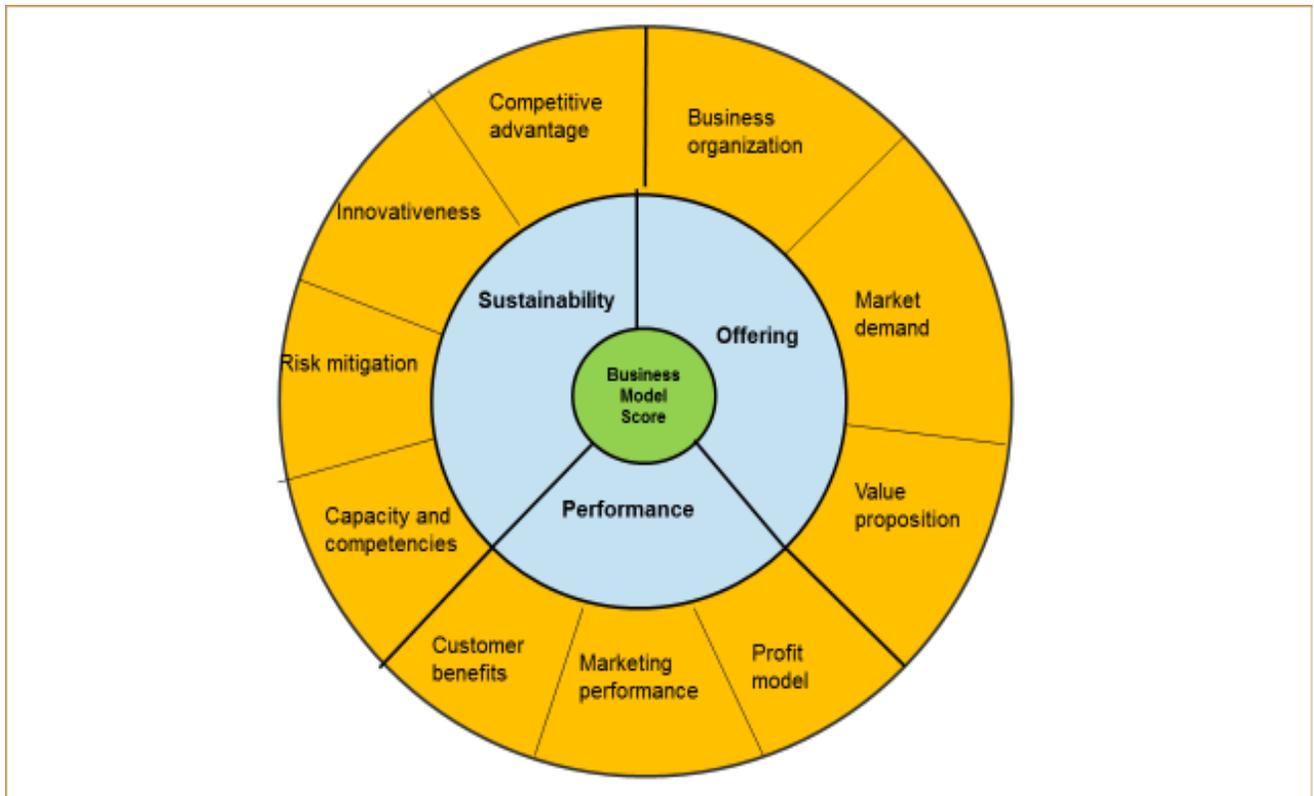
**Preparation of checklist**

**Critical success factor**

## Business model Analysis Dr. David Kahan

In this session, the participants were guided through a methodology developed to analyze in detail business models. The steps in the business modelling include identifying existing model, analyzing the current business model (strength and weakness), and identification of the critical success factor, designing an upgraded business model and action plan and deal making. The business model was characterized by following attributes: the customer, products, sales channel and the revenue structure of an enterprise. The position of an enterprises within its value network and the nature of business relationship. A modified and adapted version of the Business Model Wheel was developed that cover three principal elements: the offering, performance and sustainability.

### Modified business model wheel



## Checklist preparation exercise

An exercise was developed for the participants to review the main segments of the business wheel and to identify key strategic questions for business model analysis. Example questions are given below:



## Offering

### Business organization

- Tell us about your business?
  - How does the business operate?
  - Tell us about your key partner and activities performed?
  - Through which channel is the product or service delivered?
  - What key resources are needed to sustain the value proposition?
  - What key resource are needed to sustain the company's customer relationship?
  - What key activities are needed to sustain our customer relationship?
- What is your strategy (and the underlying logic) to continue to deliver value to your customers?
  - What are your upgrading intervention?

## Market demand

- What makes your product/service unique and different?
- What product/service are brought/hired by what categories of customer?
- How volatile is your market share?
- Does the business provide the service demanded by customers?
- Do you have a promotional strategy?
- Is it big enough to provide a good opportunity to enter the market and sell enough product or service? At a price that will allow the creation of a viable business?

## Value proposition

- What value does your product/service delivered?
- Can your customers/service clearly differentiate your product/service from your competitors?
- Does the product solve a compelling need that the customer can't fill elsewhere?
- Are similar offering available?
- How important is the end benefit of using the product/service?
- What value is offered to upstream links e.g. foreign manufacturer/importer?



- Does the company deliver additional value to the smallholder farmers?
- How effective can you convince a customer to buy from you and not your competitor?

## **Performance**

### **Profit model**

- What are the price of the product sold?
- Are the price affordable for your customers?
- Does the revenue model provide the necessary incentive to continue?
- Has the gross margin and profit been stable over the last 5 years? Are they increasing? By what annual growth rate?
- Are the financial barriers hindering the business?

### **Marketing performance**

- How customer relation managed?
- Does your company regularly gather customer feedback and use it to improve products and marketing?
- Do you have a sale pipeline model that can accurately predict future sales? How?
- Which product are selling? Why?
- Have the level of sales over time improved or remained stable?
- What is your current market share? Great brands have a large market share?

### **Customer benefit and satisfaction**

- As a result of the service received what benefited did they provide?
- What has been the positive effect on women?
- Is the scope and quality of service that you received effective and efficient?
- Do you feel you got what you expected from the service?
- What more do you wish you could get from the service?
- Are you satisfied with the scope and quality of the service you received?
- If not, why?
- What are the constraints on the service provided?

## **Sustainability**

### **Capacity and competency**

- What is the competency and capacity of management and staff?
- Does your company have the necessary skill, people and facilities to deliver service that consumers want?
- Does your company have sufficient financial resource and good financial management skill?
- What % of annual expenditure is used for staff training?



Farm Mechanization &  
Conservation  
Agriculture for  
Sustainable  
Intensification



## **Risk Mitigation**

- What are the risk that the business has to face?
- Is the business prone to potential government or regulatory policy change?
- Is a large competitor entering the market a possibility?
- What way have been developed to mitigate the risks?

## **Innovation**

- How important is innovation for the future of the business?
- Is your business capable of innovating in line with needs?
- What innovation have introduced in your business before? What other innovation coming in the future?
- Do you have R&D budget for your company?
- Where do you get your design and prototype from?

## **Competitive advantage**

- With whom are you competing?
- Does the model possess a competitive advantage in terms of cost, differentiation or access to resource?
- Is there a significant treat of new entrants entering the market?
- What are the barriers of entry too your designated market?

**Critical success factor (CSF)**  
**Heiko Bammann**



In this session, Critical Success Factors (CSF) were presented as the most important factors that affect buyer decisions and their satisfaction with the product or service. It was also mentioned, that CSF is an essential area to achieve the business objective of creating a common point of reference (between dealer –buyer; or contractor and farmers). For simplicity, it was also mentioned that CSFs need to receive constant and careful attention from the business model stakeholders. These are vital for any business to flourish. Mr. Bammann provided examples of CSFs related to mechanization (from FACASI) and developed a possible list that included the cost/price of 2WT and implements, reliability and timeliness of operation (hire service), availability of spare parts, customer satisfaction, the multiple use of machines and availability and timeliness of repair services. These points were discussed in detail with the participants.



Farm Mechanization &  
Conservation  
Agriculture for  
Sustainable  
Intensification



#### DAY FOUR

Meeting with the business model stakeholders

Analysis of the business model

## Business model analysis exercise

The previous days exercise was designed to familiarize the participants with the elements of the business wheel and to prepare a checklist of questions/ topics for discussion with business model actors in the field. The field exercise involved dividing the participants into two groups each of which would analyze and prepare an upgrading plan for a different business model existing in the vicinity of the training venue.

Group 1 was assigned to analyze and upgrade a potential business model located in Hawassa. The group visited Adama Agricultural Machineries Industries (METEC) a parastatal organization owned by the Ministry of Defence. At METEC the group met with managers and technical staff from the planning, marketing and engineering departments.

Group 2 was assigned to analyze and upgrade a potential business model identified in the vicinity of the project area. The group traveled to the village of Itiya, which is 45 KM from Adama. The group initially met with a mechanization dealer – Kaleb – to understand the company’s activities and performance in providing small 4 Wheel Tractors to farmers. The group also held discussions with the leaders and members of the Primary Cooperative and union as well as operators and farmers.

The findings of each of the business model analyses is given in the annex.





Farm Mechanization &  
Conservation  
Agriculture for  
Sustainable  
Intensification



## DAY FIVE

**Mapping the business model**

**Upgrading business model**

**Pitching. Negotiation. contract preparation. deal making**

## Mapping the business model Richard Rose and Conner Riggs

In this session, iDE took the participants through the iDE Analyzing and Mapping the Business Model Guideline 5. The purpose of this is for participants to understand how to map the linked business model, analyze it using business model analytical tools such as the Business Model Canvas (BMC) 6. In the case of FACASI, the BMC was substituted with the modified business model wheel as this is the preferred tool for the program. The participants engaged in a 6 step process of: (1) drafting the linked business model for their focus actors (using the data collected from the groups which visited the parastatal METEC and the agro dealer (KALEB the previous day); (2) focusing on one actor using the modified business model wheel to canvas data generated from the previous day's visits onto selected elements of the wheel (in the interest of time 3 elements were selected from total of ten that are represented on the wheel); (3) review the linked business model and update it with any insights gained through the data generated using the wheel; (4) a modified SWOT analysis was then conducted on these areas focusing on the research question 'how can this business model better serve the target group?', the SWOT focused on identifying the strengths and weaknesses, then mapping the opportunities related to the research question onto the canvas. These opportunities can be considered the 'critical success factors' for upgrading the business model and making it more inclusive for the target beneficiary group; (6) participants were then invited to map the upgraded business model onto the linked business model map and, (6) report back on the proposed upgraded business model to the wider group. Ide provided a final step 7, where the upgraded business model plan can be developed using a matrix of business model wheel elements with the ILA interventions to ensure that the business model plan links with the understanding of the market system developed earlier using the ILA.



## Upgrading business model

**Heiko Bammann**

Based on an understanding of the current business model and an analysis of the critical success factors, the dealers and service providers should have a clearer idea of where they need to innovate and add value in order to respond to customer's requirements. This forms the basis for the preparation of an upgraded business plan. This upgraded model should promote innovation and place importance on activities that address the challenges prioritized. This session presented a methodology for business model upgrading emanating from attaining a consensus amongst the business partners of the future vision of the business model. Distinctions were made between product upgrading (innovation, quality), process upgrading (production, distribution, logistics) and functional upgrading (shifting of function like grading and packing to farmer's organization. It was noted that the business model upgrading fields of action could improve business linkages, associations and partnerships, strengthen support services (training, extension, financial, machinery maintenance etc.) and introduce standards, regulation, new policies by improving the business environments. Practical examples were given of upgrading models for product value chains from FAO experience globally.

### Upgrading planning under FACASI

- Agree on a business proposition
- Define critical success factors
- Agree on innovations and components
- Identify priority activities to address by FACASI (upgrading activities)
- Cost the implementation of activities (financial plan)
- Identify risks and risk mitigation strategy

### CSF for farmers to apply 2WT technology (from group)

- Durability of the machine
- Quality of the machine
- Affordability of the 2WT and implements
- Availability of spare parts
- After purchase maintenance service/repairs
- Credit facility ?

## Possible action areas for upgrading (from group)

- Provide training in 2WT maintenance (other trainings - in what?)
- Develop/design promotional materials and branding and launch a campaign
- Innovation (research and development)
- Identification of appropriate financial services
- Support development of reliable repair and maintenance services
- Etc.

## **Pitching, negotiation, contract preparation, deal-making** **Richard Rose and Conor Riggs**

This session focused on enabling participants to understand the principles and key steps in deal making, and to practice making a ‘pitch’ to the private sector. Participants initially brainstormed their understanding of the guiding principles of deal-making and engaging with the private sector, these were then cross checked off industry best practice guidance on corporate engagement from the GROOVE Network’s Market Facilitation Mentoring Program 8. This demonstrated the intuitive nature of deal-making and negotiation. To introduce some practical steps in negotiation and deal-making, the



iDE Corporate Partnerships Approach 9 process was introduced. This comprises of 5 steps: (1) Identify the market opportunity for the technology or service; (2) Work with the Partner to develop a strategy for development and commercialization of the product or service; (3) Identify the constraints and points of collaboration that are necessary; (4) Agree a joint venture arrangement with clear activities, plan, budget, and performance management plan; and, (5) Partner leads the venture with the support of iDE, ongoing monitoring and course correction. Some key iDE tools were introduced to the participants, including the Joint Venture Agreement<sup>10</sup> (JVA), JVA Workplan<sup>11</sup>, and JVA Budget Template<sup>12</sup> (these are provided as templates in the annex). In order to apply these principles and ideas, participants were invited to prepare in groups an ‘elevator pitch’ on their respective groups’ proposed upgraded business model to the market actors they seek to collaborate with. Participants prepared and role-played a 60 second ‘pitch’ to the private sector (represented by the trainers).





Farm Mechanization &  
Conservation  
Agriculture for  
Sustainable  
Intensification



## DAY SIX

**Profitability**

**Examples of business model in practice**

**Ranking of business model**

**Recap of FACASI objective 2**

## Understanding Profitability

### Betina Edziwa

In this session, different terminology, definition, tool and techniques presented as well as an overview of the different methods of investment appraisal explained in detail for the trainees. Some of the differences in concepts are mentioned below:

#### Profit and profitability

##### Profit:

- The difference between money that comes in from the sales of a product and the money that goes out to produce it. Profit is used to measure the success of the business and is vital for its survival and growth.

##### Profitability

- A measure of performance that shows how well the resources available to the business are used to generate income and profit.



#### Gross margin analysis

The gross margin for a crop or livestock product is obtained by subtracting the variable costs from its value of production.

**Gross margin = Value of production – Variable cost**

Calculating gross margins is essential when deciding between different enterprises. If a farmer wants to know whether to continue with a certain crop or grow another, he or she could compare the gross margins of the two crops. If a farmer changes enterprises, the fixed costs will probably not change. But what will change are the variable costs and value of production. Using a gross margin will help the farmer to see if the change in enterprise will be profitable or not.



#### Break-Even Analysis

- Break-even analysis is a technique for studying the relationship between costs and income at different levels of production
- A break-even budget estimates the maximum acceptable level of a cost item or alternatively the minimum acceptable level of a benefit given an estimated level of cost
- Break-even budget looks at the scale of the enterprise where income equals cost. At this point profits or gross margins are zero



A discussion was held on the methodology that could be used to assess the profitability of dealers, service providers, and farmers. Although it was felt that dealers were unlikely to share information on the profitability of their businesses there would be a need to develop the skills of local dealers in profit and income statements, demand forecasting and the preparation of balance sheets. In the case of service providers emphasis would need to be placed on enterprise profitability calculations, break-even analysis (for setting hiring charges) and cash flow. It was agreed that farm level profitability analysis should be conducted together with groups of farmers to ensure ownership of the data and confidence in the final calculations.



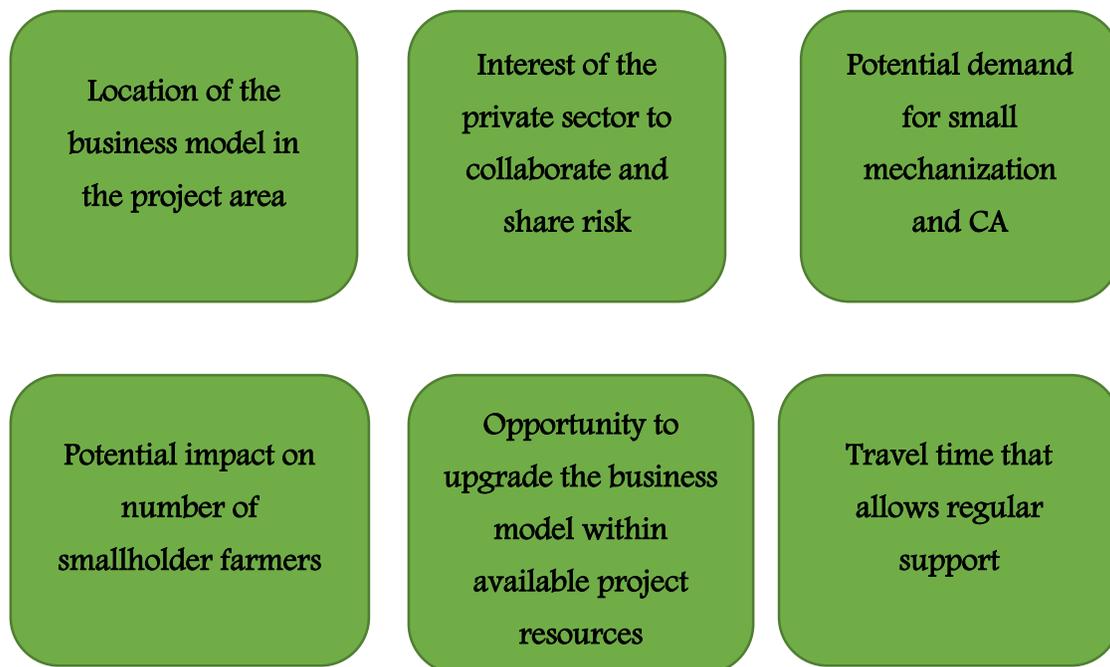
## Examples of business models in practice

### Richard Rose

In this session, iDE presented on a program they are delivering in partnership with CIMMYT in Bangladesh, the Cereal Systems Initiative for South Asia – Mechanization and Irrigation (CSISA-MI) program<sup>7</sup>. This provided an overview of the conceptual approach, how the conceptual approach is applied in practice in the field, and finally on the upgraded business model that is being applied currently with the lead firms the program is engaging with. The slide deck is attached as an annex.

## Ranking of business model Dr. David Kahan

Recognizing that in some country contexts there are likely to be a wide range of possible business models, a system was designed to prioritize the various models and to select only those that adhered to defined criteria. The system included a set of weighted criteria and sub-criteria with a proposed scoring system. Some of the criteria for ranking are as follows:



The system design was discussed with the participants and it was agreed that final selection of criteria would need to be context specific.

## Recap of FACASI objective 2 Dr. David Kahan

In this session, the outputs/ milestones and activities under FACASI objective 2, were discussed in detail in relation to the subjects covered in the training. Clarity was given on the expected milestones and each country team reviewed the timeline for implementation. A revised timeline for implementation was prepared for outputs 2.1, 2.2 and 2.3 over a six month period July-December 2014.

### Output 2.1; Market analysis of small mechanization

Activity	Revised date due			
	<i>Kenya</i>	<i>Tanzania</i>	<i>Ethiopia</i>	<i>Zimbabwe</i>
1. Literature review and key informant interviews	End July 2014	Mid July 2014	Mid Aug 2014	July 2014
2. Interview market actors and Government partners	Mid August 2014	Mid August 2014	End Aug. 2014	End Aug 2014
3. Expert consultation workshop with key informants	Mid Sept.	End August 2014	Mid Sept 2014	Mid Sept. 2014

### Output 2.2; Business model design

Activity	Revised date due			
	<i>Kenya</i>	<i>Tanzania</i>	<i>Ethiopia</i>	<i>Zimbabwe</i>
1. Focus group discussions with each actor individually	End Sept 2014	End August 2014	October 2014	October 2014
Identify and select business models	End Sept. 2014	Sept. 2014	Nov 2014	October 2014
2. Multi-stakeholder roundtables	End Oct 2014	Mid Sept. 2014	Dec. 2014	November 2014
3. Ex-ante business study and financial analysis	Dec. 2014	End October 2014	Jan 2015	December 2014
4. Focus group discussions	Dec. 2014	End October 2014	Jan 2015	December 2014



Farm Mechanization & Conservation Agriculture for Sustainable Intensification



**Output 2.3; Business model support**

Activity	Date due			
	<i>Kenya</i>	<i>Tanzania</i>	<i>Ethiopia</i>	<i>Zimbabwe</i>
1. Deal making	Nov. 2014	November 2014	Feb. . 2015	Feb. 2015
2. Training of Trainers (ToT) of local dealers/ service providers/ operators in 2WT and CA	October 2014	October 2014	TBD	TBD
3. Training of business model stakeholders in agribusiness	December 2014	December 2014	Jan 2015	January 2015