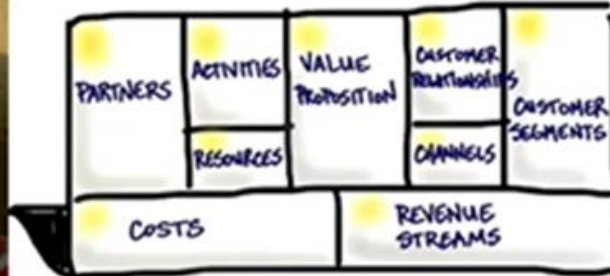




Promotion of business models in agricultural value chains – Business Model Analysis



BUSINESS MODEL CANVAS





Promotion of business models in agricultural value chains

Q 1: Some business models have net advantages for value chain development. If we promote these models, many VC actors will benefit.

Agree

Disagree

Why or why not?

Q 2: We are knowledgeable VC development experts. We are able to advise VC actors on what is a good business model to invest.

Right

Wrong

Sometimes

Any comments on these questions?



What is a business model?

A business model is...

...the specific combination of product/markets, internal operations and technology, supply and marketing links that an enterprise uses to succeed and grow.

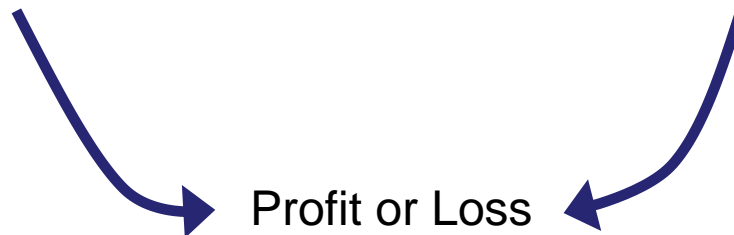
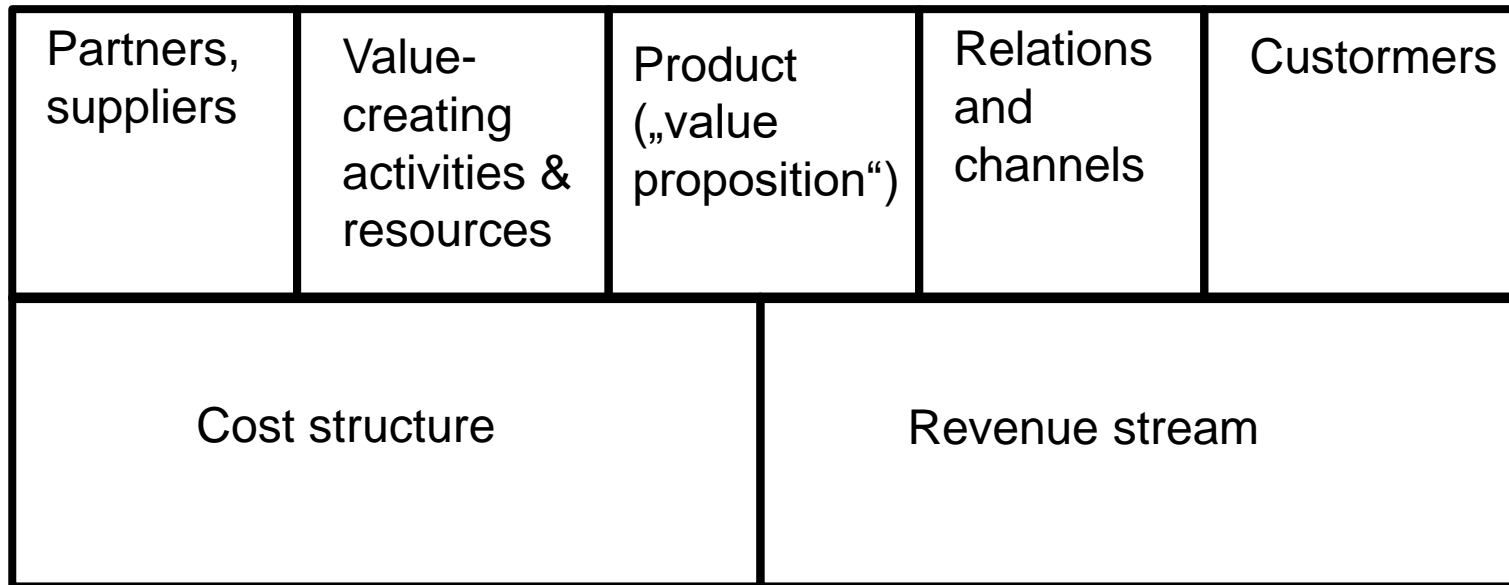
- Wikipedia: “A business model shows the rationale of how an individual firm creates, captures and delivers value.”¹
- Every enterprise has a business model, either implicitly or explicitly.

1) Source: Ostenwalder, Pigneur (2010), The Business Model Generation



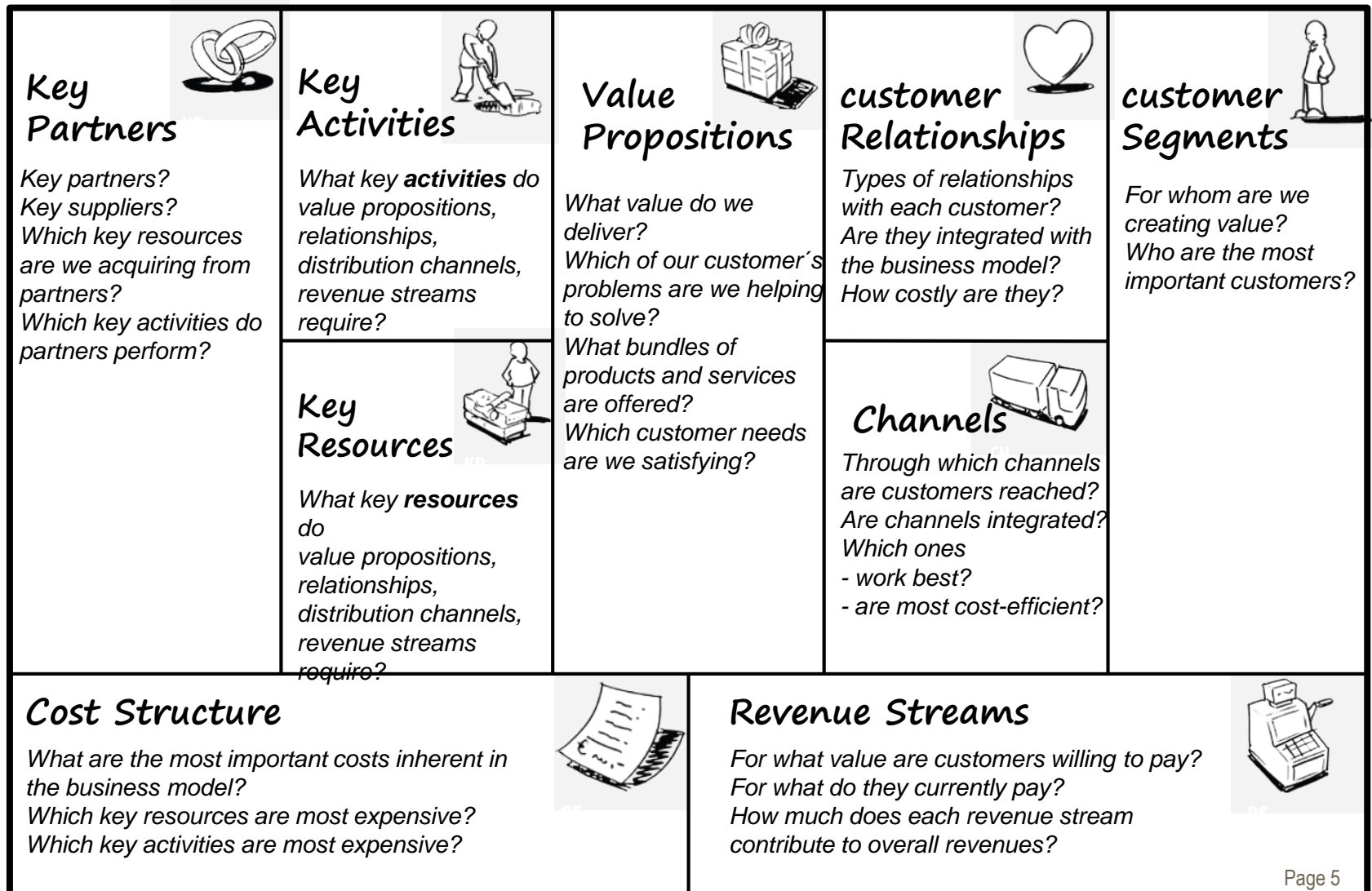
How can we describe a business model?

Business model canvas - Simplified format





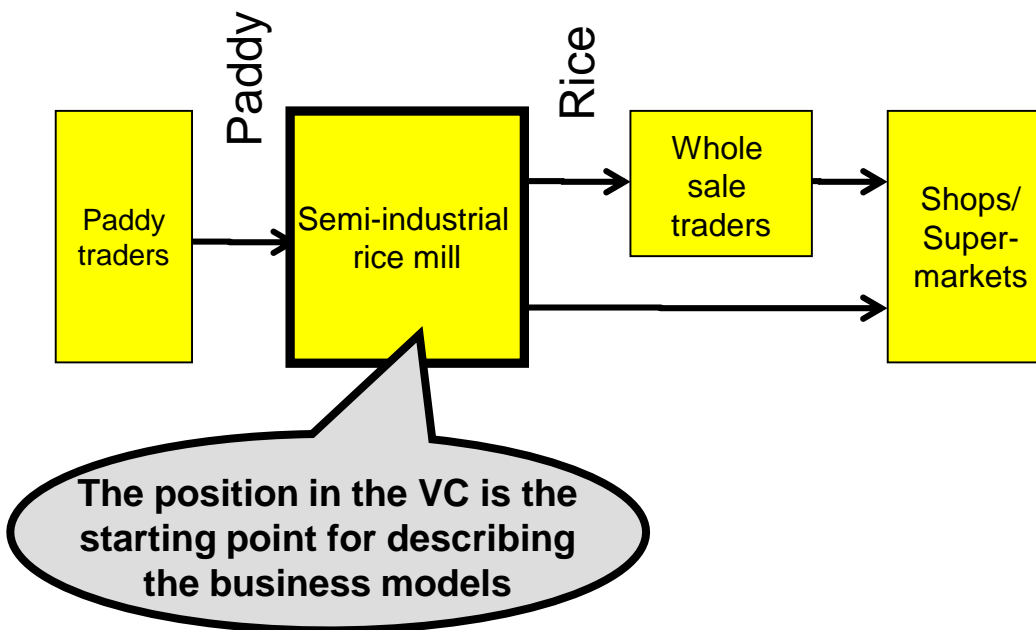
Complete format of the business model canvas





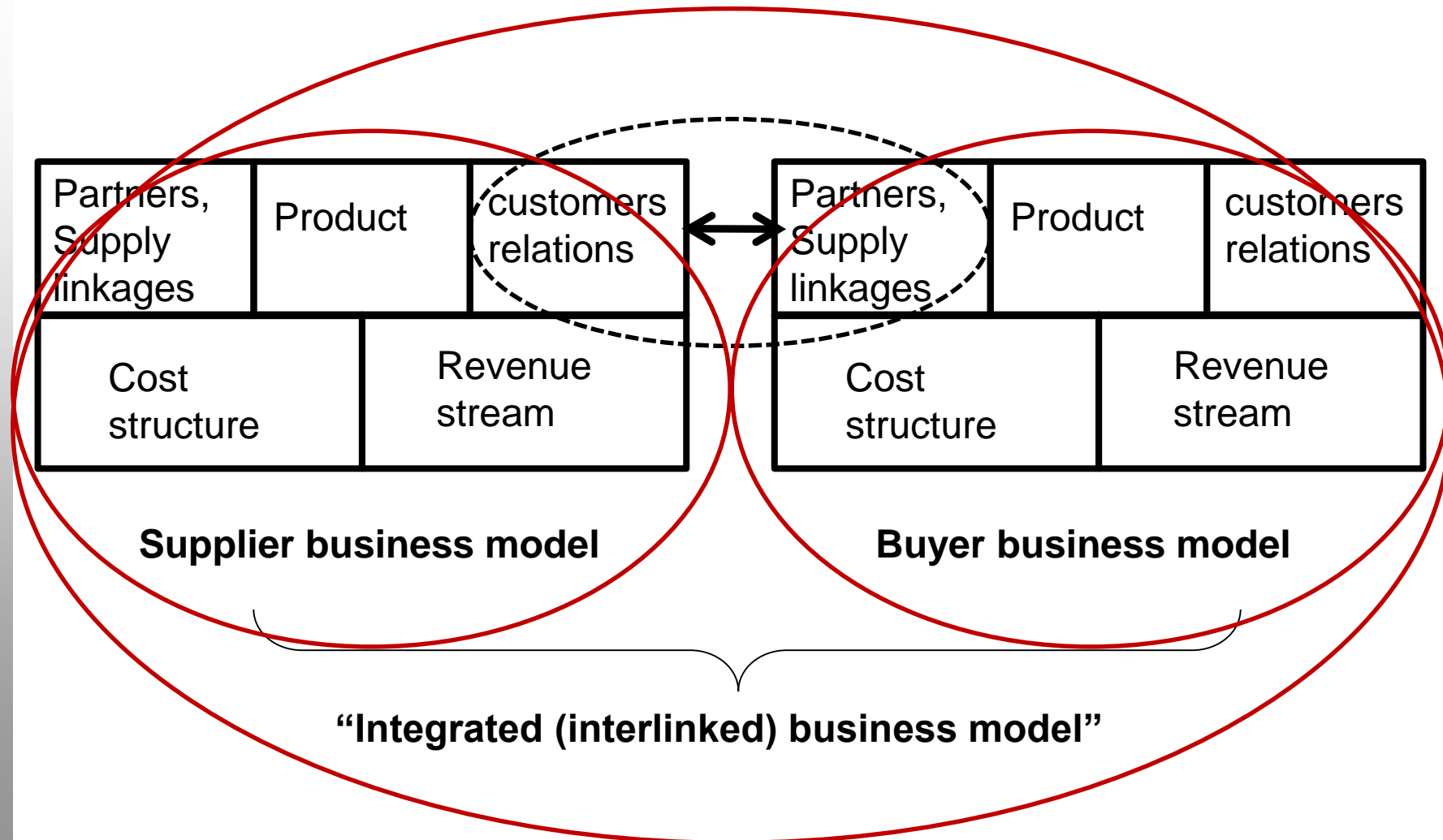
How do business models relate to the value chain?

- The value chain as a whole can be decomposed into business models of specific types of operators who follow a similar business model.
- Value chain development implies improving the business models of operators.





The connection of business models along the chain





What is the significance of financial biz model analyses?

The business model is a system. If we seek greater profitability and income of farmers and SMEs, we have to be aware of other financial parameters in their business models that will change in parallel.

Critical financial parameters include:

- the minimum volume of products made and sold (production scale)
- the volume of raw material, inputs and number of workers required
- technical efficiency ratios (e.g. yields, transformation rates, energy consumption)
- ability of the enterprise to repay loans

- And there are still more issues to consider...



How can we use the business model approach?

- It helps improving existing business models, especially for small enterprises;
- It helps to identify and compare sustainable businesses: Social businesses, inclusive businesses, green business models etc.
- It can generate new ideas, develop new business cases to create jobs and market access
- We can introduce technical innovations based on a holistic economic assessment
- We can support the replication of improved business models;
- It is a tool for verifying that suggested VC solutions (such as linkages, service provision, financing) are financially attractive.



What are major challenges of promoting business models?

- Do we have sufficient understanding of markets, technologies and costs? Do we have enough access to sensible data and information, e.g. as an industrial entrepreneur has?
- The decision to invest and the risks have to be taken over by the entrepreneur.
- There are limits to replicating interesting business models because of limited market demand.
- There may be unintended negative side effects: Affecting negatively the market position of pioneers and competing companies, job losses due to mechanization.
- Do companies have access to finance for realizing interesting investments?



Global Project - «Promotion of agricultural finance for agri-based enterprises in rural areas»

(GV AgFin)

Turning Business Models into Finance

Bonn, 05.04.2018





Agenda

- **Overview of the project GV AgFin**
- AgFin Business Model analysis
- Turning business models into finance- examples from Benin





GV AgFin: Guiding Principles

- **Title:** Promotion of agricultural finance for agri-based enterprises in rural areas
- **Objective:** The supply of farms and agri-based enterprises in rural areas with financial services adapted to their business models is improved
- **Direct Target Group:** Emergent farmers, rural agricultural SMEs and cooperatives
- GV AgFin is designed to support other bilateral/regional projects – especially the global **Green Innovation Centre Projects**



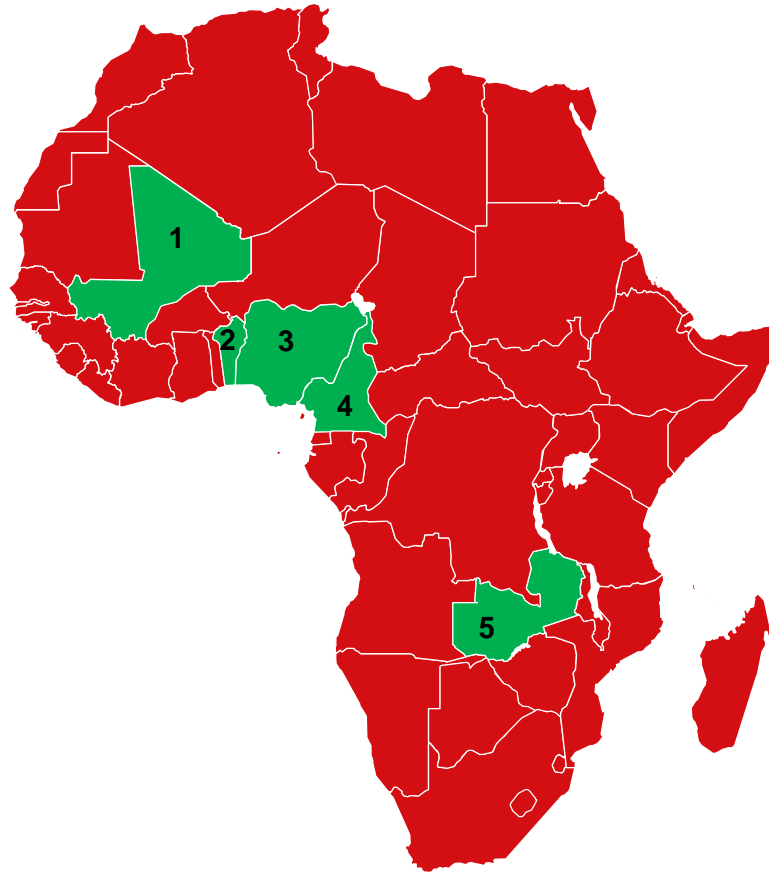
GV AgFin





GV AgFin: Countries of Operation

1. Mali (in 2018)
2. Benin
3. Nigeria (in 2018)
4. Cameroon (in 2018)
5. Zambia





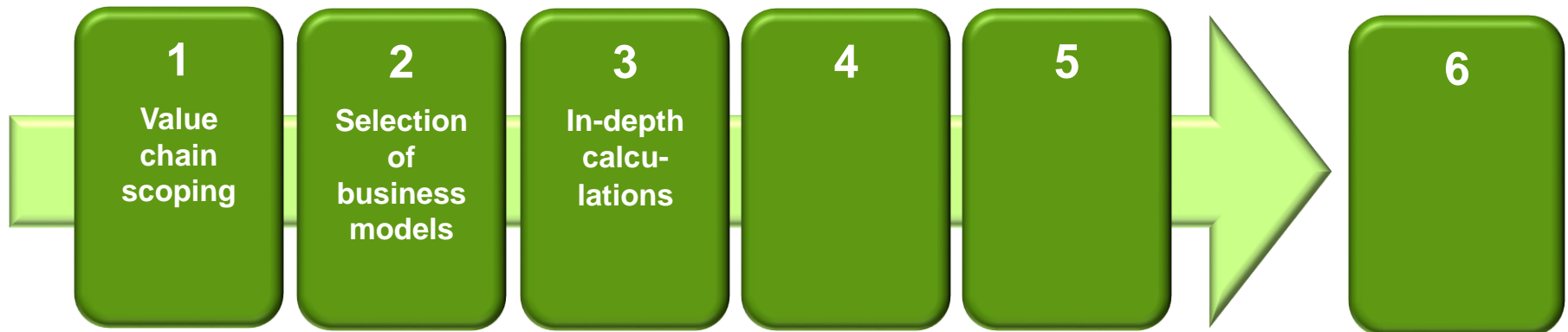
Agenda

- Overview of the project GV AgFin
- **AgFin Business Model analysis**
- Turning business models into finance- example from Benin



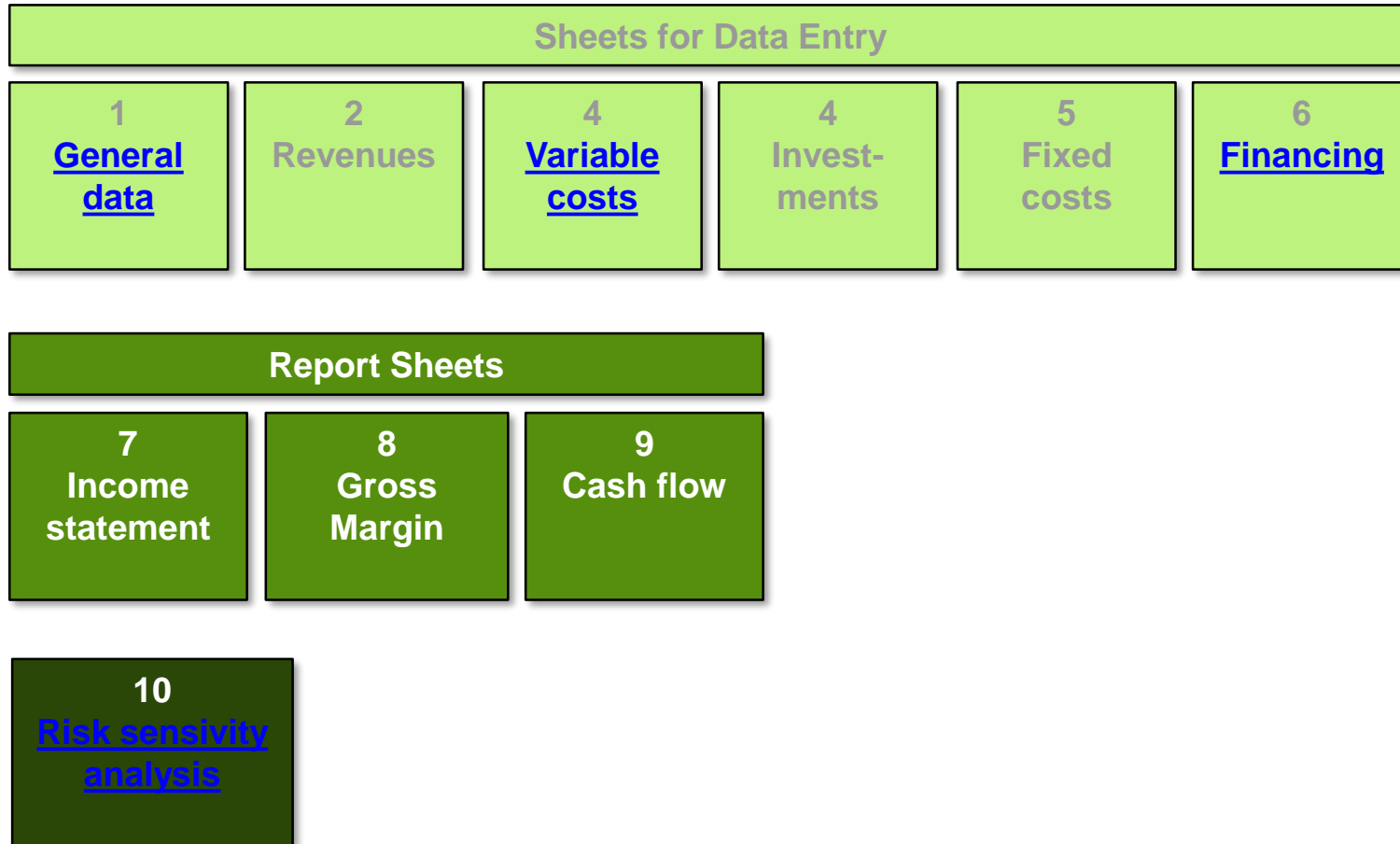


Process of the AgFin business model analysis





Business Model Calculation Tool





Business Model Calculation Tool

- **Figure from the Business Model:
Improved cashew nursery**

General data

Currency	FCFA
Exchange rate (1 EUR ≈ ... FCFA)	656
Applicable tax rate	25%
Interest rate charged for investment credit	12%
Interest rate charged for working capital loan	18%
Name of existing scenario	Cashew Nursery (Pépiniériste petit échelle)
Name of improved scenario	Cashew Nursery improved (Pépiniériste anacarde greffé)
Starting year	2017

	Name of the product/service
List of products/services (for both scenarios)	Anacarde greffé
	Anacarde sélectionnée
	Mélina
	Acacia
	Teck
	Moringa
	Kaya
	Seiba
	Cocotier

Description (of the improved scenario in comparison to the existing situation)	
---	--

[EN] Realistically, what would be the tax rate that the enterprise would pay? Write as a percentage of gross profit.

[FR] D'un point de vue réaliste, qu'elle sera le taux d'impôts que l'entreprise payera? Écrivez le pourcentage applicable sur le bénéfice brut.

[EN] Please enter the applicable interest rates directly in the worksheet "Financing" (sub-section B, column C).

[FR] Veuillez insérer le taux d'intérêt applicable directement dans la feuille de calcul "Financing" (sous-section B, colonne C).

[EN] Write up to nine products / services that the enterprise would sell in the existing scenario, the improved scenario or both. Each product / service has to be listed only once.

[FR] Ecrivez jusqu'à neuf produits / services que l'entreprise vendra dans le scénario existant, le scénario amélioré ou les deux. Chaque produit / service devra être mentionné seulement une fois.





Business Model Calculation Tool

Variable costs (in FCFA)

A) Existing scenario

B) Improved scenario

B) Improved scenario: Cashew Nursery improved (Pépinieriste anacarde greffé grande échelle)

Per batch of:	1 plantes	First month of variable costs	1	1 plantes	First month of variable costs	1	1 plantes	First month
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	Anacarde greffé					Anacarde selectionnée					Mélina		
Inputs	Unit	No. of units	Unit price	Cost	Month of purchase* (mm;mm...)	Unit	No. of units	Unit price	Cost	Month of purchase* (mm;mm...)	Unit	No. of units	Unit price
Terreau	Par sac	1,00	2,50	3	01	Par sac	1,00	2,50	3	01	Par sac	1	2,50
Semences	kg	0,06	1.000,00	60	01	kg	0,00	1.000,00	1	01	kg	0,001	2.500,00
Greffons	Greffons	1,00	25,00	25	01	Greffons		25,00	-				
Ligatures	Ligatures	1,00	0,50	1	01	Ligatures		0,50	-				
Sacs de Plantation	Sac	1,00	15,00	15	01	Sac	1,00	15,00	15	01	Sac	1	15,00
Sachets de protection	Sachet	1,00	0,60	1	01	Sachet		0,60	-				
Empotage	Par sac	1	2,00	2	01	Par sac	1	2,00	2	01	Par sac	1	2,00
				-					-				
				-					-				
				-					-				
				-					-				
TOTAL Inputs				106					21				

Labour	Unit	No. of units	Unit price	Cost	Month of purchase* (mm;mm...)	Unit	No. of units	Unit price	Cost	Month of purchase* (mm;mm...)	Unit	No. of units	Unit price
				-					-				
				-					-				
				-					-				
				-					-				
				-					-				





Business Model Calculation Tool

A) Own capital

B) Debt financing

C) Cash flow

A) Own capital for the investments

Type of financing	% of investment	Amount
New investments		3.054.500
Own capital	20%	610.900
Required debt capital	80%	2.443.600
Starting cash		250.000

B) Debt financing

Type of financing	Amount	Interest rate p.a.	Month of disbursement	Month of last repayment	Grace period (in months) / Repayment terms	Monthly installment repayment period	Monthly grace period	Cost of credit (interest)	Repayments in total (interest +)
Investment credit	2.443.600	12%	1	8	5	1.240.157	24.436	158.895	2.602.495
Working capital loan 1	4.200.000	18%	1	6	One single installment at	63.000		315.000	4.515.000
Working capital loan 2					One single installment at	-		-	-
Working capital loan 3					One single installment at	-		-	-
Working capital loan 4					One single installment at	-		-	-
Working capital loan 5					One single installment at	-		-	-
Working capital loan 6					One single installment at	-		-	-
Working capital loan 7					One single installment at	-		-	-
Total								473.895	7.117.495

C) Cash flow

Year	Month	Month cumulative	Cash flow Operations	Cash flow Investments	Own capital	Long term loan	Working capital loans	Cash flow single month	Cash flow cumulative
								Starting cash	250.000
1	1	1	-3.548.033	-3.054.500	610.900	2.443.600	4.200.000	651.967	901.967
	2	2	-133.633			-24.436	-63.000	-221.069	680.897
	3	3	-133.633			-24.436	-63.000	-221.069	459.828
	4	4	-133.633			-24.436	-63.000	-221.069	238.759





Business Model Calculation Tool

- Decline of sales price by 50% for grafted Cashew Seedling
- Additional services remain the same

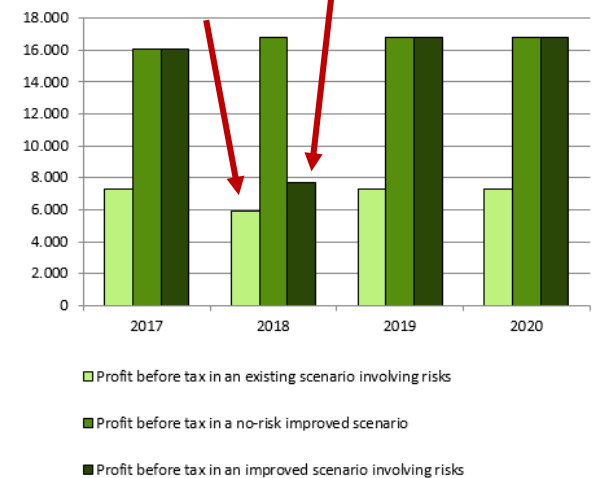
Risk sensitivity analysis

in EUR

Risk factors

Risk factors	Product	Year			
		2017	2018	2019	2020
Rise / decline of sales price (by +/- x%)	Anacarde greffé	0%	-50%	0%	0%
	Anacarde selectionnée	0%	0%	0%	0%
	Mélina	0%	0%	0%	0%
	Acacia	0%	0%	0%	0%
	Teck	0%	0%	0%	0%
	Moringa	0%	0%	0%	0%
	Kaya	0%	0%	0%	0%
	Seiba	0%	0%	0%	0%
	Cocotier	0%	0%	0%	0%
Rise / decline of yield levels (by +/- x%)	Anacarde greffé	0%	0%	0%	0%
	Anacarde selectionnée	0%	0%	0%	0%
	Mélina	0%	0%	0%	0%
	Acacia	0%	0%	0%	0%
	Teck	0%	0%	0%	0%
	Moringa	0%	0%	0%	0%
	Kaya	0%	0%	0%	0%
	Seiba	0%	0%	0%	0%
	Cocotier	0%	0%	0%	0%
Rise / decline of interest rates (to an interest rate of x% p.a.)	Long term loan	12%	12%	12%	12%
	Working capital loan	18%	18%	18%	18%

Potential effects on total profitability





Methodology of the business model analysis





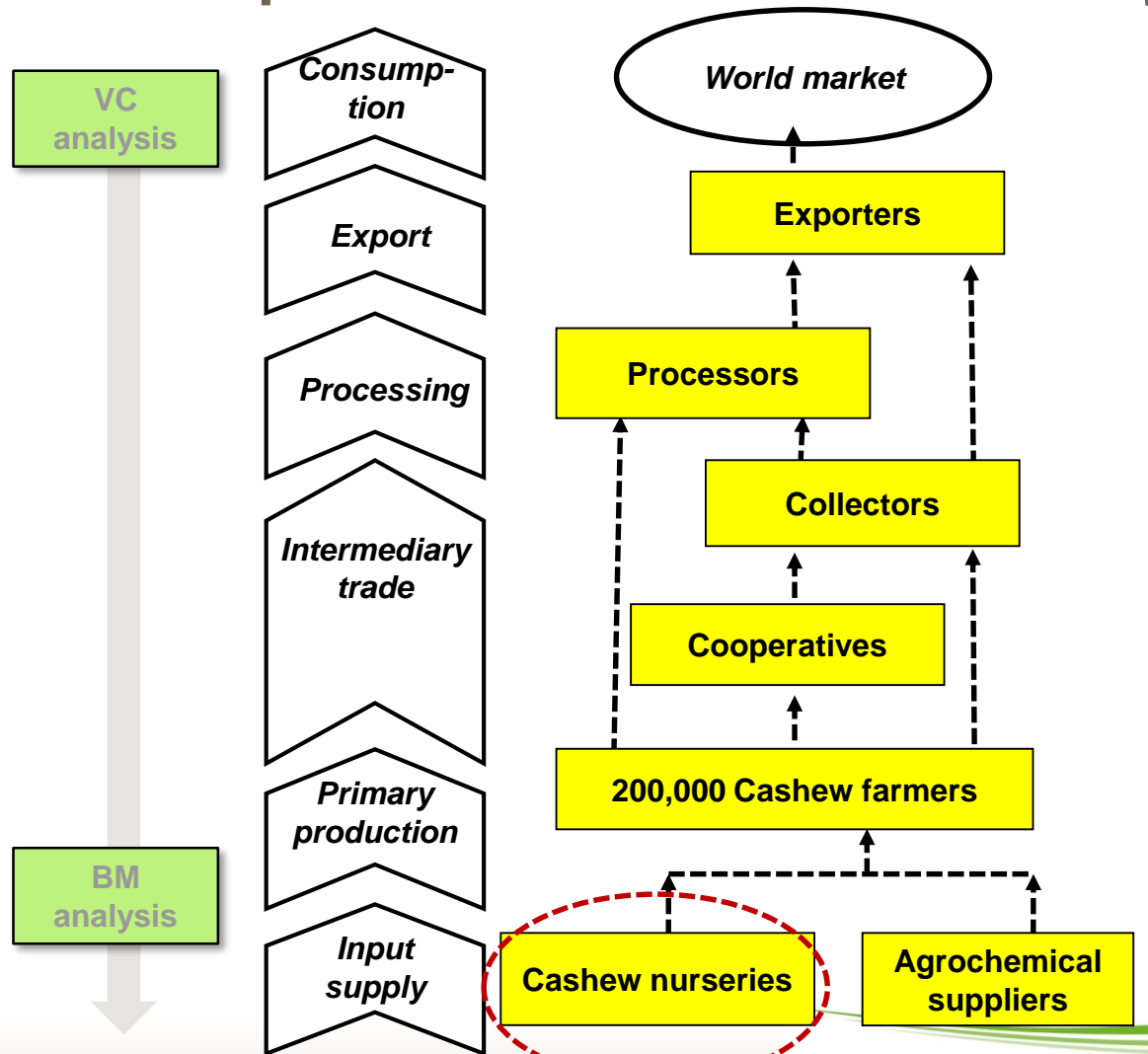
Agenda

- Overview of the project GV AgFin
- AgFin Business Model analysis
- **Turning business models into finance - example from Benin**
 - Example of the Cashew tree nursery BM
 - Process of BM analysis and utilisation in Benin
 - Lessons learnt





Turning business model into finance – Example of the Cashew tree nursery BM



- **Opportunities for the nursery BM:** Developing market for grafted seedlings, high potential for competitiveness, high potential impact for buying cashew farmers, rather low potential for replicability
- **Needs for BM upgrading:** working capital and investment capital for material, tools and a vehicle
- **Which SME are profitable with which financing?**
- → **BM analysis for an exemplary SME for its actual situation and for an improved scenario** increasing the annual production of grafted cashew seedlings from 5,000 to 25,000



Turning business model into finance – Example of the Cashew tree nursery BM

- Economic analysis of larger cashew nursery compared to existing scale

Type	Small cashew nursery with 5,000 grafted seedlings (current situation)		Large cashew nursery with 25,000 grafted seedlings (target scenario)	
	Notes	EUR	Notes	EUR
Revenues				
Grafted cashew (after losses)	3,500 seedlings @ €0.76	2,668	23,750 seedlings @ €0.76	18,102
Certified cashew	4,850 seedlings @ €0.46	2,218		2,218
<u>Mélina</u>	970 seedlings @ €0.19	185		185
Acacia	4.850 seedlings @ €0.15	739		739
Teak	4.850 seedlings @ €0.15	739		739
<u>Moringa</u>	9.700 seedlings @ €0.19	1,848		1,848
Kaya	4.850 seedlings @ €0.19	924		924
<u>Seiba</u>	970 seedlings @ €0.19	185		185
Coconuts	140 seedlings @ €3.04	427		427
Total Revenues		9,933		25,368
Variable Costs				
Inputs	Bud wood, seed, soil, materials	1,985	Bud wood, seed, soil, materials	5,205
Other costs		-		-
Total variable costs		1,985		5,205
Gross Margin		7,948		20,163
Fixed Costs				
Maintenance and insurance	5% of investment cost/year*	66	5% of investment cost/year*	623
Permanent staff	2 part-time workers	274	4 skilled part-time workers	1,364
Other fixed costs		174		457
Depreciation		175		943
Investment loan interest**		-		242
Working capital loan**		-		480
Total fixed costs		689		4,110
Profit before tax		7,259		16,053

* Except the well which costs 25% per annum

** Only in the first year; thereafter the profit increases to that effect





Turning business model into finance – Example of the Cashew tree nursery BM

BM
analysis

Results

- Calculation of the improved BM:
 - Gross margin of 78% depending on different assumptions
 - Investment needs in equipment of € 4,656:
 - short-term investment loan € 3,725 for 8 months at 12%;
 - working capital loan amount € 6,402 (6 months at 18%)

Equipment	Average price (in EUR)
Shade cloth and shed	305
Fence	228
Water tanks and pumps	1,753
Tricycle	1,371
Well	609
Other tools	390
Total	4.656

- Using the case for a **pilot cooperation with real SME and MFI**:
 - Convincing the existing SME and MFI of the potential gains of investment
 - Elaborating critical financial and technical parameters / selection criteria for SME suitable for upgrading their BM
 - Offering technical and financial services for BM upgrading
 - Elaborating real business plans and loan applications for the existing SME

Utilisation





Turning business model into finance – BM analysis and utilization in Benin

1. VC
scoping

- **Step 1 to 4:** Identification, description and calculation of business models → different levels of profitability and feasibility and scale of potential MFI clients:

2. BM
selection

- **5 short term group loans:** input loans for soy/rice, group marketing loans cashew and shea, cashew maintenance loan

3. Calc.

- **8 short-/mid-term individual investment and working capital loans:** extension of poultry production (trad./modern broiler, layer), soy cheese processing, rice mill, cashew tree nursery, cashew orchard maintenance service provider, soy thresher, tractor

4. Mini-
Business
Cases

- **Step 5 to 6:** Different joint and separate workshops and working sessions with farmer organizations, entrepreneurs and (potential) partner FI:

Under-
standing

- To convince both sides of the **potential profitability** of the models and of the entrepreneurial/commercial approach of the project and to **prioritize** the models

Utilisation
by entre-
preneurs

- To elaborate with both sides realistic and feasible **selection criteria, pilot clients, financial product conditions, support/control services** for pilot financing collaboration schemes

Utilisation
by FI





Turning business model into finance – BM analysis and utilization in Benin

Building
services for
improving
BM

- Setting up **pilot financing collaboration schemes**:

- (Tripartite) **MoUs** clarifying the roles of farmer organisations/SME, MFI, project
- Service contracts or grants for **field agents** of farmer organisations or advisory service providers for client selection, communication and field/village control visits from facilitation to disbursement until reimbursement
- Service contracts or grants for **MFI consultants** for supporting strategy and product development

Creating
examples of
improved
BM

- Results of **facilitated loans** in 2016/17 with 100% own Fi capital resources:

- Cashew group marketing loans for 169 farmers (7 cooperatives), 100% repayment; ongoing loans for 1212 farmers (36 cooperatives)
- Shea group marketing loans for 852 women (37 cooperatives), 100% repayment
- Ongoing soy group input loans for 342 farmers (23 cooperatives)
- Ongoing individual investment and working capital loans for 15 SME: cashew tree nursery, soy processors and poultry farmers

Upscaling
improved
BM

Embedding
improving
BM
practices





Turning business model into finance – lessons learnt

BM analysis

- BM analysis can to be done...
 - for **average/typical and real farmer/SME**
 - comparing **actual situations** with **improved scenarios**
 - using different **tools** for different degree of details
 - depending on the **aim and user** (“teaser” or basis for product development for FI, basis for individual business plans or group loan applications)

Results

- BM analysis is giving information for an **upgrading package** with needs for technical, organizational and financial improvements and services (training, coaching, financing)

Utilisation

- BM analysis have be continuously **adapted** with VC actors
 - depending on different **capacity levels** and backgrounds
 - before and after pilot **financing collaboration experiences**
 - for integrating and **institutionalising** the tools in manuals, trainings and policies of farmer organizations, SME service providers and FI