

Organized Farmers as Partners in Agribusiness (2018)



Course workbook **WEEK 2**

Positioning on value chains
and in market systems

Name [_____]

Table of Contents

- WEEK 2 - DAY 1 – PRODUCTION SIDE: THE CORE BUSINESS OF FARMERS..... 1**
- 22. Field work: analysis and lessons learnt 1
- 23. Production side: seeds, inputs and adoption of innovations 2
- 24. Farmers recording production costs 5
- 25. Approaching agricultural development differently 8
- WEEK 2 - DAY 2 – COOPERATIVES AS FARMERS’ BUSINESS ORGANISATIONS 10**
- 26. Visit to Wageningen CDI and WUR campus 10
- 27. FrieslandCampina: a cooperative dairy company 11
- 28. Cooperatives as farmers’ business organisations 13
- Evening programme..... 14*
- Cooperative entrepreneurship game (Kucheza) 14
- WEEK 2 - DAY 3 – SUB-SECTOR AND VALUE CHAIN ANALYSIS 15**
- 29. Different perspectives for value chain analysis: introduction 15
- 30. Product-market combinations 17
- 31. Value addition, transactions and price transmissions 24
- 32. Subsector and value chain mapping 31
- WEEK 2 - DAY 4 – MARKET SYSTEM (MORNING) AND TRAINING OF TRAINERS (AFTERNOON) ...33**
- 33. Five Competitive Forces.....33
- 34. Market system stakeholder mapping..... 36
- 35. RISE: a framework for analysing agricultural arenas and reflecting on strategies for farmer empowerment..... 41
- 36. Training others – Facilitating learning..... 43
- 37. Training others..... 44
- WEEK 2 - DAY 5 – TRAINING OTHERS (MORNING) AND ICT (AFTERNOON) 49**
- 38. Training others – Presenting training sessions 49
- 39. Information and Communication Technology: what are the options?52

▶ WEEK 2 - DAY 1 – PRODUCTION SIDE: THE CORE BUSINESS OF FARMERS

22. Field work: analysis and lessons learnt

This session aims at collecting and analysing the stories and lessons learnt from the fieldwork. The analysis consists of recapitulating and analysing the gathered information and impressions.

ASSIGNMENT

The assignment for the field work was to be curious and to find out many things about how Dutch farms are functioning, and adapt themselves with support of farmers' organisations, in a dynamic market and policy context. A checklist suggested for points not to miss, structured according to four 'chapters': (1) farmers, (2) farmers' organisations, (3) value chains and markets and (4) policy environment, stakeholder collaboration, drivers and trends.

The assignment for the analysis is to present what you observed, learned and will take home as main lessons learned. There are three sub-groups:

- Group 1: two family farms visited by group 1
- Group 2: two family farms visited by group 2
- Third group (persons from group 1 and group 2): SeaFarm and Sandee.

We do not prescribe specific presentation tools, but we advise you to be short and sharp and creative. You can use any method or tool for analysis, presentation and visualization that you find most appropriate. The key thing is that you clearly convey the information, analysis and lessons learned to others. Imagine that your audience were not in Zeeland.

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

23. Production side: seeds, inputs and adoption of innovations

This session is oriented at the production side, which is the core business of farmers. Three subjects are stressed:

- The need to link seed and agro-input value chains to commodity value chains.
- The service area 'Inputs' and options for collective action for farmers.
- Practical approach towards adoption analysis, to reflect on the possibility and likelihood that farmers adopt innovations (such as quality seeds).

The challenge of linking seed value chains and commodity value chains

Most agri-food challenges and opportunities require the development, production, storage, marketing and effective farmer uptake of new or improved varieties and quality seeds. In practice, seed sector development and value chain development efforts are often not sufficiently inter-connected. Seed programmes concentrate on the development of improved varieties and the production of certified or quality declared seeds, hoping that commodity farmers will buy/use quality seeds. Value chain development programmes concentrate on consumer demand and market requirement, transactions and value creation, and farmers producing for the market, assuming that the seed system avails quality seeds. That seed value chain development and commodity value chain development efforts are not strongly linked is somehow understandable as both are huge undertakings in itself, justifying dedicated programs. There are however important missed opportunities, both for seed sector development (limited sales of quality seeds) and for value chain development (lower yield and quality).

FO Service Area INPUTS - For improved access to production factors

Activity domains	Options for FO collective action
Land	
Water	
Seeds, semen, seedlings	
Labour	
Fertilizer (organic and inorganic)	
Crop protection products	
Agro veterinary products	
Artificial insemination	
Animal feed	
Machinery and equipment	

The 4 A's of adoption

Both researchers and practitioners can reflect about the likelihood of farmers' adoption of innovations (in this case adoption of quality seed) by looking at the four A's of adoption:

- ▶ **Acceptability:** do farmers accept that the proposed innovation is better?
Do farmers accept that the proposed varieties/seeds are better than the varieties/seeds they currently have and do they trust that the seed quality is good?
- ▶ **Accessibility/Availability:** if so, is the innovation accessible?
Are these quality seeds available at the right place and at the right time and in the right quantities?
- ▶ **Affordability:** if so, are farmers able to pay for the costs related to the innovation?
Are farmers in the position that they can (directly or indirectly) purchase and get the seeds (cash at hand, credit, company/traders supplying seeds, government distribution).
- ▶ **Attractiveness:** if so, will the innovation lead to additional benefits that significantly outweigh the costs (in the context of high production and market risks).
What is the marginal rate of return on the investment in seeds?

4A Adoption analysis applied to the adoption of quality seeds of superior varieties

Determinants for adoption	Angles	Action-oriented questions
Acceptability	1. Variety development	How to ensure that developed improved varieties are indeed those that farmers and markets need?
	2. Seed quality	How to ensure that farmers/seed buyers have trust in the seed quality?
Accessibility and Affordability	3. Marketing and sales	What are good strategies for seed producers and seed companies to market and sell their seeds?
	4. Facilitating farmers' seed purchase	What role for farmers' organisations, companies, financial institutions and others in facilitating/financing farmers' purchase of quality seeds?
Attractiveness	5. Rate of return of quality seed	What is the yield and income effect of quality seed?

Adoption of Good Agricultural Practices

The analysis of the 4A's of adoption is important for identifying priority actions for improving the uptake of innovations. This is particularly important for farmers' adoption of recommended agricultural practices.

In many situations, it has been proven by research and demonstrated by extension services that yields could be (very) much higher than farmers get in practice. Farmers' do not adopt and apply the practices recommended by research and extension. How come? The 4A adoption analysis can be used to find out.

FO Service Area GOOD AGRICULTURAL PRACTICES - For higher yields, better quality and lower production costs

Activity domains	Options for FO collective action
Land preparation	
Water management and drainage	
Rotation and intercropping, mixed farming	
Field operations, from planting to harvesting	
Integrated soil fertility management	
Pest and disease management	
Managing production costs	
Managing product quality	

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

24. Farmers recording production costs

Generally speaking, farmers tend to make decisions in three ways: by intuition, by comparison or by using economics. When farmers base their decisions on intuition, they rely on traditional methods of management and follow old established patterns of farming. These methods are often well tried and have evolved over a long period of time. For example, they may decide on a cropping pattern based on a crop rotation that is widely used in their area. Some farmers base their decisions on comparison with other farmers. For example, they may apply fertiliser at rates of application that are used by other farmers also cultivating sesame. Still other farmers may base their decisions on economic considerations. They compare prices of products, their quality and costs of production and marketing, by calculating costs and profit. These financial calculations allow them to make well-informed decisions so as to enhance their profits.

Farmers who use financial calculations perceive their farm as a business. By behaving as an entrepreneur, they try to run their farm in a cost-effective manner and calculate their return on investments so they can maximise their income. Though a lot of farmers would like to use economics to make decisions, often farmers are not fully informed about costs and/or skilled on financial calculations. And it is important to record costs as it allows farmers to:

- Track the performance of your farm
- Calculate how much profit the farm makes
- Plan for the future
- Provide loan providers with an accurate financial overview of your farm business (which shortens the loan appraisal process)

In this session, we will share the case of Ethiopia where over 15,000 small scale farmers were trained on financial literacy training.

EXERCISE – Recording Henok’s costs

- ▶ Please fill in the recording tables on the next page based on the information in the box below.

Example
On Miyazia 5, 2010 Henok pays 2,000 birr to labourers to clean his land. 13 days later he buys 6 kg of Abasena sesame for 330 birr. He also buys fertiliser for 5,000 birr on the same day. He will use the fertilizer for sesame only. On Genbot 10, 2010 Henok receives the loan of ACSI, which is less than expected. He gets 14,000 birr only. On Genbot 25, 2010 Henok performs the first ploughing for sesame and sorghum with rented oxen. He pays 2,400 birr. Henok ploughs together with his wife and this takes them 2 full days.

1. Miyazia 2010					
Date	Description of activity	Family Labour	Crops	Cash in	Cash out
1. Subtotal family labour =			1. Subtotal Miyazia =		

2. Genbot 2010					
Date	Description of activity	Family Labour	Crops	Cash in	Cash out
1. Subtotal family labour =			1. Subtotal Miyazia =		

EXERCISE – Calculating Henok’s depreciation costs

- ▶ Please fill in the ‘depreciation costs’ table below for Henok’s case. You can use the table for the depreciation rate.

18. Depreciation Costs			
Assets	Purchase price	Depreciation rate	Annual depreciation costs
1. Oxen			
2. Donkey			
3. Cart			
f. Total annual depreciation costs =			

Type of asset	Depreciation		Type of asset	Depreciation	
	Yrs.	Rate		Yrs.	Rate
Tractor	15	0.07	Sickle	2	0.50
Oxen	8	0.13	Axe	3	0.33
Plough (animal)	4	0.25	Hoe	3	0.33
Plough (tractor)	10	0.10	Cooking materials	2	0.50
Camel	5	0.20	Chemical sprayer	4	0.25
Donkey	5	0.20	Farm hut	3	0.33
Cart (animal)	4	0.25	Water container	2	0.50
Cart (tractor)	10	0.10			

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

25. Approaching agricultural development differently

This session provocatively states that agricultural development should be differently supported, as compared to predominant current practices. Three perspectives are developed:

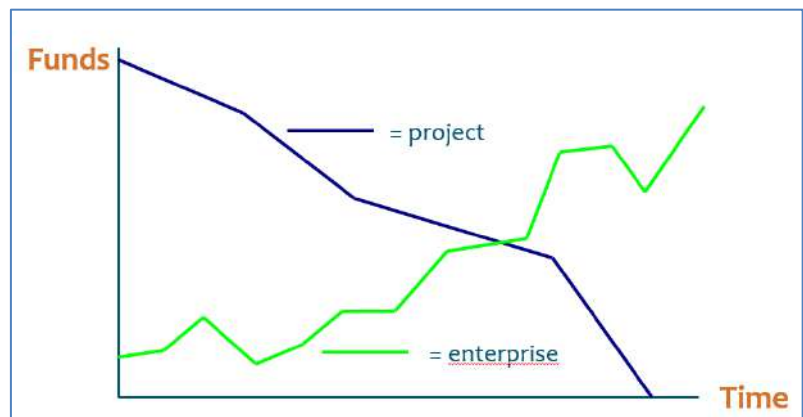
From dependency to agency: need for farmers' mind-set change

- Where's the money?
- Farmers' entrepreneurial outlook; need for 180-degree change?
- Cold and hot money



Projects and enterprise: need for Government and donor mind-set change

- Logic of projects
- Enterprise development
- Projects and enterprises are fundamentally different
- Can projects support farmer entrepreneurship and agribusiness development?



Grafting external support to farmer entrepreneurship and agribusiness development

- Sense of direction
- Joint goal achievement
- Grafting external support
- Innovating M&E



Principles

- ▶ Treat private actors in the agricultural sector, including farmers and their organizations, as entrepreneurs. That's what they are.
- ▶ Do not consider and treat them as 'target groups' and 'beneficiaries'; that will keep them in a passive role.
- ▶ Recognize, and be aware that farmers and other local entrepreneurs are happy to get outside funding ('cold money')
- ▶ Take local entrepreneurial initiatives as the starting point and focus on clear economic objectives. These objectives can be stated in terms of higher production, improved productivity, better quality, adoption of good agricultural practices, more processing activities, product and market development, larger turnover, etc.
- ▶ When a support program aligns itself to the economic objectives of local entrepreneurs, the efforts can be combined and the resources can be pooled.

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

▶ WEEK 2 - DAY 2 – COOPERATIVES AS FARMERS’ BUSINESS ORGANISATIONS

26. Visit to Wageningen CDI and WUR campus

In the morning, before going to Friesland Campina, the opportunity will be taken to visit the Wageningen Centre for Development Innovation (WCDI). A general introduction will be provided on to Wageningen University and Research (WUR) and WCDI.

A feature of the Dutch system is combination of the higher education at the University and National Agricultural Research System (NARS), which in many countries are separated.

When walking from WCDI to FrieslandCampina, you will get an impression of the Wageningen Campus and a group photo will be taken, to show that you were there, at WUR.

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

27. FrieslandCampina: a cooperative dairy company

With an annual turnover of more than 10 billion euro, FrieslandCampina is one of the largest dairy companies in the world, present in 28 countries. The Company is fully owned by the dairy cooperative 'FrieslandCampina U.A', which has around 19,000-member dairy farmers in the Netherlands, Germany and Belgium. More than 85% of the Dutch dairy farmers supply to FrieslandCampina and are co-owners of this large cooperative company.

You will visit the FrieslandCampina Innovation Centre at the Wageningen UR campus, where you are welcomed by the scientific coordinator of the Innovation Centre, get an introduction from one of the board members and visit the experience centre.

ASSIGNMENT

By reading the background information on FrieslandCampina (on your tablet), the introductions that are provided (Board member, dairy farmer(s) in Zeeland and innovation centre), and by asking many questions, the assignment is to FIND OUT and UNDERSTAND the history and functioning of this farmer-owned multinational company and what is explaining its success and continuous innovation and growth. Possible questions to ask are suggested on the next page.

This reflection is important input for the more generic session about cooperatives as farmers' business organisations (session 28).

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

Some suggestions for possible questions for FrieslandCampina business case

Questions on organisational structure, functioning, activities and perspectives of Friesland Campina (inspired by Business Model Canvas)

Possible questions	Possible questions (continued)
1. The products and services that FrieslandCampina sells?	8. How Friesland Campina would describe an average member farmer?
2. The diversity and characteristics of consumers of Friesland Campina products?	9. If farmers are (directly and/or indirectly) paying for membership of Friesland Campina. For what services are they paying / willing to pay? Why? For what services are they not willing to pay? Why not?
3. The reasons why consumers buy Friesland Campina products/services? Which need(s) does FrieslandCampina fulfil? What problems does Friesland Campina solve for the consumers?	10. How they describe their relationship with farmers? How do they communicate with them and what they invest in this relationship (personal, long-term/short-term, community-based, based on co-creation/co-investment)?
4. Who do they see as their main competitors and why?	11. How does FrieslandCampina make sure that farmers deliver quality milk?
5. Why customers choose products/services of Friesland Campina and not those of competitors?	12. To which other key partners do they need to deliver their products and services to (research, extension, private sector, other FO's, value chain actors, financial institutions, NGO's etc.)? What do they get from these partners?
6. How does FrieslandCampina communicate / interact with its customers? Direct and indirect communication? Which channels and frequency, with what message?	13. What the major costs are for delivering their products/service?
7. Where can buyers can find the FC products and services and why did Friesland Campina select those places to sell their products/services?	14. How the company earns money to cover those costs?

Dairy farmers (members/owners of FrieslandCampina):

Possible Questions	Possible Questions (continued)
1. All the products and services produced and sold by the farm?	6. If there are any disadvantages in being a member of Friesland Campina?
2. The products and services supplied to FrieslandCampina?	7. How they would describe their relationship with Friesland Campina?
3. Why they choose to supply to Friesland Campina and not to others?	8. How they communicate with Friesland Campina and how Friesland Campina communicates with them?
4. If they ever sold their milk to other buyers. And if so, why they did this and if not, why not?	9. For what products/services of Friesland Campina they are willing to pay and for which they are not?
5. In what way Friesland Campina helps them in their farming activities/business?	10. How they believe Friesland Campina is able to (better) compete with competitors?

28. Cooperatives as farmers' business organisations

In this presentation, Prof. Dr. Gert van Dijk, will reflect on farmer and cooperative entrepreneurship and cooperative business administration and management, among others from his experience as former Director of the National Council of Cooperatives in the Netherlands and President of the European Federation of Agricultural Cooperatives.

The focus is specifically on best practices of agricultural cooperatives, around the globe. The following topics will be addressed:

- ▶ Special characteristics and global principles of business cooperatives;
- ▶ Reasons for cooperation in food, farming and agribusiness;
- ▶ Capitalization;
- ▶ Entrepreneurial issues;
- ▶ Measures of performance: value creation;
- ▶ Main pathways of generating benefits: (i) Reduce (transaction) costs (ii) Improve market position; (iii) Realize economies of scale and (iv) improve risk management;
- ▶ Member performance
- ▶ Cooperative business administration
- ▶ Governance: 3-tier structure;
- ▶ Governance: new experiments on member democracy & collective decision making;
- ▶ Business structures and finance;
- ▶ Cooperative banking, microfinance and (micro) insurance;
- ▶ The New Generation Cooperative

After the presentation, the Q+A session allows for addressing participants' questions, discussing challenges observed in the participants' cases (see session 14) or further developing some of the topics raised in the presentation.

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
5	

Evening programme

Cooperative entrepreneurship game (Kucheza)

Research has shown the great educational possibilities of digital games. Kucheza is a digital game for playful learning in the field of financial management, business economics, and cooperative entrepreneurship. Kucheza means 'play' in KiSwahili (a language widely spoken in Eastern Africa). Kucheza's philosophy is that play shapes our brain. It stimulates our ability to analyse information, to solve problems and to learn new skills.



In this session, by playing a digital game the possible benefits of member ownership, own capital, cooperative business development ideas and collective action are explored. Teams of two or some players will be established to raise the competition.

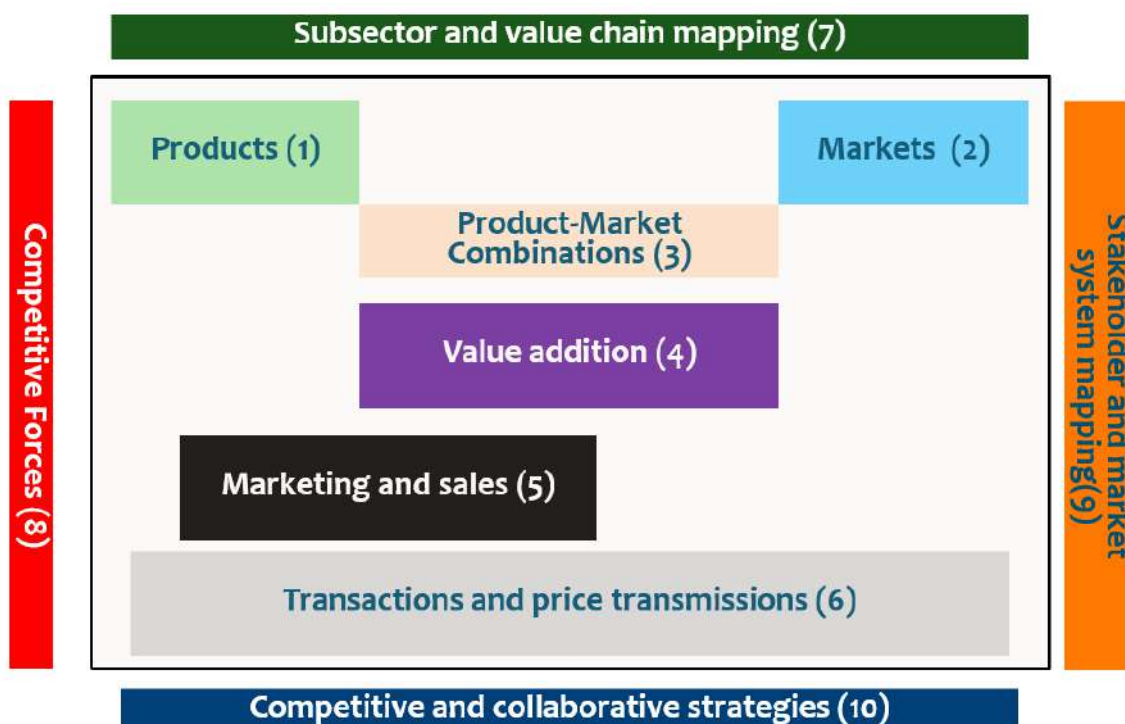
Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

▶ WEEK 2 - DAY 3 – SUB-SECTOR AND VALUE CHAIN ANALYSIS

29. Different perspectives for value chain analysis: introduction

This presentation sets the stage for the next sessions (30-34), which are devoted to value chain and market system analysis. First, the difference between sectors, sub-sectors, and value chains is explained. Then, the length and complexity of value chains are discussed, leading to the insight that different commodities and different market situations have different potential for market and chain integration.

Six reasons are put forward why value chain analysis is important for farmers and cooperatives, e.g. for: (i) market prospection; (ii) market access strategizing; (iii) market power and bargaining; (iv) operational management capacities; (v) collaborating and coordination of chain actors and (vi) involvement in policy development and advocacy. These reasons are linked to Market, Operational, Tactical and Strategic (MOST) competitive intelligence.



The presentation announces different perspectives that can be used for value chain and market system analysis:

- ▶ Product-Market combinations: exploring the diversity of products, consumer demand and market segments with the aim to define possible/promising Product-Market Combinations (session 30; 1, 2 and 3 in the figure above).
- ▶ Value addition, marketing and sales, transactions and price transmissions: exploring value adding activities and value chain operators, farmers' sales and buyers of farmers' products (transactions) price transmissions (session 31; 4, 5 and 6 in figure above).

- ▶ These different perspectives and analytical exercises are related and complementary. Together they allow for sub-sector and value chain mapping (session 32, 7 in figure)
- ▶ The analysis of 5 competitive forces allows for critically examining the competition with other farmers and farmers' organisations, the bargaining position vis-à-vis input suppliers and buyers, the risk of new entrants and the risk of substitution products (session 33, 8 in figure).
- ▶ Identification of the range of private and public sector stakeholders and market system stakeholder mapping (session 34, 9 in figure)

Value chain analysis can be from production to market (production-push) and from market to production (market-pull). For arriving at value chain development, and to be sensitive to value chain dynamics, it is important to constantly move back and forth between the production and market side.

Value chain development involves different operators on the value chain: producers, producer organisations, traders/wholesalers, processors, retailers and consumers. What is best for farmers: to take up functions such as trading and processing and then compete with existing traders and processors, or to collaborate with other value chain operators?

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

30. Product-market combinations

Perspective/Exercise 1:

Products - thinking about product diversity and product characteristics

The farmers' business cases concern the production and marketing of agricultural commodities. It is often observed that farmers talk about commodities in very generic wordings (like 'maize' or 'milk'). When you are in business, it is however important to:

- be more specific and to think of the diversity of products that can be made out of the farmers' commodity.
- To specify colours, grades, packaging conditions, ...

To facilitate the identification of products, and to be sensitive to the diversity of products, it is useful to think of four categories of products:

1. Primary products: as coming from the field, the forest, the animal or the water
2. intermediate products: primary products that got some processing and/or other operations
3. Final products: as bought by end consumers
4. By-products: side products at harvest, from processing

Several products can be identified for each of these categories:

The next step is the characterisation of the identified products for farmers (volume, status, required processing, and market perspective),

Questions For farmers:	Possible answers
What is the volume of the product?	+++ very large ++ large +/- moderate - limited
What is the status of the product?	+++ Existing, farmers can offer it to the market +/- Emerging: farmers could consider product development - New: farmers have no experience/knowledge (yet)
What are required processing activities?	Describe the processing activities and techniques/tools required, and assess whether these are feasible, costly, difficult, risk (...) for farmers. Give a score ranging from +++, ++, + to +/- or -
What is the market perspective?	+++ very promising ++ promising +/- moderately promising - hardly promising

EXERCISE 1 - Diversity of products

- ▶ First question: What are the primary, intermediate, final and by-products that can be identified? (focus on the commodity of your business case)
- ▶ Second question: What are the characteristics of the identified products?
- ▶ Use the tables on next page for the identification and characterisation of the products

COMMODITY:	
1. Primary products - ... - ... - ...	4. By-products - ... - ... - ...
2. Intermediate products - ... - ... - ...	3. Final products - ... - ... - ...

Primary products					
Products	Production volume	Status	Processing required	Market perspective	Overall assessment

Intermediate products					
Products	Production volume	Status	Processing required	Market perspective	Overall assessment

Final products					
Products	Production volume	Status	Processing required	Market perspective	Overall assessment

By-products					
Products	Production volume	Status	Processing required	Market perspective	Overall assessment

Perspective/exercise 2:

Markets - thinking about consumer demand and market segments

Also, for market demand, farmers are generally not specific enough. Often, they say: we need to improve market access, but this requires more in-depth thinking.

First of all, it is important and useful to think of different markets: village/local market, district/provincial market, national market and/or regional/international market.

For each of these markets, which can be all relevant, the following points of attention are important for further reflecting and defining market demand:

Points of attention	Possible answers
Volume of demand	+++ very large ++ large +/- moderate - limited
What are product requirements	Think of: Seasonality of demand, quality specifications, hygiene and food safety, processing requirements, bagging/packaging requirements, traceability/certification, organic, After describing the market requirements assess whether it is possible, easy, feasible (...) to satisfy the demand.
What is the consumer profile	+++ very promising ++ promising +/- moderately promising - hardly promising
What is the client / consumer profile?	- Poor – ‘Bottom of the pyramid’ - Lower middle class, - High middle class - Elite
Price that consumers are paying or are ready to pay	Prices observed: - ... - ... - ... - ... (Specify seasonality and observed price fluctuations during the year)

Answering these questions (see exercise below) helps to better prospect and specify consumer demand and market segments for the identified products in the first exercise.

EXERCISE 2 - Consumer demand and market segments

- ▶ Choose four products (from first exercise). You can choose most promising products, take one product from different categories (for instance primary, final and by-product), or you can take innovative products
- ▶ Fill out the tables below for the identified products (one table per product).
- ▶ For each of the market levels that apply (from local to international), specify the consumer demand and market segments according to the different parameters.
- ▶ Give observations to explain specific situations.

PRODUCT 1:				
Market locations	Local / village	District/Province	National	Regional/ international
Volume of demand				
Product requirements				
Consumer profile				
Prices and seasonality				
Observations				

PRODUCT 2:				
Market locations	Local / village	District/Province	National	Regional/ international
Volume of demand				
Product requirements				
Consumer profile				
Prices and seasonality				

Observations				
---------------------	--	--	--	--

PRODUCT 3:				
Market locations	Local / village	District/Province	National	Regional/ international
Volume of demand				
Product requirements				
Consumer profile				
Prices and seasonality				
Observations				

PRODUCT 4:				
Market locations	Local / village	District/Province	National	Regional/ international
Volume of demand				
Product requirements				
Consumer profile				
Prices and seasonality				
Observations				

Perspective/Exercise 3:

Product-Market combinations

Having thought about 'Products' and Markets' (exercises 1 and 2), allows to identify Product-Market Combinations (PMC). **A Product-Market-Combination is a combination of a specific product to a specific consumer group at a specific market location.**

The description of a PMC should thus be describing the product, the consumer group and the market location in the most specific manner. For instance:

- ▶ Fresh maize for poor consumers at local market
- ▶ Yellow maize for chicken producers in provincial towns
- ▶ Fortified maize flour for urban middle class purchasing in urban supermarkets
- ▶ Dried maize (grain) for women who will mill it themselves at the local market
- ▶

EXERCISE - Product market combinations

- ▶ Fill out the table below and make an overview of the different specific Product-Market Combinations (PMC). **Note that each specific combination of product-consumer-market location is a PMC, so there can be many combinations.**
- ▶ Use the first three columns to have the three elements for defining a PMC.
- ▶ Then describe the PMC in a precise manner!!!
- ▶ Indicate the importance of each PMC for your business case.

Product	Consumers	Market location	"Detailed description of Product-Market combination"	Importance

(Importance: high, intermediate, low)

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

31. Value addition, transactions and price transmissions

Perspective/Exercise 4:

Current and potential value adding activities

Before reaching the market, a product follows a certain trajectory: from field to fork. A value chain is defined as a sequence of related productive and commercial activities: from primary production, to storage, transport and processing, to marketing and sales (wholesale, retail), and finally to the consumption of the final products by end consumers. At each stage, the product becomes more attractive/available to customers and its value increases. To do so, value-adding activities have to be conducted (which do however come at a cost of course). The difference between the costs on the one hand and the additional value creation on the other hand is the net value created.

There are many options and possibilities to create value. The first column in the table below enumerates possible Post-harvest (PH) value adding activities. The second column identifies value chain operators who could be the ‘value adders’.

Possible PH value adding activities	Value chain operators who can add value
<ul style="list-style-type: none"> ▶ Drying, threshing and winnowing ▶ Cleaning, sorting and grading ▶ Storing and conserving ▶ Transporting ▶ Processing (home, semi-industrial, industrial) ▶ Bagging/packaging (re-bagging/repackaging) ▶ Branding - labelling ▶ Tracing and certifying 	<ul style="list-style-type: none"> ▶ Farmers ▶ Farmers’ organizations ▶ Traders ▶ Processors ▶ Wholesalers ▶ Retailers (different types) ▶ Exporters

EXERCISE 4 - Value addition activities and options for farmers

- ▶ Fill out the table below
- ▶ For all (possible) value adding operations mention what is currently being done (second column) and who is currently doing it (third column)
- ▶ Then reflect whether farmers and their organizations could improve their current performance (for value adding activities they are doing already) or if they could take up new functions along the value chain. Put this reflection in the fourth column.
- ▶ The fourth column is input for a strategic reflection concerning farmers’ and FO value adding activities. You may put a first analytical text in the box below the table.

- VALUE ADDITION – Post-harvest value adding activities and product development

Value adding activity domains	What is being done in the commodity sector?	Who is currently doing it?	What could farmers do?
Drying, threshing, winnowing			
Cleaning, sorting and grading			
Storage and conservation			
Transport			
Home / local processing			
Semi-industrial / industrial processing			
Bagging and packaging			
Use and valorisation of by-products			
.....			

Strategic considerations (value adding activities of farmers and farmers' organization)

**Perspective/Exercise 5:
Marketing and sales- current buyers of farmers' products**

Farmers can sell their product at different levels, from farm gate level to international level. Farmers can sell primary products or they can sell products for which value adding activities have been done.

There are many options and possibilities for value chain operators, including farmers and their organisations to improve marketing and sale: market information and prospection, improving access to different market segments, contract farming and outgrowing, better price negotiation and improved price and weight transparency, product promotion, branding and labelling, certification and traceability,

EXERCISE 5 - Marketing and sales and options for farmers

- ▶ Fill out the table below
- ▶ For all activity domains that are relevant for marketing and sales: make an analysis of the current situation (second table). What is done and not done? What are challenges and opportunities?
- ▶ Then reflect whether farmers and their organizations could improve their current performance (for marketing and sales activities they already do) or if they could take up new activities to improve marketing and sales. Put this reflection in the third column.

- MARKETING AND SALES – Commercial activities and market development

Marketing and sales activity domains	What is the situation in the commodity sector? What is done and not done? What are challenges and opportunities?	What could farmers do ?
Market information and prospection		
Market access and segmentation		
Contract farming and outgrowing		
Price negotiation and transparency		
Weight transparency		
Product promotion / marketing		
Branding and labelling		
Certification and traceability		
Marketing infrastructure		

The table above, especially the third column, is input for a strategic reflection on possibilities for improving farmers' commercial relations. Think of questions like:

- ▶ Until what stage are farmers still the owner of their product?
- ▶ Can intermediary buyers be excluded so as to develop shorter value chains? If so, what do farmers and their organizations need to do?
- ▶ Could farmers sell at higher market levels? Why don't they?
- ▶ Can existing farmer-buyer relations be improved?
- ▶ Can new supplier-buyer relations be established?
- ▶ Can other/new modalities like contract farming be considered?

You may put a first analytical text in the box below.

Strategic considerations for improving farmers' commercial relations

Perspective/Exercise 6: Transactions and price transmissions

As the products move along the value chains, the value increases. The closer the product gets to the end consumer, the higher the price that is paid. It is very interesting to track the transactions and price transmissions along the value chain, from producer to consumer, with all intermediate levels in between.

EXERCISE - Transactions and price transmissions

- ▶ Fill out the tables below for several value chains, at least the most important and promising PMC's/value chains. These include all transactions and price transmissions. Each row is for one transaction.
- ▶ The overview always starts with the farmer and ends with the end consumer, it goes from field to fork.
- ▶ The number of transaction lines depends on the length and complexity of the value chain, the product development operations, transport, wholesale and retail.
- ▶ The buyer of a product becomes the seller on the next line of the overview (who is selling a product that has got additional value)
- ▶ Sometimes you may not know the buyers involved in the transaction or the prices that are paid. If so, still fill out the row, but put in question marks (?) and make observations.

Value chain 1:

.....

Seller (who)	Product (what)	Location (where)	Buyer (who)	Prices			Observations
				Min	Max	Av	
Farmer							
			End consumer				

Value chain 2:

.....

Seller (who)	Product (what)	Location (where)	Buyer (who)	Prices			Observations
				Min	Max	Av	
Farmer							
			End consumer				

Value chain 3:
.....

Seller (who)	Product (what)	Location (where)	Buyer (who)	Prices			Observations
				Min	Max	Av	
Farmer							
			End consumer				

Value chain 4:
.....

Seller (who)	Product (what)	Location (where)	Buyer (who)	Prices			Observations
				Min	Max	Av	
Farmer							
			End consumer				

The analysis of transactions and price transmissions is input for strategic reflections. Important questions are the following:

- ▶ What are the prices at different stages?
- ▶ What is the value and what are the benefits that accrue to different chain operators?
- ▶ What part is for primary producers?
- ▶ Inclusion question: What part is for different household members: men, women; youth?

You may put a first analytical text in the box below, answering these kinds of questions!

Strategic considerations

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

32. Subsector and value chain mapping

Sub-sector and value chain mapping

A sub-sector and value chain map facilitate value chain analyses, and harnesses the results of the analyses made in the 6 preceding exercises:

- ▶ Products - Markets and Product-market combinations (session 31; exercises 1, 2 and 3)
- ▶ Value addition, marketing, transactions and price transmissions (session 32, exercises 4, 5 and 6)

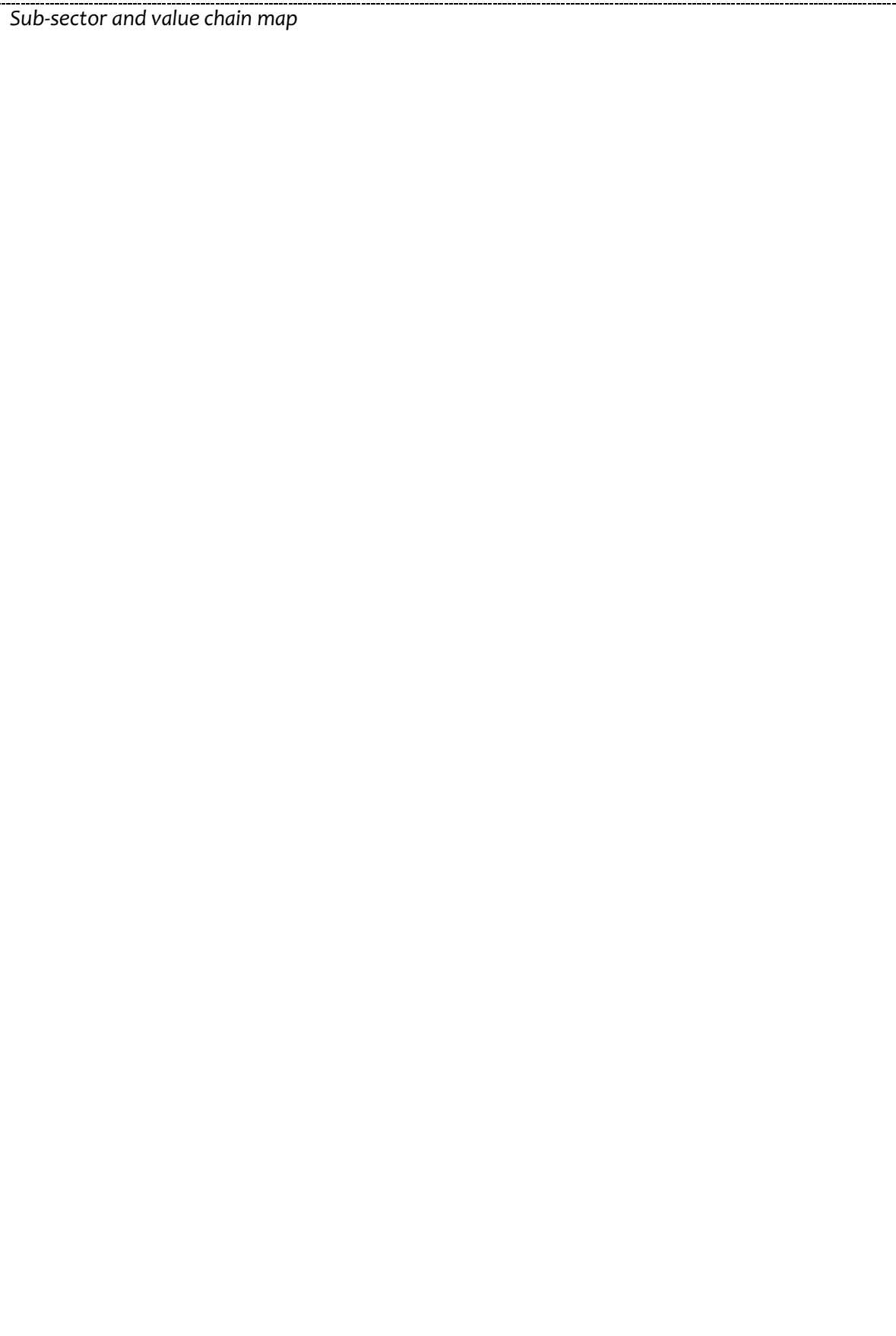
EXERCISE 7 - Subsector and value chain mapping

- ▶ Map out the product-market combinations that have been identified
- ▶ Draw for each product how it goes through different channels to different consumer and market segments. The picture thus includes the diversity of products and consumer and market segments (e.g. the product-market combinations).
- ▶ Show as much as possible all intermediary steps and operators, e.g. show the value chain operators engaged in value adding activities and show the transactions along the value chain (selling and buying of primary-intermediate-final and by-products).
- ▶ For the prices you have: put the prices from producer to consumers, and all intermediate levels (in local currency)

We suggest presenting the sub-sector and value chain mapping on a flipchart. It will visualize your farmers' agribusiness case after having done different value chain analyses. You can copy it in the box below, or take a picture of the flipchart and include this picture.

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

Sub-sector and value chain map



▶ WEEK 2 - DAY 4 – MARKET SYSTEM (MORNING) AND TRAINING OF TRAINERS (AFTERNOON)

33. Five Competitive Forces

Five Competitive Forces are important for analysing the power relations, competition and competitors. This raises attention for the fierce competition and risk that farmers and farmers' organizations have to deal with. These competitive forces are the following: (1) Bargaining power of suppliers; (2) Bargaining power of customers; (3) Rivalry (among producers); (4) Threat of new entrants and (5) Threat of substitutes. The objective of the Five Competitive Forces analysis is to make a thorough analysis about competition and competitors, do proper risk management and prepare for strategies to face stiff competition.

EXERCISE - Five Competitive Forces and dealing with competition and competitors

- ▶ Answer the questions induced by Porter's Five Competitive Forces.
- ▶ Put the key words in the Five Competitive Forces figure.
- ▶ Reflect on how to deal with competition and competitors

Questions for 5 competitive forces	Answers
1. Bargaining power vis-à-vis input suppliers <ul style="list-style-type: none"> ▶ What are the current relations between farmers and suppliers of production factors? ▶ Can members and/or FO improve marketing and bargaining position? ▶ Can access to inputs be improved? Can quality and time of delivery be improved? ▶ Can costs be reduced? 	
2. Bargaining position buyers/consumers <ul style="list-style-type: none"> ▶ What are the current relations between farmers and the current buyers of their products? ▶ Can members and/or FO improve marketing and bargaining position? ▶ When and where can higher prices be obtained? 	
3. Rivalry - Competition among producers in same production area <ul style="list-style-type: none"> ▶ Are other farmers going to copy? ▶ Are members of FO doing or going to do better than other producers? ▶ Why? How? 	
4. Threat of new entrants <ul style="list-style-type: none"> ▶ Are there competitors from other production zones (in the country and region)? ▶ Is their price lower, quality higher? ▶ What will happen with prices when more produce flows on the market? 	
5. Threat of substitutes <ul style="list-style-type: none"> ▶ What are substitute products consumers can turn to? ▶ What are the risks and how can these be reduced? 	

Put the key words of the analysis of the 5 competitive forces in the figure below:

Bargaining power of suppliers <ul style="list-style-type: none">▶▶▶	Rivalry <ul style="list-style-type: none">▶▶▶	Bargaining power of customers <ul style="list-style-type: none">▶▶▶
	Threat of new entrants <ul style="list-style-type: none">▶▶▶	Threat of substitutes <ul style="list-style-type: none">▶▶▶

Dealing with competition and competitors

Develop a strategy for dealing with competition and competitors based on the analysis of the competitive forces. Possible elements are answers on the following questions:

- ▶ What are the most important competitive forces, competitors and risks?
- ▶ What are options and possibilities to deal with these and reduce risks?
- ▶ What should farmers and FO do?
- ▶ What can others do?

Dealing with competition and competitors

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

34. Market system stakeholder mapping

In agribusiness, there are many stakeholders that have to work together. These stakeholders can be classified according to four major actor groups (operators, supporters, enablers and externally funded facilitators). See the box below for more information on these groups.

Value chain Operators: are entrepreneurs/ enterprises performing basic functions on a value chain. They create value and own the product at some stage. Think of: producers, processors, traders, wholesalers, exporters, and retailers.

Value Chain Supporters: provide support services to chain operators: business to business (B2B) services. This means that chain operators pay for the services. Chain supporters have a stake in the value chain, but do not own the product. Think of: Labourers, agro-input providers and seed companies, financial services (Banks, MFIs, SACCO's, informal money lenders), middlemen and brokers, transporters, storekeepers, equipment suppliers, electricity and water suppliers, agribusiness support services). These are private (including cooperative) services. Public sector organizations can also provide support services to chain operators. However, these are not B2B services but government services, paid from government budget. Public sector services are put under value chain enablers.

Value Chain Enablers: define and control the policy and business environment, they create conditions for private sector to do business (may be disablers too...). Value chain enablers are predominantly public sector organizations: Government structures at different levels, all kinds of public services. Think of: Ministries, Government agencies (such as Cooperative Promotion Agency, Inspection services, Bureau of Standards...), Local government and local administrative offices, Research / Universities, Extension, Law enforcement (police, courts, border control), Tax revenue authority,

Externally Funded Facilitators: are actors like Donor-funded development projects and programs, International development organizations, donor-supported international and national NGO's, externally funded Business Development Services, The activities of these actors are based on funds that are not generated in the national economy.

EXERCISE - Stakeholder mapping ('hamburger')

- ▶ Identify all the stakeholders that are directly and indirectly important for your farmers' business case (one stakeholder per card) --> be specific!!!!
- ▶ Use four different colours for the four stakeholder categories.
- ▶ Arrange the stakeholders according to the 'hamburger' shape:
 - ▶ Start with the value chain operators, arrange them from field to fork (from left to right).
 - ▶ Arrange the value chain supporters in a half moon circle above.
 - ▶ Arrange the value chain enablers in a half moon circle below.
 - ▶ Put the externally funded facilitators at the right-hand side.

Draw the 'hamburger' for your case on the next page.

--	--	--

EXERCISE - Current and potential stakeholder roles

- ▶ Reflect, for each of the identified stakeholders, on their current roles and importance as well as their potential/desired roles and importance.
- ▶ For the current situation (second column): do not shy away for highlighting weaknesses, insufficiencies, lack of commitment, resources, quality etc. Do also not hesitate to highlight the strategic importance of a partner.
- ▶ Think creatively about how the market system and stakeholder relations could possibly change and make suggestions; launch ideas (third column).

Value chain operators	Roles and collaboration	
	Current situation	Potential situation

Value chain supporters	Roles and collaboration	
	Current situation	Potential situation

Value chain enablers	Roles and collaboration	
	Current situation	Potential situation

External facilitators	Roles and collaboration	
	Current situation	Potential situation

Competitive and collaborative strategies

Reasoning back from market demand and considering current strengths and weaknesses, the paragraphs below outline strategies for:

- a) Most promising Product-market combinations/value propositions (which products, consumers and markets?) and competitive strategies (competition on price, quality, timing, product distinctiveness?).
- b) Options to improve current farmers and FO production and marketing activities.
- c) Options for repositioning and new roles of farmers and farmers' organizations.
- d) Improved collaboration of farmers with other stakeholders.

EXERCISE - Competitive and collaborative strategies

- Write a short text in each of the four boxes. Describe the strategy/strategic orientation and explain the reason(s) why.

Most promising product-market combinations / value proposition:	Options to improve current production and marketing activities:
Options for repositioning and new roles of farmers and farmers' organizations:	Possibilities for improving stakeholder relations:

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

35. RISE: a framework for analysing agricultural arenas and reflecting on strategies for farmer empowerment

RISE (Rural Innovation Systems and Entrepreneurship) is a conceptual framework for entrepreneur-driven innovation. RISE provides different, complementary lenses for looking at agribusiness development dynamics:

1. farmers
2. farmers' organisations
3. value chains
4. bulking nodes
5. multi-stakeholder setting
6. market systemic perspective
7. externally funded support and facilitation.

These 7 perspectives are used to make a mid-term recapitalization of the course.

It is sometimes observed that: “nothing is as practical as a sound conceptual framework as it helps to develop a coherent analytical perspective and sound intervention approach”. RISE integrates approaches and concepts related to value chain development (Value links), institutional economics, market system development (MMW4P), transaction economics, rural innovation systems, RAAKS and others.

Referring to Value Links (ValueLinks Association 2009), RISE distinguishes three major actor groups: chain operators, supporters and enablers (see session 34). Donor agencies and external facilitators constitute a specific additional fourth group of actors. They are part of rural innovation systems and of the reality of agribusiness development in most countries in Africa and Asia. An important reason to specifically distinguish this group is that these externally funded actors are not (or should not be) part of the local market system.

RISE stresses that the different actor groups and specific players need to interact. Multi-stakeholder collaboration is important for developing well-functioning agrifood production and market systems, to reduce transaction risks and costs, and to arrive at competitive, sustainable and inclusive value chain development. These are public-private partnerships in practice. Specific attention is needed for the relation between farmers and their organizations on the one hand and companies operating at ‘bulking nodes’ on the other hand (farmer-firm relations).

RISE distinguishes 4 major strategies for farmer empowerment on value chains:

1. Improve role and position as professional producers
2. Improve collaboration with chain operators, as well as with chain supporters and enablers (bridging social capital)
3. Undertake more activities on the chain and/or undertake input provision services to reduce costs and/or create added value
4. Influence enabling environment (linking social capital)

RISE suggests the following operational orientations for agricultural development support:

1. Farmer-firm relations are essential for resilient and sustainable agribusiness models.
2. Innovations are likely to occur around bulking nodes, which provide the link between farmer-suppliers and consumer demand and market requirements.
3. Agribusiness development requires innovative collaborative arrangements among different groups of actors in the market system. Specific interfaces can be developed to address 'burning issues' in the market system.
4. Donors and external facilitators should focus on agribusiness development coaching and not take up functions in the local market system (such as providing credits), buying participation or donate or subsidize heavily.
5. Development programmes should start off with entrepreneurial initiatives of local entrepreneurs (farmer organizations, processing or trade enterprises).

These orientations are taken up in the agribusiness cluster development approach (see session 52 in week 3).

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

36. Training others – Facilitating learning

In this session the principles of adult learning will be reviewed in a more elaborated manner. You will reflect upon the impact of different learning styles on facilitating learning. What characteristics exhibit good facilitators is a question that we will address according to our own experiences with training.

Among others, the importance of creating an enabling learning environment, undertaking training needs analysis are topics that would be touched upon during this session.

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

37. Training others

Training others forms for many of us an integral part of our job. Facilitating a good training requires insights into how your participants learn and knowledge and skills on how to design and deliver a training.

Defining learning objectives

It is important to make explicit what you want to achieve with a training, because ‘if you do not know where you want to go, you end up anywhere’. Formulating learning objectives helps you to define where you want to go.

The formulation of learning objectives

By [WHEN], [WHO / WHAT] + action verb....., [HOW, WHY (remember to specify results)]

Example:

By the end of the course at least 75% of the participants are able to explain the importance of formulating learning objectives for each training

Sample action verbs to formulate learning objectives

Knowledge Acquisition and Utilization	Skill building	Attitude Change
To identify	To demonstrate	To challenge
To list	To produce	To defend
To compare and contrast	To calculate	To judge
To describe	To adjust	To question
To differentiate	To install	To accept
To prepare	To assemble	To adopt
To recall	To operate	To advocate
To classify	To detect	To bargain
To categorize	To locate	To cooperate
To chart	To isolate	To endorse
To rank	To arrange	To justify
To distinguish	To build	To persuade
To explain	To conduct	To resolve
To outline	To detect	To select
To analyse	To execute	To dispute
To evaluate	To fix	
To formulate	To lay out	
To investigate	To perform	
To modify	To sort	
To report		

Try to avoid: know, understand, are aware of...

EXERCISE – Topic of you session

- ▶ Please describe the topic of your session in a few sentences

EXERCISE – Define 2-4 learning objectives for your session

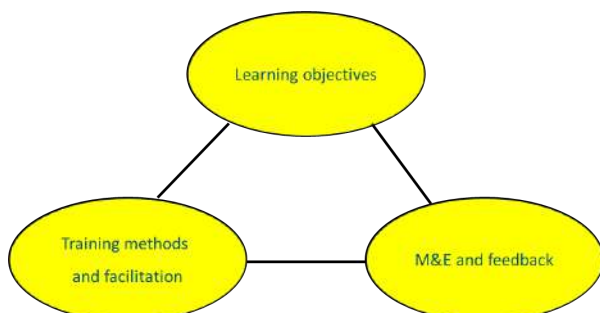
- ▶ Define 2 to 4 learning objectives for your session

By the end of this session, participants:

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

The learning triangle

The action verb in your learning objective steers your choice for a training method and M&E tool. If the action verb is on a knowledge level then your training methods and M&E tool need to facilitate your learners to learn on a knowledge level. The same goes for a learning objective that is formulated on a skill or attitude level. For example, if the learning objective is that participants are able to demonstrate a skill at the end of the training, then the training methods needs to be practical so participants can practice the skill and an M&E tool should allow them to demonstrate whether they master the skill at the end of the training.



Training methods

The table below gives an overview of possible training methods to use in a training. Of course there are many more.

Training Methods	Examples
1. Pre-course assignment	
2. Introduction tools	1. Body poster, 2. Alliteration names, 3. Bring a symbol
3. Activating prior knowledge	1. Questioning, 2. Debating statement
4. Buzz groups	
5. Case studies	1. Cases from own experience
6. Group work	
7. Lectures/ppts	
8. Tests	1. Learning style test
9. Quiz	
10. Brainstorm sessions	
11. Reflection exercises	1. Associative cards, 2. Speed dating, 3. Fish bowl
12. Visual aids	1. Videoclips, 2. Pictures
13. Demonstrations	
14. Field work/ study tour	1. Walks, 2. Observation, 3. Practical
15. Collecting ideas/story harvesting	
16. Provide background reading material	
17. Energizers	1. Counting till 7
18. Simulation exercises/games	
19. Practical and laboratory	
20. Debate	1. Debating statements
21. Guest speaker/expert opinion	1. Story telling (by elders)
22. Mapping	1. Rick picture, 2. Problem/situation mapping
23. Visioning	1. On paper, 2. Using physical material
24. Fishbone	
25. Making a SWOT-analysis	
26. Group discussion	1. Think, group, share
27. Theatre	1. Living statutes
28. Role-plays	
29. Problem/solution tree	
30. Flow charts, mind maps, spider diagrams	
31. Using metaphors	
32. Behaviour games	1. Monopoly mapping, 2. 'Money-games'
33. M&E tools	

Session plan

To prepare a session in a structural way you can use a session plan. A session plan gives an overview of the learning objectives, the trainers, training methods, M&E tools, timing and content.

Title of the session:

Duration: 30 minutes

Facilitator(s):

After completion of this session, participants:

1)

2)

3)

Time	Content/Topic	Training Method(s)	Materials needed	Additional notes

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

▶ WEEK 2 - DAY 5 – TRAINING OTHERS (MORNING) AND ICT (AFTERNOON)

38. Training others – Presenting training sessions

Designing and facilitating a training is a skill. During this session you therefore present your prepared session to the group. The group will provide you with feedback for you to learn.

Some reminders for **giving** feedback:

- Feedback is *your* opinion
- In your wording, distinguish: observation, interpretation, effect on you
- Avoid using words like 'never' and 'always'
- Speak directly to the person you give feedback to
- Mix positive and negative feedback

Some reminders for **receiving** feedback

- Feedback is not meant to put you down, but help you to getting insights for you to learn
- Ask questions
- If you feel offended, speak about it
- Try not to defend yourself
- Decide later

EXERCISE – Observation questions

- ▶ Use the observation questions below to provide feedback

Person 1

1. How do you assess the instructional design of the various assignments?

2. How do you assess the triangle? Was the relation between session objectives, teaching method(s) and M&E tool(s) done in the right way?

3. In which way are the learnings around knowledge, skills and attitudes covered in the session learning objectives? Could they have done this differently in your opinion?

4. How did the group monitor and/or evaluate whether the learning objectives were met?

Person 2

5. What are your general observations on the facilitation of this session, what feedback can you give to the team?

6. Were some of the learning principles applied? Which ones? What was the effect on learning?

7. Did the team make you learn? What was the key learning moment, and can you explain why learning took place?

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5

39. Information and Communication Technology: what are the options?

Information and communications technology (ICT) offer a growing number of ways to exploit opportunities and address constraints to value chain growth and competitiveness. Understanding a few key trends related to ICT can be helpful in identifying if, when and how ICT can be used to improve value chain competitiveness—even for those who do not consider themselves to have an advanced understanding of technology.

Some key trends

- 1) Mobile phone networks are expanding and improving dramatically, particularly in developing countries, and can now be used for applications, not just voice communication. This means that cell phone users can securely communicate with other cell phone users—sending text information, numerical data, photos, etc.—over mobile phone networks.
- 2) Internet access is becoming easier and cheaper to extend to previously unserved areas using new technical approaches such as wireless connectivity, and business models geared toward individuals with low cash flows, such as pay-as-you-go applications.
- 3) Different forms of technology are evolving to perform similar tasks—a process called convergence. For example, one can use the Internet to make phone calls or see videos and use a mobile phone to browse the Internet and take pictures. Convergence offers more flexibility to consumers but can present unique challenges to regulators who have traditionally regulated these media separately
- 4) Devices themselves are becoming cheaper, sturdier and more energy-efficient. Part of the reason for this is that manufacturers are tuning in to the growing market demand in developing countries and are creating and targeting products specifically for those consumers.

Because of these trends, the development and implementation on ICT applications in the agricultural domain have increased significantly. The ICT applications developed can be broadly categorised in three types of Agriculture Value Adding Services (VAS): 1. Extension advisory services, 2. Supply chain management and 3. Financial inclusion services.

Three guest speakers will share their experiences with ICT in agricultural value chains:

- Lisanne de Bakker from Proportion Enterprise will talk about their efforts to help youth to start up ICT enterprises in the project Vijana Reloaded in Kenya (<http://www.vijanareloaded.com/#wearevijanareloaded>)
- Pascal Murasira from Rwanda will share his experiences with using Artificial Intelligence in ICT applications (<https://www.wefarmers.info/>)
- Lan Ge, working as a researcher at Wageningen University, will share the results of a study on the application of the blockchain technology in Agricultural value chains.

Learning Tracker	
Key insights for me and my work situation	What I can use / what I can do
Observations on this session	Score
	0
	1
	2
	3
	4
	5