User manual for the spreadsheet for automated economic calculation

The purpose of this manual is to guide the evaluator in the use of the spreadsheet for automated economic calculation, which is available online[1]. These two tools (spreadsheet and user manual) complement evaluation sheets 8 and 9, Economic performance from the farmer's point of view (crop- and livestock-production activities, agricultural production system) as well as a few other sheets utilising the results of the economic calculation.

INTRODUCTION

The Excel spreadsheet for calculating the farm's economic results comprises **fifteen sheets** grouped together into **ten worksheets.**

All manually entered data must be entered in the **light-blue cells.**

Data must never be entered manually in the white cells: the results appearing in the white cells are calculated automatically from the manually entered data.

There are also a few **light-orange cells** where a formula for automatic calculation or an indication is proposed by default, with the possibility of modifying the formula if necessary.

The table below presents all the worksheets, sheets and tables included in each sheet.

Worksheet	Sheet	Name of the sheet	Tables
1	1	General information and prices for intermediary consumption and paid workforce	1. General information 2. Input prices 3. Service prices 4. Paid workforce prices
2	2	Depreciation and value of equipment, infrastructure and plantations	1. Calculation for each type of equipment, infrastructure and plantation 2. Unallocated annual depreciation for all equipment (equa), infrastructure (infua), plantations (plua) and means of production (dua) 3. Annual depreciation for all equipment (eq), infrastructure (inf), plantations (pl) and means of production (d) 4. Value of all equipment (EQ), infrastructure (INF) and plantations (PL)
3	3	Value of animals (AN), change in inventory value (ΔINV) and number of animal units (AU)	1. Value of animals (AN), change in inventory value (ΔINV) and number of animal units (AU)
	4	Area of owned land used in the agricultural production system (UFAown), value of owned land used in the production system (L), area of unowned land used in the production system, rent of the land (ren), useful farming area (UFA), use of commons, area of owned land not used in the production system and income from renting it out	1. Area of owned land used in the agricultural production system (UFAown) and value of owned land used in the production system (L) 2. Area of unowned land used in the production system, rent of the land (ren) and useful farming area (UFA) 3. Use of commons 4. Area of owned land not used in the production system and income from renting it out
	5	Production capital (C) and capital advanced for production in the year (K)	1. Production capital (C) and capital advanced for agricultural production in the year (K)
4	6	Gross product for each crop- or livestock-production activity (GP)	Individual tables for up to 10 activities: 1 to 10. Gross product for each crop- or livestock-production activity

1. Available for download on the websites of Éditions du Gret and Éditions Quæ.

Worksheet	Sheet	Name of the sheet	Tables
5	7	Labour (WD), monetary costs (MC), intra-unit consumption used (IUC) and allocated depreciation (dal) for the different crop- and livestock-production activities; labour (WD), MC and IUC for unallocated tasks and investments involving work on the farm; value of those investments	1 to 10. Crop-management sequences for crop- and livestock-production activities: individual tables (1 to 10) for up to 10 activities 11. Tasks not allocated to an activity: 1 table 12 to 15. Investments not specific to an activity: 4 tables 16 to 20. Investments specific to an activity: 5 tables
6	8	Gross value-added (GVA), net value-added (NVA), gross margin (GM) and net margin (NM) for the different crop- and livestock-production activities	1. Gross value-added (GVA), net value-added (NVA), gross margin (GM) and net margin (NM) for the different crop- and livestock-production activities 2. Verification that intra-unit consumption produced equals intra-unit consumption used
7	9	Gross value-added for the agricultural production system (GVA_{PS})	1. Sum of gross value-added for the different activities (ΔGVA) 2. Unallocated intermediary consumption (ICua) 3. Gross value-added for the production system (GVA_{PS})
	10	Net value-added for the agricultural production system (NVA_{PS})	1. Net value-added for the agricultural production system (NVA_{PS})
8	11	Distribution of net value-added, agricultural income (AI) and components of agricultural income	1. Remuneration of paid workforce (WFpaid) 2. Distribution of net value-added 3. Agricultural income (AI) and its components
9	12	Additional data for the evaluation of the production system from the farmer's point of view	1. Composition of the family, family labour units (FLU), family agricultural labour units (FALU) and consumption units (CU) 2. Agricultural labour units (ALU) 3. Consumption units (CU) 4. Work days for family agricultural workers (WDfam) 5. Work days for paid agricultural workers (WDpaid) 6. Work days for external work received through cooperation-based relations (WDcoop) 7. Total agricultural work days (WD) 8. Monetary costs of the agricultural production system (MC_{PS})
	13	Characterisation and evaluation of economic performance from the farmer's point of view for the different crop- and livestock-production activities, and for the agricultural production system	1. Availability of productive resources used in the production system per family agricultural worker and per paid agricultural worker 2. Type of workforce used in the agricultural production system 3. Productive orientation of the agricultural production system 4. Labour and capital intensity of the agricultural production system 5. Characterisation and evaluation of economic performance for the different crop- and livestock-production activities 6. Characterisation and annual evaluation of all crop-production activities carried out on a given piece of land 7. Evaluation of the economic performance of the agricultural production system
10	14	Total income for the farm (TI) and TI/FLU	1. Extra-agricultural income (EAI) 2. Total income for the farm (TI) and breakdown of that income 3. Total income per family labour unit (TI/FLU)
	15	Economic surplus (S)	1. Economic surplus from agriculture per family agricultural labour unit (Sagr/FALU) 2. Economic surplus per family labour unit (S/FLU)

Each sheet has space for comments, either within the tables or just outside the tables.

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Worksheet 1

Sheet 1. General information and prices for intermediary consumption and paid workforce

The aim of Sheet 1 is to:

- provide general information: farm number, farmer's name, village where farm is situated and any other details regarding its geographic location, monetary unit used for the entire economic calculation ("MU" is displayed by default);

Table 1. General information.

Farm no.		Farmer's name:		Village :	
Monetary unit:	MU			Further details:	

- gather information on **prices for intermediary consumption** (inputs and services) **and paid workforce. Three tables** are provided (inputs, services, paid workforce). For each input, service or type of paid workforce, the following information must be entered:
  - name of input, type of service or type of workforce,
  - unit,
  - unit price,
  - comments. For intra-unit consumption, the method used to assess the price must be specified.

Table 2. Input prices.

Name of input	Unit	Unit price	Comments

Table 3. Service prices.

Type of service	Unit	Unit price	Comments

Table 4. Paid workforce prices.

Type of worker (permanent/temporary)	Unit	Unit price	Comments

The cells indicating the prices for inputs, services and paid workforce are not linked to other cells in the workbook. Prices must therefore be entered manually wherever necessary (particularly when entering data for crop-management sequences, Sheet 7). Providing this information on the first sheet will make it easy to look up prices later, and to compare the prices used for the different case studies.

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Worksheet 2

Sheet 2. Depreciation and value of equipment, infrastructure and plantations

The aim of **Sheet 2** is to calculate **depreciation**[2] for equipment, infrastructure and plantations, and their **value**. Sheet 2 has **four tables**.

Table 1. Calculation for each type of equipment, infrastructure and plantation

1	2	3	4	5	6	7	8	9	10	11	12	13
Name and unit used (for infrastructure and plantations)	Value when new (Vn, replacement value)	Useful life (years, n)	Residual value (Vres)	Total depreciation (dtot) during useful life	Annual depreciation (d = dtot/n)	Current age (e)	Unit value Vunit	Number of units	Annual depreciation		Value (V)	Indicate whether specific to an activity
									not allocated to an activity	allocated to an activity		
	Per unit		Per unit	Per unit	Per unit		Per unit		Total	Total	Total	
Equipment												
				-	-		-		-	-	-	P.S.
				-	-		-		-	-	-	P.S.
				-	-		-		-	-	-	P.S.
				-	-		-		-	-	-	P.S.
				-	-		-		-	-	-	P.S.
				-	-		-		-	-	-	P.S.
				-	-		-		-	-	-	P.S.
Infrastructure												
				-	-		-		-	-	-	P.S.
				-	-		-		-	-	-	P.S.
				-	-		-		-	-	-	P.S.
Plantations												
				-	-		-		-	-	-	P.S.
				-	-		-		-	-	-	P.S.
				-	-		-		-	-	-	P.S.
Comments:												

The **first table** is used to calculate **annual depreciation for each type** of equipment, infrastructure or plantation on the farm, and their **value**. The table is divided into **three sections** (equipment, infrastructure and plantations, respectively) and has thirteen columns.

2. Depreciation must not be confused with accounting amortisation, which is calculated not based on the actual estimated annual loss in value resulting from use ("depreciation"), but on accounting standards.

1. Name of the equipment, infrastructure or plantation, and the unit used for infrastructure and plantations. For infrastructure, the unit used may be the unit or the kilometre (of fencing, path, piping, etc.). For a plantation, the unit used is the hectare (or other unit of area) or tree.
2. Value when new (Vn) of the equipment, infrastructure or plantation. This may be:
   - its **purchase price**;
   - its **construction cost**, in the case of equipment or infrastructure built on the farm. The calculation of this cost (and therefore of the value when new) is broken down in Sheet 7 (activities 12 to 15 for an investment that is not specific to an activity, activities 16 to 20 for an investment that is specific to an activity). The result obtained in Sheet 7 must be entered in Table 1 of Sheet 2. When entering the result, Excel's Auto Fill function should be used so that the amount copied is identical to the original amount, including any decimals that are not displayed. The two amounts must be identical for the depreciation-verification mechanism in Sheet 10. Neither value when new nor depreciation are calculated for the gradual replacement of a piece of infrastructure. If a piece of equipment or infrastructure has reached the end of its useful life (age = useful life or older), then the construction cost is not calculated in Sheet 7, as it is of no use. In Sheet 2, however, it is possible to use Table 1 to mention the existence of this equipment or infrastructure (mention in Column 1, followed by "(as a reminder)") and to indicate the age in Column 7, without the need to fill in the other columns;
   - in the case of a **plantation**, its **cost of installation and development** up to the year preceding its first year of production. The calculation of this cost (and therefore of the value when new) is broken down in Sheet 7 (activities 16 to 20, investment specific to an activity). The result obtained in Sheet 7 must be entered in Table 1 of Sheet 2. When entering the result, Excel's Auto Fill function should be used so that the amount copied is identical to the original amount, including any figures after the decimal point that are not displayed. The two amounts must be identical for the depreciation-verification mechanism in Sheet 10. Neither value when new nor depreciation are calculated for the gradual renewal of a plantation. If a plantation has reached the end of its useful life (age = useful life or older), then the cost of installation and development is not calculated in Sheet 7, as it is of no use. In Sheet 2, however, it is possible to use Table 1 to mention the existence of this plantation (mention in Column 1, followed by "(as a reminder)") and to indicate the age in Column 7, without the need to fill in the other columns.
3. Useful life (n) of the equipment, infrastructure or plantation.
4. Residual value (Vres) of the equipment, infrastructure or plantation.
5. Total depreciation (dtot) of the equipment, infrastructure or plantation over the course of its entire useful life (automatic calculation: dtot = Vn − Vres).
6. Annual depreciation (d) of the equipment, infrastructure or plantation (automatic calculation: d = dtot ÷ n if e < n; d = 0 if e ≥ n).
7. Current age (e) of the equipment, infrastructure or plantation (note: during the first year, the age is "0").
8. Unit value (Vunit) of the equipment, infrastructure or plantation (automatic calculation: Vunit = Vn − e × d if e ≤ (n − 1); Vc = 0 if e ≥ n).
9. Number of units of equipment, infrastructure or plantation that are identical and that are the same age. If there are several different units that are different ages, then different rows must be used.
10. Annual depreciation not allocated to an activity (automatic calculation: = d × number of units if depreciation is not allocated to an activity; 0 if depreciation is allocated to an activity).
11. Annual depreciation allocated to an activity (automatic calculation: = d × number of units if depreciation is allocated to an activity; 0 if depreciation is not allocated to an activity).
12. Value (V) of all equipment or units of infrastructure or plantation of the same type (automatic calculation: V = Vunit × number of units).
13. Indication of whether or not the depreciation is allocated to a particular activity. The cells are pre-populated: if depreciation is not allocated to a particular activity, the initials "P.S." must remain. If depreciation is specific to an activity, the initials "P.S." must be replaced with the name of the activity.

Based on the amount of annual depreciation allocated to an activity (Column 11) and the indication of the activity in question (Column 13), the depreciation allocated to each activity may be entered in Sheet 7.

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Table 2. Unallocated annual depreciation for all equipment (equa), infrastructure (infua), plantations (plua) and all means of production (dua).

a) Equipment (equa)		Comments:
-	MU	
b) Infrastructure (infua)		
-	MU	
c) Plantations (plua)		
-	MU	
d) Means of production (dua)		
-	MU	

The **second table** makes it possible to automatically calculate **unallocated annual depreciation** for equipment (equa), infrastructure (infua), plantations (plua) and means of production (dua = equa + infua + plua). The calculation of this value is automatically used to calculate the net value-added for the agricultural production system (NVA_{PS}) (Sheet 10).

Table 3. Annual depreciation for all equipment (eq), infrastructure (inf), plantations (pl) and all means of production (d_{PS}).

a) Equipment (eq)		b) Infrastructure (inf)		c) Plantations (pl)		d) Means of production (d_{PS})	
-	MU	-	MU	-	MU	-	MU
Comments:							

The **third table** makes it possible to automatically calculate **annual depreciation for all** equipment (eq), infrastructure (inf), plantations (pl) and means of production (d_{PS} = eq + inf + pl).

Table 4. Value of all equipment (EQ), infrastructure (INF) and plantations (PL).

a) Equipment (EQ)		Comments:
-	MU	
b) Infrastructure (INF)		
-	MU	
c) Plantations (PL)		
-	MU	

These values are automatically used to calculate the capital advanced for agricultural production (Sheet 5).

The **fourth table** makes it possible to automatically calculate the **value of all** equipment (EQ), infrastructure (INF) and plantations (PL).

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Worksheet 3

Sheet 3. Value of animals (AN), change in inventory value (ΔINV) and number of animal units (AU)

The aim of Sheet 3 is to calculate:

- the **value of animals** (AN), which is automatically used to calculate the capital advanced for agricultural production (Sheet 5);
- the **change in inventory value** (ΔINV) for each species, which is a component of gross product for livestock-production activities and which must be entered manually for the different species and types of animal in each livestock-production activity (Sheet 6);
- the **number of animal units** (AU), which must be entered manually for the different species and types of animal in each livestock-production activity (Sheet 7).

Table 1. Value of animals (AN), change in inventory value (ΔINV) and number of animal units (AU).

1	2	3	4	5 (= 3 – 4)	6	7	8 (= 2 × 7)	9 (= 3 × 7)	10 (= 4 × 7)	11 (= 5 × 7)	12 (= 6 × 7)	13	14	15	16 (= 14 × 15)
Type of animal	Initial population	Quantity purchased during the year	Quantity purchased during the year for replacement of animals sold that same year	Quantity purchased during the year not for replacement of animals sold that same year	Final population	Unit value	Initial inventory value	Value of animals purchased during the year	Value of animals purchased during the year for replacement of animals sold that same year	Value of animals purchased during the year not for replacement of animals sold that same year	Final inventory value	Comments	Animal units per head	Average population for the year (by default, average of the initial and final populations)	Animal units (average for the year)
Species:															
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
Total							-	-	-	-	-				0,00
Change in inventory value (ΔINV) (Column 12 - Column 8):							-	MU							
Species:															
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
Total							-	-	-	-	-				0,00
Change in inventory value (ΔINV) (Column 12 - Column 8):							-	-							

1	2	3	4	5 (= 3 – 4)	6	7	8 (= 2 × 7)	9 (= 3 × 7)	10 (= 4 × 7)	11 (= 5 × 7)	12 (= 6 × 7)	13	14	15	16 (= 14 × 15)
Type of animal	Initial population	Quantity purchased during the year	Quantity purchased during the year for replacement of animals sold that same year	Quantity purchased during the year not for replacement of animals sold that same year	Final population	Unit value	Initial inventory value	Value of animals purchased during the year	Value of animals purchased during the year for replacement of animals sold that same year	Value of animals purchased during the year not for replacement of animals sold that same year	Final inventory value	Comments	Animal units per head	Average population for the year (by default, average of the initial and final populations)	Animal units (average for the year)
Species:															
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
Total							-	-	-	-	-				0,00
Change in inventory value (ΔINV) (Column 12 - Column 8):															
Species:															
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
Total							-	-	-	-	-				0,00
Change in inventory value (ΔINV) (Column 12 - Column 8):															
Species:															
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
				-			-	-	-	-	-			-	0,00
Total							-	-	-	-	-				0,00
Change in inventory value (ΔINV) (Column 12 - Column 8):															
Total SPA							-	-	-	-	-				0,00
Change in inventory value (ΔINV) (Column 12 - Column 8):							-	MU							
Value of capital advanced in the form of animals (AN) (columns 8 + 11):							-	MU							

This sheet has a table that makes it possible to take into account up to five animal species, with a section of the table devoted to each species. Different types of animals may be indicated for each species. The table has 16 columns.

1. Type of animal.
2. Initial population of animals present on the first day of the 365-day period taken into account for the economic calculation (generally 1 January).
3. Number of animals purchased during the year.
4. Number of animals purchased during the year to replace animals sold that same year. This is a specific case involving successive production cycles where animals are acquired at the start of each production cycle using the proceeds from the sale of animals from the previous cycle (e.g. a specialised activity for fattening animals). In this case, the animals acquired during the year do not require an investment of additional capital beyond the capital already invested at the start of the year (animals from the previous cycle).
5. Number of animals purchased during the year not in replacement of animals sold that same year (automatic calculation: Column 4 – Column 5).

6. Final population of animals present on the last day of the 365-day period taken into account for the economic calculation (generally 31 December).
7. Unit value.
8. Initial inventory value (automatic calculation: initial population × unit value).
9. Value of animals purchased during the year (automatic calculation: number of animals purchased × unit value).
10. Value of animals purchased during the year to replace animals sold that same year (automatic calculation: number of animals sold to replace animals sold that same year × unit price).
11. Value of animals purchased during the year not in replacement of animals sold that same year (automatic calculation: number of animals purchased not in replacement of animals sold that same year × unit price).
12. Final inventory value (automatic calculation: final population × unit price).
13. Comments.
14. Animal units per head.
15. Average population for the year. By default, an average is taken into account between the initial population and the final population (pre-filled formulas). If, however, it is felt that this estimate deviates considerably from reality (e.g. in the case of the purchase, presence on the farm and resale of animals during the same year, these animals are not reflected in the initial or final populations), a different estimate may be used.
16. Average number of animal units (AU) during the year (automatic calculation: animal units per head × average population for the year).

For each species, and for the entire production system, the totals are calculated for columns 5, 8, 9, 10, 11 and 12 and 16, and for the change in inventory value (ΔINV) (automatic calculation: ΔINV = final inventory value – initial inventory value).

For the entire production system, the capital advanced in the form of animals (AN) is also calculated (automatic calculation: AN = initial inventory value + value of animals purchased during the year not in replacement of animals sold that same year).

Sheet 4. Area of owned land used in the agricultural production system (UFAown), value of owned land used in the production system (L), rent of the land (ren), useful farming area (UFA), use of commons, area of owned land not used in the production system and income from renting it out

Sheet 4 covers property and has **four tables.**

Unit of area used: ha , or 1.00 ha

The **unit of area used locally** and its conversion into hectares must first be established. These two cells are pre-filled with "ha" and "1.00", respectively. This data must therefore be modified if local units of area are to be used. It should be noted that all indicators from the workbook that use land area (income per unit of land area, etc.) are based on the unit of area specified here. If hectares are to be used for these indicators, then the two pre-filled cells must not be modified. The hectare must then be used as the unit of area when entering the area of fields (Sheet 4) and the land area for individual activities (Sheet 6).

Table 1. Area of owned land used in the agricultural production system (UFAown) and value of owned land used in the production system (L).

1	2	3	4	5 (= 2 × 4)	6
Name or number of the field	Land area in local units	Land area in ha	Value per local unit	Total value	Comments
		-		-	
		-		-	
		-		-	
		-		-	
Total UFAown:	-	-	L:	-	MU

The **first table** is used to calculate the **area of owned land used in the agricultural production system** (UFAown) and the **value of owned land used in the agricultural production system** (L). It has six columns.

1. Name or number of the field.
2. Land area in local units.
3. 3. Land area in hectares (automatic calculation: land area in local units × coefficient for conversion to ha).
4. Value per local unit.
5. Total value (automatic calculation: land area in local units × value per local unit).
6. Comments.

The following are calculated: total area of owned land used in the production system (UFAown) in local units and in ha (automatic calculation: sum of the areas of each field), and value of owned land used in the production system (L) (automatic calculation: sum of the values of each field).

Table 2. Area of unowned land used in the production system, rent of the land (ren) and useful farming area (UFA).

1	2	3	4	5	6
Name or number of the field	**Land area in local units**	**Land area in ha**	**Type of access**	**Potential cost of access**	**Comments**
		-			
		-			
		-			
		-			
UFA for unowned land:	-	-	Total rent of the land (ren):	-	MU
Total UFA:	-	-			

The **second table** is used to calculate the **area of unowned land used in the agricultural production system**, the **rent of the land** (ren) and **the useful farming area** (UFA). It has six columns.

1. Name or number of the field.
2. Land area in local units.
3. 3. Land area in hectares (automatic calculation: land area in local units × coefficient for conversion to ha).
4. Type of access (rental, sharecropping, loan, etc.)
5. Cost of access. If rented or tenant farmed, this is the rent of the land strictly speaking. In the case of a sharecropping relationship, the cost of access is equal to the value of the production taken by the owner of the land.
6. Comments.

The following are calculated: area of unowned land used in the production system in local units and ha (automatic calculation: sum of the areas of each field), and total cost of access to land, which in this case is understood as the rent of the land (ren), even though payment may be made in a different form, such as in a sharecropping system (automatic calculation: sum of the costs of access for each field). Useful farming area (UFA) is also calculated in local units of area and ha (automatic calculation: UFAown + area of unowned land used in the agricultural production system).

Table 3. Use of commons.

The **third table** is simply a space for providing information on **the use of commons.**

Table 4. Area of owned land not used in the production system and income from renting it out.

1	2	3	4	5	6
Name or number of the field	Land area in local units	Land area in ha	Type of use	Potential income	Comments
		- - - - - -			
Area of owned land excluding UFA	-	-	Total rent of land owned by the farm	-	MU

The **fourth table** is used to calculate the **area of owned land not used** in the production system and the income from renting out that land. It has six columns.

1. Name or number of the field.
2. Land area in local units.
3. 3. Land area in hectares (automatic calculation: land area in local units × coefficient for conversion to ha).
4. Type of use.
5. Income.
6. Comments.

The following are calculated: total area of owned land not used in the production system in local units and ha (automatic calculation: sum of the areas of each field), and total income generated from the rented land (automatic calculation: sum of the values of each field).

Sheet 5. Production capital (C) and capital advanced for agricultural production in the year (K)

Table 1. Production capital (C) and capital advanced for agricultural production in the year (K).

Type	Total value	Comments
1. Land (L)	- MU	
2. Equipement (EQ)	- MU	
3. Infrastructure (INF)	- MU	
4. Animals (AN)	- MU	
5. Plantations (PL)	- MU	
6. Monetary costs (MC)	- MU	
7. Production capital (C)	- MU	
8. Capital advanced (K)	- MU	

Sheet 5 is used to calculate **production capital** (C) **and capital advanced for agricultural production in the year** (K). Production capital (C) is equal to the value of owned land and the various components of fixed capital (equipment, infrastructure, animals, plantations). It is useful for calculating the availability of capital (Sheet 13). Capital advanced for agricultural production in the year (K) also includes all monetary costs. It is used to calculate the rate of annual profitability of capital, or rate of profit (Sheet 13), which is an essential economic variable that is of interest to the capitalist enterprise. The calculation is automatic, as all the data on the sheet are from other sheets. The table therefore presents the value of the different components of capital.

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1. Owned land (L, from Sheet 4, Table 1).
2. Equipment (EQ, from Sheet 2, Table 4).
3. Infrastructure (INF, from Sheet 2, Table 4).
4. Animals (AN, from Sheet 3).
5. Plantations (PL, from Sheet 2, Table 4).
6. Monetary costs of the production system (MC, from Sheet 12, Table 9).

The last two rows indicate production capital (C) and all capital advanced for agricultural production during the year (K), respectively.

Worksheet 4

Sheet 6. Gross product for each crop- or livestock-production activity (GP)

Sheet 6 is used to calculate **gross product for each crop- or livestock-production activity** (GP). The gross-product values for each activity will be automatically used to calculate the value-added and margin for each activity (Sheet 8). For the production of crops, crop-production activity refers to a crop (annual or perennial) or crop association grown on a plot or group of plots with a similar crop-management sequence. For annual crops, several crop-production activities or crop cycles may be carried out on the same plot (or group of plots) over the course of a given year. Each crop cycle is therefore considered a crop-production activity. For livestock production, the management sequences applied on the main forage area (MFA) and the management sequences applied to the animals themselves throughout the entire year are considered simultaneously.

The sheet has **ten identical tables** numbered from 1 to 10, which are used to calculate gross product for up to ten crop- or livestock-production activities.

Tables 1 to 10. Gross product for each crop- or livestock-production activity (GP).

Activity 1:
Land area ha Number of AU

1	2	3	4			5			6
Type of product	Unit	Total production, including:	Production intended for another activity in the production system (intra-unit consumption produced)			Final output for the production system			Total value of the production
			4.a Quantity	4.b Average value per unit	4.c Total value	5a. Quantity	5b. Average value per unit	5c. Total value	
		–			–			–	–
		–			–			–	–
		–			–			–	–
		–			–			–	–
		–			–			–	–
		–			–			–	–
Change in inventory (ΔINV)								–	–
Purchase of animals (negative)								–	–
Total, in: MU					–			–	–
					(Intra-unit consumption produced)			(Final output of the APS)	(GP for the activity)

Comments (specify the types of use, explain any differences in unit value based on use):

The following information must be entered for **each table**: name of the activity, land area in local units (the areas of the fields entered in Sheet 5 may be referred to) and, where applicable, number of animal units (AU) (the calculations for the numbers of AU in Sheet 4 may be used for this). As for the table itself, each row corresponds to a product of the activity. Up to eight products may be entered for each activity. The table has ten columns.

1. Name of the product, which may be an intra-unit consumption (product intended for another activity in the agricultural production system) or a final output of the production system. In the case of livestock production, gross product includes sales, production of on-farm consumption, animals received as gifts, the value of other animal productions, and change in inventory value (ΔINV, based on the calculations in Sheet 3), minus animal purchases

over the course of the year (recorded in Sheet 3). Two specific rows are provided for change in inventory value and animal purchases.

2. Unit of measurement used.
3. Total production, in terms of volume (automatic calculation, except for the two rows for "ΔINV" and "animal purchases": production intended for another activity in the production system [4a] + final output [5a]). For the row "change in inventory value (ΔINV)" and "animal purchases" (important: make sure this is negative), the values should be entered manually based on the information in Sheet 3. The calculation is not automated so that it is possible, if the evaluator wishes, to incorporate several different animal species in a given livestock-production activity (e.g. all ruminants) or, conversely, to differentiate several livestock-production activities for a given animal species (e.g. a dairy activity and an activity specialised in fattening young bulls).
4. Production intended for another activity in the production system (intra-unit consumption produced).
   - 4a. Quantity, including the portion intended to be stored for use the following year in the production system (which must be distinguished from production that is stored for subsequent sale or family consumption and that is considered a final output of the production system).
   - 4b. Average value per unit. The market price of a similar or equivalent product is used. This input (or service) must be valued with the same unit value when it is used by another activity in the production system (Sheet 7).
   - 4c. Total value (automatic calculation: quantity × average value per unit).
5. Final output of the production system.
   - 5a. Quantity. The processing of agricultural products from the farm is considered an extension of agricultural production itself. For example, for a milk producer who processes his/her milk to make cheese, the final product is the cheese. What must be indicated is therefore the quantity of cheese (and in 5b the value of the unit of cheese).
   - 5b. Average value per unit.
   - 5c. Total value (automatic calculation: quantity × average value per unit).
6. Total value of the production (automatic calculation: total value of the production of intra-unit consumption [4c] + total value of the final output of the production system [5c]).

The following information is calculated at the bottom of the table:

- the value of all intra-unit consumption produced by the activity (Column 4c, automatic calculation);
- the value of the final output of the production system from the activity (Column 5c, automatic calculation);
- gross product (GP) of the activity (Column 6, automatic calculation: value of all intra-unit consumption produced by the activity + value of the final output of the production system from the activity).

In the Comments box, it is useful to specify the different uses for the products and explain any differences in unit value based on how the products are used.

7

Worksheet 5

Sheet 7. Labour (WD), monetary costs (MC), intra-unit consumption used (IUC) and allocated depreciation (dal) for the different crop- and livestock-production activities; labour (WD), MC and IUC for unallocated tasks and investments involving work on the farm; value of those investments

Sheet 7 is used to calculate:

- labour (WD), monetary costs (MC), intra-unit consumption used (IUC) and allocated depreciation (dal) for the different crop- and livestock-production activities;
- labour (WD), MC and IUC for tasks not allocated to an activity, particularly maintenance and repair of unallocated means of production (e.g. repair of fencing or communal buildings), as well as other unallocated tasks (management work, unallocated travel, etc.);
- labour (WD), MC and IUC necessary for investments involving work on the farm (construction of a fence, construction of a building, installation of a plantation, etc.), which are differentiated from investments that simply involve a purchase (agricultural machinery, tools, etc.);
- the value of those investments.

This sheet makes it possible to cover **twenty activities**.

- **Activities 1 to 10** each correspond to a **crop- or livestock-production activity** (these are the same activities as those recorded in Sheet 6) (tables 1 to 10). The results of these calculations will be automatically used to calculate the value-added and margin of each activity (Sheet 8), as well as the quantity of agricultural labour (from WD, Sheet 12).
- **Activity 11** corresponds to all **tasks** completed over the course of a year **not allocated to a crop- or livestock-production activity** (Table 11). The results of these calculations will be automatically used to calculate the gross value-added of the production system (from unallocated MC, Sheet 9), agricultural income (from the cost of unallocated workforce, Sheet 11) and quantity of agricultural labour (from WD for unallocated labour, Sheet 12).
- **Activities 12 to 15** each correspond to an **investment that is not allocated to a crop- or livestock-production activity** and that requires **work on the farm** (tables 12 to 15). The calculation must be made for any unallocated equipment or infrastructure, but only if it is within its period of depreciation (i.e. if its age is strictly below its useful life). The results of these calculations make it possible to calculate the value of the investment (value when new). This value must be entered in Sheet 2 (Table 1, Column 2, value when new, Vn).
- **Activities 16 to 20** each correspond to an **investment that is allocated to a crop- or livestock-production activity** and that requires **work on the farm** (tables 16 to 20). The calculation must be made for any allocated equipment or infrastructure, but only if it is within its period of depreciation (i.e. if its age is strictly below its useful life). The results of these calculations make it possible to calculate the value of the investment ("value when new"). This value must be entered in Sheet 2 (Table 1, Column 2, "value when new", Vn).

Tables 1 to 10. Management sequences for crop- and livestock-production activities.

Each of these ten tables is made up of four sub-tables. In the following example, we present the four sub-tables for Activity 1: tables 1.1., 1.2., 1.3. and 1.4.

Table 1.1. Tasks of the activity (management sequence).

Activity 1:

Land area | Number of AU: -

Comments:

1	Labour						Monetary costs (MC) and costs of intra-unit consumption used (IUC)															
Task	2	3	4	5	6 (= 4 + 5)	7	Paid temporary WF		Inputs							Services						
							8	9	10	11	12	13	14 (= 12 × 13)	15	16 (= 14 – 15)	17	18	19	20	21 (= 19 × 20)	22	23 (= 21 – 22)
	Family WD	Cooperation based relations WD	Paid permanent WD	Paid temporary WD	Total paid WD	Total WD (= 2 + 3 + 6)	Unit cost	Total cost	Type	Unit	No. of units	Unit cost	Total cost	Intra-unit composition cost	Monetary cost (PS cost)	Type	Unit	No. of units	Unit cost	Total cost	Intra-unit composition cost	Monetary cost (PS cost)
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
"WD investm."(*)					-	-																
Total	-	-	-	-	-	-		-					-	-	-					-	-	-

24	Total MC + IUC for the activity:		-	UM

(*): Annual average labour used for investments (see "Annual average" for activities 16 to 20)

In **Table 1.1,** the rows are used for entering **the different tasks of the activity** (management sequence).

The table has 16 columns.

1. Name of the task.

2 to 7. Work days (WD).

- 2. Family labour (WDfam).
- 3. Free labour provided through a cooperation-based relationship with other farms.
- 4. Paid permanent labour.
- 5. Paid temporary labour.
- 6. Total paid labour (automatic calculation: paid permanent labour + paid temporary labour).
- 7. Total labour (automatic calculation: family labour + free labour provided through cooperation-based relations + paid labour).

For columns 2 to 5, the second-to-last row of the table ("WD investm.") is used to enter the work days corresponding to labour used for the realisation of investments allocated specifically to this activity (e.g. labour used for the construction of a livestock-production building allocated to a livestock-production activity or for the installation of a plantation). Only an annual share of this labour should be considered, depending on the useful life of the investment. The information from the "Annual average" row in one of the tables 16 to 20 on Sheet 7 must be copied for each investment allocated to the activity.

8 to 23. Monetary costs (MC) and costs of intra-unit consumption used.

8 and 9. Cost of temporary workforce.

- 8. Unit cost (per day of work).
- 9. Total cost (automatic calculation: paid temporary labour (in WD) × unit cost).

10 to 16. Inputs (including, in the case of intra-unit consumption, inputs from stocks from the previous year's production).

- 10. Type of input. If several inputs are used for a given task, then one row per input is used, with the name of the task appearing just once in Column 1.
- 11. Unit of measurement.
- 12. Number of units.
- 13. Unit cost. If the input was purchased by the farm, then the purchase price is used. If it is an intra-unit consumption, the input must be valued at the same unit value that was used when it was valued as production for another activity in the production system (e.g. production and use of manure) (Sheet 6).
- 14. Total cost (automatic calculation: number of units × unit cost).
- 15. Total cost of the intra-unit consumption used (entirety of the total cost if it is fully an intra-unit consumption, part of the total cost if it is partly an intra-unit consumption, or "0" if the input is entirely purchased off the farm).
- 16. Monetary cost of the inputs, i.e. cost of inputs acquired from off the farm (in which case it is a cost of the agricultural production system) (automatic calculation: total cost of the intra-unit consumption used).

17 to 23. Services.

- 17. Type of service. If several services are used for a given task, then one row per service is used, with the name of the task appearing just once in Column 1.
- 18. Unit of measurement.
- 19. Number of units.
- 20. Unit cost. If the service was purchased by the farm (rental of equipment, service combining work and provision of equipment), then the purchase price is used. If it is an intra-unit consumption used (mainly work carried out by the farm's animals in crop-production activities), then the service must be valued at the same unit value that was used when it was valued as production for another activity in the production system (work provided by animals) (Sheet 6).
- 21. Total cost (automatic calculation: number of units × unit cost).
- 22. Total cost of the intra-unit consumption used (entirety of the total cost if it is fully an intra-unit consumption, part of the total cost if it is partly an intra-unit consumption, or "0" if the service is entirely purchased off the farm).
- 23. Monetary cost of the services, i.e. cost of services acquired from off the farm (in which case it is a cost of the agricultural production system) (automatic calculation: total cost of the intra-unit consumption used).

The last row of the table is used to automatically calculate total labour in work days (family labour, labour provided through a cooperation-based relationship, paid temporary labour, paid permanent labour, total paid labour, total labour), total cost of inputs (total, inputs constituting intra-unit consumption used, inputs constituting a monetary cost) and total cost of services (total, services constituting intra-unit consumption used, services constituting a monetary cost).

Table 1.2. Total MC + IUC for the activity.

24	Total MC + IUC for the activity:	–	MU

Table 1.2 is used to automatically calculate all **monetary costs and intra-unit-consumption costs** (MC + IUC) for the activity.

Table 1.3. Depreciations allocated to the activity.

Allocated depreciation		
25		26(**)
Type of equipment, infrastructure or plantation specific to the activity		Annual depreciation
	27. Total	–

(**) Use the information on allocated depreciation, from Sheet 2.

Table 1.3 is used to calculate the cost of **depreciation allocated to the activity** (dal). Each row corresponds to a particular means of production (equipment, infrastructure or plantation). The table has two columns.

- 25. Type of equipment, infrastructure or plantation specific to the activity.
- 26. Annual depreciation. The annual depreciations calculated in Sheet 2 (Table 1, Column 11) must be entered if one or more of them are allocated to the activity (see Sheet 2, Table 1, Column 13). Excel's Auto Fill function should be used here to automatically fill the value appearing in Sheet 2, Table 1, Column 11; the value should not be entered manually. The value entered will then be exactly identical to the value in Sheet 2, including any decimals that appear hidden, which is necessary for the depreciation-verification system in Sheet 10.

The last row (27) is used to automatically calculate all the depreciations allocated to the activity (or the sum of the depreciations).

Table 1.4. Total Production costs (PC) for the activity.

28 (= 24 + 27)	
Total Production costs (PC) for the activity	
–	MU
Comments:	

Table 1.4 is used to automatically calculate **total production costs** for the activity (PC, or the sum of monetary costs and intra-unit consumption (MC + IUC) and allocated depreciation (dal)).

Table 11. Tasks not allocated to a crop- or livestock-production activity.

Table 11. Tasks not allocated to a crop- or livestock-production activity.

Activity 11: **Unallocated tasks** (for one year) -

Comments:

1	Labour						Monetary costs (MC) and costs of intra-unit consumption used (IUC)															
Task	2	3	4	5	6 (= 4 + 5)	7	Paid temporary WF		Inputs							Services						
							8	9	10	11	12	13	14 (= 12 × 13)	15	16 (= 14 – 15)	17	18	19	20	21 (= 19 × 20)	22	23 (= 21 – 22)
	Family WD	Cooperation based relations WD	Paid permanent WD	Paid temporary WD	Total paid WD	Total WD (= 2 + 3 + 6)	Unit cost	Total cost	Type	Unit	No. of units	Unit cost	Total cost	Intra-unit composition cost	Monetary cost (PS cost)	Type	Unit	No. of units	Unit cost	Total cost	Intra-unit composition cost	Monetary cost (PS cost)
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
Total	-	-	-	-	-	-		-												-	-	-

Comments:

The gathering and calculation of data are from **a table** that is practically **identical to the first table proposed for crop- and livestock-production activities** (but without the second-to-last row "WD investm.").

If a task not specific to an activity requires the use of equipment (e.g. a vehicle), then the depreciation of that equipment is directly considered as a cost of the production system not specific to an activity.

Tables 12 to 15. Investments that are not allocated to a crop- or livestock-production activity and that require work on the farm.

The calculation must be made for any unallocated equipment or infrastructure, but only if it is within its period of depreciation (i.e. if its age is strictly below its useful life).

The gathering and calculation of data are from a table that is practically identical to the first table proposed for crop- and livestock-production activities. However, the second-to-last row "WD investm." is absent here.

The name and useful life (in years) of the investment must be entered above the table. The useful life is displayed as "1" by default (pre-filled cell): this cell must not be modified unless the table is used for the calculation of an investment. The last row of the table is used to automatically calculate the annual share of labour used (or the quantity of labour divided by the number of years of useful life). The cost of the investment (or sum of costs necessary for this investment) is automatically calculated below the table. By analogy with equipment purchased off the farm, this is the "value when new" of the equipment or infrastructure.

Tables 12 to 15. Investment not allocated to an activity).

Activity 12 (investment not allocated to an activity):

Useful life of the investm. 1 year(s)

(Modify only if using this table)

Comments:

1	Labour						Monetary costs (MC) and costs of intra-unit consumption used (IUC)															
Task	2	3	4	5	6 (= 4 + 5)	7	Paid temporary WF		Inputs							Services						
							8	9	10	11	12	13	14 (= 12 × 13)	15	16 (= 14 – 15)	17	18	19	20	21 (= 19 × 20)	22	23 (= 21 – 22)
	Family WD	Cooperation based relations WD	Paid permanent WD	Paid temporary WD	Total paid WD	Total WD (= 2 + 3 + 6)	Unit cost	Total cost	Type	Unit	No. of units	Unit cost	Total cost	Intra-unit composition cost	Monetary cost (PS cost)	Type	Unit	No. of units	Unit cost	Total cost	Intra-unit composition cost	Monetary cost (PS cost)
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
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					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
Total	-	-	-	-	-	-		-												-	-	-
Annual average	-	-	-	-	-	-																

Total Cost of the investment: - MU

(or Value when new of the equipment or infrastructure)

Comments:

Tables 16 to 20. Investments that are allocated to a crop- or livestock-production activity and that require work on the farm

The calculation must be made for any equipment, infrastructure or plantation allocated to a crop- or livestock-production activity only if it is within its period of depreciation (i.e. if its age is strictly below its useful life). In the case of a plantation, all tasks prior to the production phase (i.e. during the installation and development phases of the plantation) should be taken into account. It should be noted, however, that investment and depreciation are not calculated in the case of a system that includes gradual renewal of the plantation. In that case, the tasks and costs for renewal are included in the activity itself (cultivation of coffee, cacao, etc.).

The gathering and calculation of data are from a table that is practically identical to the first table proposed for crop- and livestock-production activities. However, the second-to-last row "WD investm." is absent here[3].

The name and useful life (in years) of the investment must be entered above the table, as well as the activity to which it is allocated and the land area in question in local units of measurement (in the case of a plantation, irrigation infrastructure, etc.). The useful life is displayed as "1" by default (pre-filled cell): this cell must not be modified unless the table is used for the calculation of an investment. The last row of the table is used to automatically calculate the annual share of labour used (or the quantity of labour divided by the number of years of useful life). The cost of the investment (or sum of costs necessary for this investment) is automatically calculated below the table. By analogy with equipment purchased off the farm, this is the "value when new" of the equipment, infrastructure or plantation.

3. Same comment.

Tables 16 to 20. Investment allocated to an activity.

Activity 16 (investment allocated to an activity): Allocated to the activity:

Land area ha Useful life of the investm. 1 year(s)

(Modify only if using this table)

Comments:

1	Labour						Monetary costs (MC) and costs of intra-unit consumption used (IUC)															
Task	2	3	4	5	6 (= 4 + 5)	7	Paid temporary WF		Inputs							Services						
							8	9 (= 5 × 8)	10	11	12	13	14 (= 12 × 13)	15	16 (= 14 – 15)	17	18	19	20	21 (= 19 × 20)	22	23 (= 21 – 22)
	Family WD	Cooperation based relations WD	Paid permanent WD	Paid temporary WD	Total paid WD	jT total (= 2 + 3 + 6)	Unit cost	Total cost	Type	Unit	No. of units	Unit cost	Total cost	Intra-unit composition cost	Monetary cost (PS cost)	Type	Unit	No. of units	Unit cost	Total cost	Intra-unit composition cost	Monetary cost (PS cost)
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
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					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
					-	-		-					-		-					-		-
Total	-	-	-	-	-	-		-												-	-	-
Annual average	-	-	-	-	-	-																

Total Cost of the investment: - MU
(or: Value when new of the equipment, infrastructure or plantation)

Comments:

7

Worksheet 6

Sheet 8. Gross value-added (GVA), net value-added (NVA), gross margin (GM) and net margin (NM) for the different crop- and livestock-production activities

Sheet 8 is used to calculate the **gross value-added** (GVA), **net value-added** (NVA), **gross margin** (GM) and **net margin** (NM) for each crop- and livestock-production activity. It is also used to calculate **the sum**, for all crop- and livestock-production activities, **of a certain number of values:** sum of days of family work, days of paid temporary work, gross products, monetary costs of allocated inputs (i.e. allocated to a specific activity), monetary costs of allocated services, cost of allocated temporary workforce, costs of allocated intra-unit consumption, allocated monetary costs, GVA, allocated depreciation, NVA, gross margins of activities and net margins of activities. Calculation for the entire sheet is automatic, and the formulas use data from sheets 6 and 7. This sheet provides information for calculating various economic indicators relating to crop- and livestock-production activities, and to the production system (sheets 9, 10 and 13). It is also used to **verify** that the value of intra-unit consumption produced **equals** the value of intra-unit consumption used.

The sheet has **one main table** where each row corresponds to a crop- or livestock-production activity.

The table has 22 columns.

1. Number of the activity.
2. Name of the activity.
3. Land area.
4. Number of animal units (AU).
5. Number of days of family work (WDfam).
6. Number of days of paid temporary work (WDpaidtemp).
7. Gross product (GP).

8 to 17. Costs of intra-unit consumption used (IUC) and monetary costs (MC).

8 to 10. Costs of inputs (in).

- 8. Inputs constituting intra-unit consumption;
- 9. Inputs constituting monetary costs;
- 10. Total.

11 to 13. Costs of services (ser).

- 11. Services constituting intra-unit consumption.
- 12. Services constituting monetary costs.
- 13. Total.

14. Cost of paid temporary workforce (WFpaidtemp).

15 to 17. Total costs of intra-unit consumption used and monetary costs.

- 15. Intra-unit consumption used (intra-unit consumption in the form of inputs and services).
- 16. Monetary costs (monetary costs of inputs, services and paid temporary workforce).
- 17. Total.

18. Gross value-added (GVA) (gross product – cost of inputs – cost of services).
19. Allocated depreciation (dal).
20. Net value-added (NVA) (GVA – allocated depreciation).
21. Gross margin (GM) (GVA – cost of paid temporary workforce).
22. Net margin (NM) (NVA – cost of paid temporary workforce).

The last row of the table is used to calculate the sum, for all crop- and livestock-production activities, of a certain number of values: sum of days of family work (ΣWDfam), days of paid temporary work (ΣWDpaidtemp), gross products (ΣGP), monetary costs of allocated inputs, monetary costs of allocated services, cost of allocated paid temporary workforce (WDalpaidtemp), cost of allocated intra-unit consumption, allocated monetary costs (ΣMC = MCal), GVA (ΣGVA), allocated depreciations (or allocated depreciations of the production system, dal), NVA (ΣNVA), gross margins (ΣGM) and net margins (ΣNM).

Table 1. Gross value-added (GVA), net value-added (NVA), gross margin (GM) and net margin (NM) for the different crop- and livestock-production activities.

1	2	3	4	5	6	7	Intra-unit consumption used (IUC) and monetary costs (MC)										18 (= 7 – 10 – 13)	19	20 (= 18 – 19)	21 (= 18 – 14)	22 (= 21 – 19)
							inputs (in)			services (ser)			14	Total							
							8	9	10 (= 8 + 9)	11	12	13 (= 11 + 12)		15 (= 8 + 11)	16 (= 9 + 12)	17 (= 15 + 16)					
	Activities	Land area (ha)	AU	Fam. WD	Paid temp. WD	Gross product (GP)	constituting IUC	constituting MC	Total	constituting IUC	constituting MC	Total	MC paid temporary WF (WFpaidtemp)	IUC used	MC	Total	Gross value-added (GVA)	Allocated depreciation (dal)	Net value-added (NVA)	Gross margin (GM)	Netmargin (NM)
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				(∑ MDfam for the activities)	(∑ Wdpaid temp for the activities)	(∑ GP for the activities)		(∑ MC for the allocated inputs			(∑ MC for the allocated services)		(WF paid-temp) allocated	(∑ IUC used for the activities)	(∑ MC for the activities = MCal)		(∑ GVA for the activities)	(dal for the prod. sys-tem)	(∑ NVA for the activities)	(∑ GM for the activities)	(∑ NM for the activities)

Table 2. Verification that intra-unit consumption produced equals intra-unit consumption used.

Intra-unit consumption produced	–	MU
Intra-unit consumption used in crop- and livestock-production activities	–	MU
Intra-unit consumption used in unallocated tasks	–	MU
Intra-unit consumption used for investments (annual share)	–	MU
Total intra-unit consumption used	–	MU
Verification	OK	

A **second table** is used to verify that the value of **intra-unit consumption produced equals** the value of **intra-unit consumption used**. The calculation and verification are carried out automatically. The table has six rows.

1. Intra-unit consumption produced.
2. Intra-unit consumption used in crop- and livestock-production activities.
3. Intra-unit consumption used in unallocated tasks.
4. Annual share of intra-unit consumption used for investments.
5. Total intra-unit consumption used.
6. Message from the verification: "OK" if the value of intra-unit consumption produced equals the value of intra-unit consumption used, and "ERROR" if they are different. In this case, for each intra-unit consumption, the values calculated at the level of production and uses should be verified, referring to the tables in Sheet 6 (productions) and Sheet 7 (uses). The difference may be the result of an oversight, differences in quantity or differences in the unit values used.

Worksheet 7

Sheet 9. Gross value-added for the agricultural production system (GVA_{PS})

Sheet 9 is used to calculate the **gross value-added for the agricultural production system** (GVA_{PS}). Calculating gross value-added is a necessary step for the calculation of net value-added (Sheet 10). This sheet has **four tables**.

Table 1. Sum of gross value-added for the different activities (∑GVA) (Sheet 8).

–	MU	**Comments:**

The **first table** shows the **sum of gross value-added** for the different crop- and livestock-production activities (ΣGVA) (automatic calculation: information taken from Sheet 8).

The **second table** is used to calculate **unallocated intermediary consumption** (ICua), with **three sub-tables**.

Table 2.1. Unallocated inputs (inua).

Comments:	a) Inputs used in unallocated tasks				–
	b) Other unallocated inputs				
	1	2	3	4	5
	Type	Unit	Quantity	Unit price	Total cost
					– – – – –
	c) Total other inua				–
	d) Total inua				–

Table 2.1 is used to calculate unallocated inputs (inua).

It should be noted that small equipment replaced each year or after a few months is included under inputs.

a) Inputs used in unallocated tasks (automatic calculation: information taken from Sheet 7).

Other unallocated inputs, i.e. inputs that do not correspond to particular tasks that have been identified (e.g. fuel and lubricants used for the operation of a vehicle whose use is not allocated to activities). Each row corresponds to a type of input (up to five). The sub-table has five columns.

1. Type.
2. Unit.
3. Quantity.
4. Unit price.
5. Total cost (automatic calculation: quantity × unit cost).

c) Total for other unallocated inputs (automatic calculation: sum of the cost for each type of input).

d) Total for unallocated inputs (inua) (automatic calculation: inputs used in unallocated tasks + total for other unallocated inputs).

Table 2.2. Unallocated services (serua)

Comments:	a) Services used in unallocated tasks (Sheet 7, Activity 11)				–
	b) Other unallocated services				
	1	2	3	4	5
	Type	Unit	Quantity	Unit price	Total cost
					– – – – –
	c) Total other serua				–
	d) Total serua				–

Table 2.2 is used to calculate unallocated services (serua).

c) Services used in unallocated tasks (automatic calculation: information taken from Sheet 7).

d) Other unallocated services, i.e. services that do not correspond to particular tasks that have been identified (e.g. provision of electricity). Each row corresponds to a type of service (up to five). The sub-table has five columns.

1. Type.
2. Unit.
3. Quantity.
4. Unit price.
5. Total cost (automatic calculation: quantity × unit cost).

c) Total for other unallocated services (automatic calculation: sum of the cost for each type of service).

d) Total for unallocated services (serua) (automatic calculation: services used in unallocated tasks + total for other unallocated services).

Table 2.3 is used to automatically calculate all unallocated intermediary consumption (ICua), based on the sum of unallocated inputs (inua) and unallocated services (serua).

Table 2.3. Sum of unallocated intermediary consumption (ICua) (= inua+serua).

–	MU

The **third table** presents the amount of **gross value-added for the agricultural production system** (GVA_{PS}), which is calculated automatically (sum of gross value-added for the crop- and livestock-production activities (ΣGVA) sum of unallocated intermediary consumption (ICua)).

Table 3. Gross value-added for the production system (GVA_{PS}) (=SGVA - ICua).

–	MU

Sheet 10. Net value-added for the agricultural production system (NVA_{PS})

Table 1. Net value-added for the agricultural production system (NVA_{PS}).

1. Gross value-added for the production system (GVA_{PS}) (Sheet 9)	–	MU	**VERIFICATION**
2. Depreciation allocated to the different activities (dal) (Sheet 8)	–	MU	OK (total depreciation must equal the figure from Sheet 2, 3.d)
3. Unallocated depreciation (dua) (Sheet 2)	–	MU	
4. Total depreciation (d_{PS}) (=dal + dua) (Must equal the figure from Sheet 2, 4.d)	–	MU	
5. Net value-added for the production system (NVA_{PS}) (= GVA_{PS} - d_{PS})	–	MU	

Comments:

Sheet 10 is used to calculate the **net value-added for the agricultural production system** (NVA_{PS}). This calculation is necessary on the one hand for calculating technical and economic performance indicators for the production system (Sheet 12, Table 6), and on the other hand because it is part of the process for calculating agricultural income (Sheet 11). All calculations on this sheet are automatic. The sheet has a table with five rows.

1. Gross value-added for the agricultural production system (GVA_{PS}) (taken from Sheet 9).
2. Depreciations allocated to the different activities (dal) (taken from Sheet 8).
3. Unallocated depreciation (dua) (taken from Sheet 2).
4. Total depreciation (d_{PS}) (= dal + dua). Next to the table, **verification** is made to ensure that this value is equal to the sum of depreciations identified in Sheet 2 (Table 3). More specifically, this verification makes it possible to verify that all the allocated depreciations identified in Sheet 2 (Table 1) were entered in Sheet 7 as production costs for the different activities (and, conversely, that the depreciations listed in Sheet 7 were previously identified in Sheet 2). If the message displayed is "OK", then the values are identical. However, if the message displayed is "ERROR", then it is necessary to verify which allocated depreciations identified in Sheet 2 (Table 1) were not entered in Sheet 7 as production costs for the different activities (or, conversely, which depreciations listed in the tables on Sheet 7 were not previously identified in Sheet 2).
5. Net value-added for the agricultural production system (NVA_{PS} = GVA_{PS} – d_{PS}).

Worksheet 8

Sheet 11. Distribution of net value-added, agricultural income (AI) and components of agricultural income

Sheet 11 shows **how the net value-added for the agricultural production system** (NAV_{PS}) **is distributed** between: a) remunerating paid workers, b) renting land, c) paying interest, d) paying levies (fees and taxes) and e) remunerating family workers (in the case of a peasant or family farm) or the farm's shareholders (in the case of a capitalist farm). It is also used to calculate **agricultural income** and show its **components** by distinguishing between a) the portion from net value-added and b) direct subsidies received by the farm. The sheet has **three tables**.

The first table covers **remuneration of paid workforce** (WFpaid). It includes **three sub-tables**.

Table 1.1. Remuneration of paid temporary workforce (WFpaidtemp).

Paid temporary workforce allocated to crop- and livestock-production activities	–	MU
Unallocated paid temporary workforce	–	MU
Total paid temporary workforce (WFpaidtemp)	–	MU

The calculation is automatic. The sub-table has three rows and two columns.

- Row entitled "Paid temporary workforce allocated to crop- and livestock-production activities" (value taken from Sheet 8).
- Row entitled "Unallocated paid temporary workforce" (value taken from Sheet 7, Table 11)[4].
- Row entitled "Total paid temporary workforce" (WFpaidtemp, sum of the previous two rows).

Table 1.2. Remuneration of paid permanent workforce (unallocated) (WFpaidperm).

1	2	3	4	5	
Type	Unit	Quantity	Unit value	Total value	
				–	MU
				–	MU
				–	MU
				–	MU
				–	MU
Total WFpaidperm				–	MU

The entire paid permanent workforce is considered as not being allocated to specific crop- or livestock-production activities. The sub-table has five rows (one row for each type of paid permanent worker) and five columns.

1. Type (non-specialised, specialised in livestock production, accounting, etc.).
2. Unit (*a priori* the number of employees, but man-months may also be used).
3. Quantity.
4. Unit value. If there are social-security contributions, these must be included.
5. Total value (automatic calculation: quantity × unit value).

The last row automatically calculates the total remuneration for the paid permanent workforce (WFpaidperm).

Table 1.3. Remuneration of entire paid workforce (WFpaid).

–	MU

4. The cost of the paid temporary workforce used for the realisation of investments is not considered as a cost of the production system. An equivalent value is transferred to the value when new of the equipment, infrastructure or plantation, and it is the value of its depreciation that is subsequently considered as a cost of the production system.

Table 2. Distribution of net value-added.

			Share of NVA
Net value-added for the production system (NVA_{PS})	0	MU	–
Remuneration of paid workforce (WFpaid)	0	MU	–
Rent of the land (ren)	0	MU	–
Interest (int)		MU	–
Levies (fees and taxes) (lev)		MU	–
Remuneration of family workers or the farm's shareholders	0	MU	–

The second table covers **distribution of net value-added**. It has six rows corresponding to the different types of destination for net value-added. The two columns on the right-hand side of the table are for entering the total amount for each type of destination, and the relative value (share of net value-added). The table has six rows.

1. Net value-added for the agricultural production system (NVA_{PS}, automatic calculation: taken from Sheet 10).
2. Remuneration of paid workforce (WFpaid, automatic calculation: taken from the final figure of the first table).
3. Rent of the land (ren, automatic calculation, taken from Sheet 4, Table 2).
4. Interest on loans (int). It should be noted that repayment of the loan principle is not taken into account in the economic calculation, as it is simply a monetary transfer that offsets an equivalent monetary transfer in the opposite direction when the loan is made.
5. Levies (fees and taxes, lev).
6. Remuneration of family workers (in the case of a peasant or family farm) or the farm's shareholders (in the case of a capitalist farm) (automatic calculation: NVA_{PS} – WFpaid – ren – int – lev).

The right-hand column (share of NVA_{PS} for each destination, as %) is calculated automatically.

Table 3. Agricultural income (AI) and its components.

			Share of AI
Share of NVA_{PS} intended for remuneration of family workers or the farm's shareholders	0	MU	–
Direct agricultural subsidies (*)		MU	–
Agricultural income (AI)	0	MU	–

(*) Or all subsidies if one wishes to also highlight indirect subsidies. In this case, see instructions in the user manual.

The third table covers **agricultural income** (AI) and **its components**. The two columns on the right-hand side of the table are for entering the total amount for each type of component and its relative share (percentage of agricultural income). The table has three rows.

1. Share from net value-added, i.e. the share of net value-added intended for the remuneration of family workers (in the case of a peasant or family farm) or the farm's shareholders (in the case of a capitalist farm) (automatic calculation, taken from Table 2).
2. Share from direct subsidies.
3. Agricultural income (AI) (automatic calculation: sum of the previous two rows).

The right-hand column (share of AI for each constitutive element, as %) is calculated automatically.

It should be noted that indirect subsidies, which reflect a lower value for means of production (subsidisation of inputs, etc.) and interest on bank loans (subsidised loans), do not appear in this calculation. If, however, one wishes to show the "true value-added" (i.e. calculated without the effect of indirect subsidies) and the amount of indirect subsidies, it is possible:

- to value the cost of the means of production or interest at the price the farmer would have paid if there were no subsidies (Sheet 1 for the price of inputs and services, Sheet 7 for the value of investments, Sheet 11 for the value of interest);
- to integrate the amount of indirect subsidies in the "Subsidies" cell in Sheet 11. To do so, it is necessary to manually calculate the per-unit amount of the indirect subsidy, i.e.:
  - for means of production: price without any subsidy – price with subsidy,
  - for interest: interest rate without any subsidy – interest rate with subsidy.

These calculations may appear in the space reserved for comments.

Worksheet 9

Sheet 12. Additional data for the evaluation of the production system from the farmer's point of view

The purpose of **Sheet 12** is to enter or calculate a certain number of **additional data** for the evaluation of the agricultural production system from the farmer's point of view. It has **nine tables**.

Table 1. Composition of the family, family labour units (FLU), family agricultural labour units (FALU) and consumption units (CU).

1	2	3	4	5	6	7 (= 5 × 6)	8 (= 5 × (100% – 6)	9 (= 5 × 8)	10	11
Name	Age	Sexe	Relationship	FLU	Share of FLUs used or available for extra-agricultural productive activities (%)	Extra-agricultural FLU	Share of FLUs used or available for agricultural activities in the production system (as %)	Agricultural FLU (FALU)	CU	Comments
						0,00		0		
						0,00		0		
						0,00		0		
						0,00		0		
						0,00		0		
						0,00		0		
						0,00		0		
						0,00		0		
						0,00		0		
						0,00		0		
						0,00		0		
						0,00		0		
Total				–		–		–	–	

The **first table** covers the **composition of the family** and calculation of the number of **family labour units** (FLU), **family agricultural labour units** (FALU) and **consumption units** (CU). Each row of the table corresponds to a person. Children, however, may be grouped together in a single row. The table has twelve columns.

1. Name of the person.
2. Age.
3. Sex.
4. Relationship to the first person listed.
5. Number of family labour units (FLU). It is considered that:
   - an adult or young person 15 years or older is equivalent to 1 FLU, provided he/she is able to work and actually available for productive work (agricultural or otherwise) during the entire year[5]. A person who is elderly, sick or occupied with other tasks (domestic tasks, education) may therefore be considered only a fraction of a FLU, or even 0, either because he/she is not as physically strong or because he/she is not always available for productive work;
   - a child between 10 and 14 years old is equivalent to 0.5 FLU for full-time availability, because he/she is not as physically strong. Moreover, if the child is a school or university student, he/she should also be considered only a fraction of this value.
6. Share of FLUs used or available for extra-agricultural productive activities (as %), which may be independent activities considered as internal to the farm (artisanal activity, commercial activity, etc.) or external activities in the form of paid labour[6]. It should be noted that if the person is unoccupied, awaiting an opportunity for extra-agricultural work, but not available for an agricultural activity on the farm, then this time is considered as time

5. "Productive work" here means "income-generating work". Domestic tasks are therefore not included in this concept, as they are devoted not to production but rather to the reproduction of the workforce. And yet this work produces considerable usage values and is truly therefore, from this point of view, productive work

6. "Agricultural activities" here refer to the "agricultural activities (including livestock production) of the agricultural production system". Paid labour carried out by members of the farm in agricultural activities off the farm is therefore not counted under "agricultural activities" (which refers to activities "on the farm"), but rather under "extra-agricultural activities".

available for extra-agricultural activities. If, however, the person is also available for agricultural work on the farm, then this time is considered time available for agricultural work (Column 8).

7. Number of FLUs used or available for extra-agricultural productive activities (extra-agricultural FLUs, automatic calculation: FLU × share of time used or available for extra-agricultural activities).
8. Share of FLUs used or available for agricultural activities in the production system (as %). The amount is calculated automatically (100% – share of FLUs used or available in extra-agricultural productive activities).
9. Number of family agricultural labour units (FALU) (automatic calculation: FLU × share of time used or available for agricultural activities in the production system).
10. Consumption units (CU). The following are considered to be equivalences:
    - person 12 years and older: 1 CU;
    - person 8 to 11 years old: 0.75 CU;
    - person 4 to 7 years old: 0.5 CU;
    - person 0 to 3 years old: 0.25 CU.
11. Comments.
12. The last row of the table shows the farm's total FLUs, extra-agricultural FLUs, agricultural FLUs (FALU) and consumption units (CU).

Table 2. Agricultural labour units (ALU).

2.1. FALU	–	**Comments:**
2.2. Paid permanent ALU		
2.3. ALU	–	

The **second table** is used to calculate **agricultural labour units** (ALU), which are annual labour units. The table has three rows:

2.1. Family agricultural labour units (FALU) (automatic calculation: taken from the first table).

2.2. Agricultural labour units for paid permanent workers. A paid permanent worker used for an entire year corresponds to one ALU.

2.3. All agricultural labour units (ALU) (automatic calculation: FALU + labour units for paid permanent workers).

It should be noted that paid temporary workers are not counted in the annual labour units.

Table 3. Consumption units (CU).

–	**Comments:**

The **third table** covers **consumption units** (CU) for the farm. Consumption units concern family members only. This table automatically takes the value from the first table.

Table 4. Work days for family agricultural workers.

4.1. Sum of family WD for the different crop- and livestock-production activities (Sheet 8)	–	**Comments:**
4.2. Family WD used in unallocated tasks (Sheet 7)	–	
4.3. Annual average for fam. WD used in unallocated investments	–	
4.4. Total family WD used in the production system (WDfam)	–	
4.5. Family WD worked for others through cooperation-based relations	–	

The **fourth table** covers **work days for family agricultural workers.** It has five rows.

4.1. Sum of work days (WD) for family workers for the different crop- and livestock-production activities (automatic calculation: taken from Sheet 8).

4.2. Family WD used in unallocated tasks (automatic calculation: taken from Sheet 7, Activity 11).

4.3. Annual average of family WD used in unallocated investments. The purpose is to divide this work (annual share) over the entire useful life of the investments requiring work on the farm (automatic calculation: taken from Sheet 7, activities 12 to 15).

4.4. Total family WD used in the production system (WDfam) (automatic calculation: sum of the three previous rows).

4.5. Family WD worked for others through cooperation-based relations.

Table 5. Work days for paid agricultural workers.

5.1. Sum of paid WD for the different crop- and livestock-production activities (sheets 7 and 8)	–	**Comments:**
5.2. Paid WD used in unallocated tasks (Sheet 7)	–	
5.3. Annual avg. for paid WD used in unallocated investments (Sheet 7)	–	
5.4. Total paid WD (WDpaid)	**–**	

The **fifth table** covers **work days for paid agricultural workers,** which includes the work of paid permanent and temporary workers. The calculation is automatic. The table has four rows.

5.1. Sum of work days (WD) for paid workers for the different crop- and livestock-production activities (taken from Sheet 8, paid temporary workers, and activities 1 to 10 on Sheet 7, paid permanent workers).

5.2. Paid WD used in unallocated tasks (taken from Sheet 7, Activity 11).

5.3. Annual average of paid WD used in unallocated investments. The purpose is to divide this work (annual share) over the entire useful life of the investments requiring work on the farm (taken from Sheet 7, activities 12 to 15).

5.4. Total paid WD used in the production system (WDpaid) (sum of the three previous rows).

Table 6. Work days for external work received through cooperation-based relations.

6.1. Work received for the different crop- and livestock-production activities, in WD (Sheet 7)	–	**Comments:**
6.2. Work received for unallocated tasks, in WD (Sheet 7)	–	
6.3. Annual average of work received in unallocated investments, in WD (Sheet 7)	–	
6.4. Total work received through cooperation-based relations (WDcoop)	**–**	

The **sixth table** covers **work days received through cooperation-based relations.** The calculation is automatic. The table has four rows.

6.1. Sum of work days (WD) received through cooperation-based relations for the different crop- and livestock-production activities (taken from Sheet 7, activities 1 to 10).

6.2. WD received through cooperation-based relations and used for unallocated tasks (taken from Sheet 7, Activity 11).

6.3. Annual average of WD received through cooperation-based relations and used in unallocated investments. The purpose is to divide this work (annual share) over the entire useful life of the investments requiring work on the farm (taken from Sheet 7, activities 12 to 15).

6.4. Total WD received through cooperation-based relations and used in the production system (WDcoop, sum of the three previous rows).

Table 7. Total agricultural work days.

Total (WD)	–	**Comments:**

The **seventh table** is used to calculate the **total number of work days used in the agricultural production system** (WD). The calculation is made automatically based on data from the previous three tables.

Table 8. Operating capital consumed (oc) and used (OC).

8.1. Operating capital consumed (oc)	– MU	**Comments:**
8.2. Operating capital used (OC)	– MU	

The **eighth table** is used to calculate the **operating capital consumed** (oc) and **used** (OC) in the agricultural production system. The calculation is made automatically. The table has two rows.

8.1. Operating capital consumed (oc), or all intermediary consumption (IC_{PS}, inputs and services, from sheets 8 and 9) and depreciations (d_{PS}, from Sheet 10) of the production system.

8.2. Operating capital used (OC), or all intermediary consumption of the production system (IC_{PS}, from sheets 8 and 9), the value (at the start of the year) of equipment (EQ), infrastructure (INF) and plantations (PL) (from Sheet 2), and the value of animals (AN) (inventory value at the start of the year + purchase of animals not in replacement of animals sold during the same year, from Sheet 3).

Table 9. Monetary costs of the agricultural production system (MC_{PS}).

9.1. Sum of monetary costs allocated to activities (allocated MC) (Sheet 8)	– MU	**Comments:**
9.2. Unallocated intermediary consumption (ICua) (Sheet 9)	– MU	
9.3. Unallocated paid workforce (WFuapaid) (Sheet 11)	– MU	
9.4. Rent (ren) (Sheet 11)	– MU	
9.5. Interest (int) (Sheet 11)	– MU	
9.6. Levies in the form of fees and taxes (lev) (Sheet 11)	– MU	
9.7. Total Monetary costs of the agricultural production system (MC_{PS})	– MU	

The **ninth table** is used to calculate the **monetary costs of the agricultural production system** (MC_{PS}). The calculation is automatic. The table has seven rows.

9.1. Sum of monetary costs allocated to the different crop- and livestock-production activities (ΣMCa, from Sheet 8).

9.2. Cost of unallocated intermediary consumption (ICua, from Sheet 9).

9.3. Cost of unallocated paid workforce (WFuapaid, from Sheet 11).

9.4. Cost of renting land (ren, from Sheet 11).

9.5. Cost of interest (int, from Sheet 11).

9.6. Levies in the form of fees or taxes (lev, from Sheet 11).

9.7. Total monetary costs for the production system (MCP_{PS}, sum of the previous six rows).

Sheet 13 Characterisation and evaluation of economic performance from the farmer's point of view for the different crop- and livestock-production activities, and for the agricultural production system

Sheet 13 is used to calculate various indicators in order **to characterise the agricultural activities and agricultural production system** (availability of resources per family worker, type of workforce used, productive orientation of the production system, labour intensity and means-of-production intensity) and **evaluate its economic performance** from the farmer's point of view. The sheet has **seven tables**.

➔ The **first four tables** provide information on indicators relating to the **characterisation of the agricultural production system**. All calculations on these tables are automatic.

Table 1. Availability of productive resources per family agricultural worker and per paid agricultural worker.

1.1. Availability of owned land per family worker (Aown/FALU)	–	ha/FALU	**Comments:**
1.2. Availability of land per family worker (UFA/FALU)	–	ha/FALU	
1.3. Availability of land per agricultural worker (UFA/ALU)	–	ha/FALU	
1.4. Availability of capital per family worker (C/FALU)	–	ha/FALU	

The **first table** proposes four indicators showing the **availability of productive resources** used in the production system **per family agricultural worker and per agricultural worker**. It has four rows.

1.1. Availability of owned land per family worker (UFAown/FALU, from the information on Sheet 4, Table 1, and Sheet 12, Table 1).

1.2. Availability of land per family worker (UFA/FALU, from the information on Sheet 4, Table 2, and Sheet 12, Table 1).

1.3. Availability of land per agricultural worker (UFA/ALU, from the information on Sheet 4, Table 2, and Sheet 12, Table 2).

1.4. Availability of capital per family worker (C/FALU, from the information on Sheet 5, and Sheet 12, Table 1).

Table 2. Type of workforce used in the agricultural production system.

2.1. Family workforce (WDfam)	–	WD	–	**Comments:**
2.2. Paid workforce (WDpaid)	–	WD	–	
2.3. Workforce received through cooperation (WDcoop)	–	WD	–	
2.4. Total agricultural workforce (WD)	**–**	**WD**	**–**	

The **second table** provides information on the **type of workforce** used in the agricultural production system. It has four rows, and the annual number of man-days and percentage of the total workforce are shown for each type of workforce.

2.1. Family workforce (WDfam, from Sheet 12, Table 4).

2.2. Paid workforce (WDpaid, from Sheet 12, Table 5).

2.3. Workforce received through a cooperation-based relationship (WDcoop, from Sheet 12, Table 6).

2.4. Total agricultural workforce (sum of the previous three rows).

Table 3. Productive orientation of the production system.

Activity	GVA	GVA/∑GVA
–	0	–
–	0	–
–	0	–
–	0	–
–	0	–
–	0	–
–	0	–
–	0	–
–	0	–
–	0	–
All GVA (∑GVA)	0	–
Comments:		

The **third table** provides information on the **productive orientation** of the agricultural production system, by showing the **weight of each activity** in relation to the sum of value-added for the different crop- and livestock-production activities. It has ten rows corresponding to the maximum number of crop- and livestock-production activities that may be taken into account. The table shows the gross value-added (GVA, from Sheet fiche 8) for each activity and its relative weight (as %) in relation to the sum of value-added for all the activities.

Table 4. Labour and capital intensity of the agricultural production system.

4.1. Labour intensity (WD/UFA/year)	-	WD	/	ha
4.2. Intensity of operating capital consumed (oc/UFA/year)	-	MU	/	ha
4.3. Intensity of operating capital used (OC/UFA)	-	MU	/	ha

The **fourth table** provides information on the **labour intensity and capital intensity of the production system**. It has three rows.

4.1. Labour intensity (WD/UFA/year, from the information on Sheet 12, Table 7, and Sheet 4, Table 2).

4.2. Intensity of operating capital consumed (oc/UFA/year, from the information on Sheet 12, Table 8, and Sheet 4, Table 2).

4.3. Intensity of operating capital used (OC/UFA, from the information on Sheet 12, Table 8, and Sheet 4, Table 2).

7

The **fifth table** shows various indicators for **characterising** and **evaluating the economic performance** of each crop- and livestock-production activity. All calculations on this table are automatic.

Each row corresponds to a crop- or livestock-production activity entered previously (Sheet 6), and each column corresponds to one of the fourteen indicators calculated. One row specifies the type of criterion, and two other rows specify the indicator and the unit of measurement used. The table has 18 columns.

1. Crop- or livestock-production activity.

2 to 4. Indicators for characterising the activity (quantities of production factors used).

- 2. Labour intensity (WD/A, from sheets 7 and 6).
- 3. Intensity of operating capital consumed (oc/A, from sheets 7 and 6).
- 4. Stocking rate for livestock-production activities (AU/MFA, from Sheet 6).

5 to 8. Indicators of gross productivity and gross efficiency (performance indicators based on gross value-added).

- 5. Gross daily labour productivity (GVA/WD, from sheets 8 and 7).
- 6. Gross efficiency of land use (GVA/A, from sheets 8 and 6).
- 7. Gross efficiency of animal use for livestock-production activities (GVA/AU, from sheets 8 and 6).
- 8. Gross efficiency of the use of operating capital consumed (GVA/oc, from sheets 8 and 7).

9 to 11. Indicators of gross profitability (performance indicators based on gross margin).

- 9. Gross daily remuneration for family labour (GM/WDfam, from sheets 8 and 7).
- 10. Gross profitability of land use (GM/A, from sheets 8 and 6).
- 11. Gross profitability of animal use for livestock-production activities (GM/AU, from sheets 8 and 6).

12 to 15. Indicators of net productivity and net efficiency (performance indicators based on net value-added).

- 12. Net daily labour productivity (NVA/WD, from sheets 8 and 7).
- 13. Net efficiency of land use (NVA/A, from sheets 8 and 6).
- 14. Net efficiency of animal use for livestock-production activities (NVA/AU, from sheets 8 and 6).
- 15. Net efficiency of the use of operating capital consumed (NVA/oc, from sheets 8 and 7).

16 to 18. Indicators of net profitability (performance indicators based on net margin).

- 16. Net daily remuneration for family labour (NM/WDfam, from sheets 8 and 7).
- 17. Net profitability of land use (NM/A, from sheets 8 and 6).
- 18. Net profitability of animal use for livestock-production activities (NM/AU, from sheets 8 and 6).

Table 5. Characterisation and evaluation of the different crop- and livestock-production activities.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Type of indicator and indicator	Characterisation			Gross productivity and efficiency				Gross profitability			Net productivity and efficiency				Net profitability		
Activity	Labour intensity (WD/A)	Intensity of operating capital consumed (oc/A)	Stocking rate (AU/MFA)	Gross daily labour productivity (GVA/WD)	Gross efficiency of land use (GVA/A)	Gross efficiency of animal use (GVA/AU)	Gross efficiency of the use of operating capital consumed (GVA/oc)	Gross daily remuneration for family labour (GM/WDfam)	Gross profitability of land use (GM/A)	Gross profitability of animal use (GM/AU)	Net daily labour productivity (NVA/WD)	Net efficiency of land use (NVA/A)	Net efficiency of animal use (NVA/AU)	Net efficiency of the use of operating capital consumed (NVA/oc)	Net daily remuneration for family labour (NM/WDfam)	Net profitability of land use (NM/A)	Net profitability of animal use (NM/AU)
Unit used	MD/ha	MU/ha	AU/ha	MU/WD	MU/ha	MU/AU	MU/UM	MU/ WDfam	MU/ha	MU/AU	MU/WD	MU/ha	MU/AU	MU/MU	MU/WDfam	MU/ha	MU/AU
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments:

➜ The **sixth table** features different indicators for the **characterisation** and **annual evaluation of all crop-production activities carried out on a given piece of land.**

Each row corresponds to a succession of crop-production activities implemented on the same plot or on a group of plots during a given year. The purpose therefore is not to characterise and evaluate the performance of a particular crop cycle (Table 5), but rather all crop cycles applied during the same year on a given piece of land. One row specifies the type of criterion, and two other rows specify the indicator and the unit of measurement used. The table has 21 columns.

1. Activities. The different cycles (crop-production activities) carried out on a given piece of land during the year must be entered manually for each row.

2 to 9. Variables used to calculate the indicators.

- 2. Land area (A). The area of the piece of land is entered (A, from Sheet 8, Table 1, Column 3).
- 3. Labour (WD). The labour carried out for each cycle is added up (WD, from the tables on Sheet 6).
- 4. Family labour (WDfam). The labour carried out for each cycle is added up (WD, from Sheet 8, Table 1, Column 5).
- 5. Operating capital consumed (oc). The operating capital consumed for each cycle is added up (oc, from Sheet 8, Table 1, sum of the values from columns 10, 13 and 19).
- 6. Gross value-added (GVA) The GVA for each cycle is added up (from Sheet 8, Table 1, Column 18).
- 7. Gross margin (GM). The GM for each cycle is added up (from Sheet 8, Table 1, Column 21).
- 8. Net value-added (NVA). The NVA for each cycle is added up (from Sheet 8, Table 1, Column 20).
- 9. Net margin (NM). The NM for each cycle is added up (from Sheet 9, Table 1, Column 22).

For the rest of the table, the calculation is automatic.

10 and 11. Indicators for the characterisation of all activities carried out on a given piece of land.

- 10. Labour intensity (WD/A/year).
- 11. Intensity of operating capital consumed (oc/A/year).

12 to 14. Indicators of gross productivity and gross efficiency (performance indicators based on gross value-added).

- 12. Gross daily labour productivity (GVA/WD).
- 13. Gross efficiency of land use (GVA/A/year).
- 14. Gross efficiency of the use of operating capital consumed (GVA/oc).

15 and 16. Indicators of gross profitability (performance indicators based on gross margin).

- 15. Gross daily remuneration for family labour (GM/WDfam).
- 16. Gross profitability of land use (GM/A/year).

17 to 19. Indicators of net productivity and net efficiency (performance indicators based on net value-added).

- 17. Net daily labour productivity (NVA/WD).
- 18. Net efficiency of land use (NVA/A/year).
- 19. Net efficiency of the use of operating capital consumed (NVA/oc).

20 and 21. Indicators of net profitability (performance indicators based on net margin).

- 20. Net daily remuneration for family labour (NM/WDfam).
- 21. Net profitability of land use (NM/A/year).

Table 6. Characterisation and annual evaluation of all crop-production activities carried out on a given piece of land.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Type of indicator and indicator	Land area (A)	Labour	Family labour	oc	GVA	GM	NVA	NM	Characterisation		Gross productivity and efficiency			Gross profitability		Net productivity and efficiency			Net profitability	
Activities									Labour intensity (WD/A/year)	Intensity of operating capital consumed (oc/A/year)	Gross daily labour productivity (GVA/WD)	Gross efficiency of land use (GVA/A/year)	Gross efficiency of the use of operating capital consumed (GVA/oc)	Gross daily remuneration for family labour (GM/WDfam)	Gross profitability of land use (GM/A/year)	Net daily labour productivity (NVA/WD)	Net efficiency of land use (NVA/A/year)	Net efficiency of the use of operating capital consumed (NVA/oc)	Net daily remuneration for family labour (NM/WDfam)	Net profitability of land use (NM/A/year)
Unit used	ha	WD	WDfam	MU	MU	MU	MU	MU	WD/ ha	MU/ha	MU/WD	MU/ha	MU/MU	MU/ WDfam	MU/ha	MU/WD	MU/ha	MU/MU	MU/ WDfam	MU/ha
									-	-	-	-	-	-	-	-	-	-	-	-
									-	-	-	-	-	-	-	-	-	-	-	-
									-	-	-	-	-	-	-	-	-	-	-	-
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									-	-	-	-	-	-	-	-	-	-	-	-
Comments:																				

7

The **seventh table** features various indicators for **evaluating the economic performance of the agricultural production system**. All calculations on this table are automatic.

Each column of the table corresponds to one of the ten economic-performance indicators used.

1 to 5. Indicators of net productivity and net efficiency (performance indicators based on net value-added).

- 1. Annual labour productivity (NVA_{PS}/ALU, from sheets 10 and 12, Table 2).
- 2. Net daily labour productivity (NVA_{PS}/WD, from sheets 10 and 12, Table 7).
- 3. Net efficiency of land use (NVA_{PS}/UFA, from sheets 4 and 10, Table 2).
- 4. Net efficiency of the use of operating capital consumed (NVA_{PS}/oc, from sheets 10 and 12, Table 8).
- 5. Net efficiency of the use of operating capital used (NVA_{PS}/OC, from sheets 10 and 12, Table 8).

6 to 9. Indicators of profitability (performance indicators based on agricultural income).

- 6. Annual remuneration for family labour (AI/FALU, from sheets 11, Table 3, and 12, Table 1).
- 7. Daily remuneration for family labour (AI/WDfam, from sheets 11, Table 3, and 12, Table 4).
- 8. Profitability of land use (AI/UFA, from sheets 11, Table 3, and 4, Table 2).
- 9. Annual profitability of the use of capital advanced for agricultural production in the year, or rate of annual profit (τp = AI/K, from sheets 11, Table 3, and 5).

10. Indicator of the overall autonomy of the production system: Share of gross product corresponding to value-added (NVA_{PS}/GP_{PS}, from Sheet 10 for NVA_{PS}, and from the calculation of gross product based on the sum of gross products for the different activities and the value of intra-unit consumption (Sheet 6). The degree of autonomy is:

- a characteristic of the production system. Autonomy is one of the principles of agroecology. The degree of autonomy is therefore one of the sub-criteria (4.1) used to calculate the agroecolo-score;
- a criterion of economic performance for the production system. It is directly linked to the net efficiency of the use of means of production consumed, i.e. the value-added generated per unit of means of production consumed: the more efficient it is, the more autonomous the production system is.

Table 7. Evaluation of the agricultural production system.

	1	2	3	4	5	6	7	8	9	10	
Type of indicator	Net productivity and efficiency					Profitability				Autonomy	
Indicator	Net annual labour productivity (NVA_{PS}/ALU)	Net daily labour productivity (NVA_{PS}/WD)	Net efficiency of land use (NVA_{PS}/UFA)	Net efficiency of the use of operating capital: Operating capital consumed (NVA_{PS}/oc)	Net efficiency of the use of operating capital: Operating capital used (NVA_{PS}/OC)	Annual remuneration for family labour (AI/FALU)	Daily remuneration for family labour (AI/WDfam)	Profitability of land use (AI/UFA)	Annual profitability of the use of capital (annual rate of profit, tp = AI/K)	NVA_{PS}/GP_{PS}	**Gross product of the agricultural production system** (necessary for calculating autonomy)
Value	–	–	–	–	–	–	–	–	–	–	
Unit	MU/ALU	MU/WD	MU/ha	MU/MU	MU/MU	MU/FALU	MU/WDfam	MU/ha	%	%	– MU

Comments:

Worksheet 10

Sheet 14. Total income for the farm (TI) and total income per unit of family labour (TI/FLU)

Sheet 14 is used to calculate **total income for the farm** (TI) and **total income per unit of family labour** (TI/FLU). It has **three tables**.

Table 1. Extra-agricultural income (EAI).

A. Sale of workforce						B. Other activities					
			Costs						Costs		
1. Activity	2. No. of people	3. Gross income	4. Type	5. Amount	6. Net income	1. Activity	2. No. of people	3. Gross income	4. Type	5. Amount	6. Net income
					0	Renting out owned land		0			0
					0						0
					0						0
					0						0
					0						0 MU
					0	C. Monetary transfers					
					0	1. Details					3. Amount
					0						
					0						
					0 MU						0 MU
All net extra-agricultural income (EAI)				0 MU							
Comments:											

The **first table** is used to calculate all **extra-agricultural income** (EAI). Three types of income are identified: income from the sale of workforce (agriculture, other manual activities), income from other activities (processing agricultural products acquired from off the farm, artisanship, trade, paid work in the tertiary sector, etc.) and monetary transfers from family members who do not live on the farm. For activities that involve the processing of agricultural products, only activities involving products purchased by the farm must be entered. The processing of agricultural products from the farm is considered an extension of agricultural production itself and must be entered in the sheets covering crop- and livestock-production activities. For the sale of workforce and income from other activities, the table has six columns.

1. Activity.
2. Person(s) in question.
3. Gross income.
4. Type of cost linked to the activity (transport, housing).
5. Amount of costs.
6. Net income (automatic calculation: gross income – costs).

For monetary transfers, the two columns correspond to:

1. details;

2. annual amount.

The total amount for each type of income is calculated (automatic calculation) at the bottom of each section of the table.

The total extra-agricultural income (EAI, automatic calculation: sum of the totals for each type of extra-agricultural income) is calculated at the bottom of the table.

Table 2. Total income for the farm (TI) and breakdown of that income.

Agricultural income			**0 MU**	–
Extra-agricultural income (EAI)			0 MU	–
including:		Sale of workforce	0 MU	–
		Other activities	0 MU	–
		Monetary transfers	0 MU	–
Total income (TI)			0 MU	–

Comments:

The **second table** is used to calculate **total income for the farm** (TI) and the **breakdown of that income** (absolute value, and % of total income). The calculations are automatic. The table has six rows.

1. Agricultural income (AI, from Sheet 11, Table 3).

2. All extra-agricultural income (EAI, from Table 1), including:
   - sale of workforce (from Table 1);
   - other activities (from Table 1);
   - monetary transfers (from Table 1).

3. Total income (TI = AI + EAI).

Table 3. Total income per family labour unit (TI/FLU).

TI	0	MU
FLU	0	FLU
TI/FLU	–	MU/FLU

Comments:

The **third table** is used to calculate **total income per unit of family labour** (TI/FLU). The calculation is automatic. The table has three rows.

1. Total income (TI, from Table 2).

2. Number of family labour units (FLU, from Sheet 12, Table 1).

3. Total income per unit of family labour (TI/FLU).

Sheet 15. Economic surplus (S)

Sheet 15 is used to calculate the **economic surplus from agriculture per unit of family agricultural labour** and the **economic surplus of the farm per unit of family labour.** The sheet has **two tables,** each of which has **two sub-tables**.

The **first table** focuses on **the economic surplus from agriculture per family agricultural labour unit** (Sagr/FALU). It is used to evaluate the extent to which the farm's agricultural activity is able to generate an economic surplus (difference between the agricultural income generated and the level of income required to satisfy the family's basic needs), assuming that the needs of all the farm's CUs are covered by the agricultural income.

Two approaches are proposed. Each approach corresponds to one of the two sub-tables (1.1 and 1.2).

Table 1.1. Economic surplus from agriculture per FALU (Sagr/FALU)
Using the actual number of consumption units for the farm.

Consumption units/FALU		–	CU/FALU
Level of income corresponding to the satisfaction of basic needs	Per CU:		MU/CU
	Per FALU:	-	MU/FALU
Agricultural income (AI) per FALU		-	MU/FALU
Agricultural surplus / FALU		**-**	**MU/FALU**

Table 1.1 is based on the actual number of consumption units per unit of family agricultural labour (CU/FALU) for the farm. The result obtained (Sagr/FALU) is the one that corresponds best to the actual current situation of the farm in question. This table has four rows.

1. Number of consumption units per unit of family agricultural labour (CU/FALU, automatic calculation, data from Sheet 12, tables 3 and 2).

2. Level of income corresponding only to the satisfaction of basic needs:
   - per consumption unit. This data may come from national statistics (extreme poverty line, level of expenses corresponding to basic needs) or from a specific survey of the territory;
   - per unit of family agricultural labour, assuming that all needs are covered by agricultural income (automatic calculation: level of income corresponding to the satisfaction of basic needs per CU x CU/FALU).

3. Agricultural income per FALU (AI/FALU, automatic calculation, from Sheet 13, Table 6).

4. Agricultural economic surplus/FALU (Sagr/FALU, automatic calculation: AI/FALU – level of income corresponding only to the satisfaction of basic needs per FALU).

Table 1.2. Calculating a number of CUs based on an average FLU/CU ratio for the territory.

Consumption units/FALU			CU/FALU
Level of income corresponding to the satisfaction of basic needs	Per CU:	-	MU/CU
	Per FALU:	-	MU/FALU
Agricultural income (AI) per FALU		-	MU/FALU
Agricultural surplus / FALU		**-**	**MU/FALU**

Table 1.2 is based on the average number of consumption units per unit of family agricultural labour (CU/FALU) for the territory. The result obtained (Sagr/FALU) makes it possible to better compare the different types of farm in a given region by taking out of the equation the current number of CUs for the farm, which results from factors specific to the farm in question, and in particular the specific moment at which the farm is situated in its life cycle. The five rows are the same as those in Table 1.1, with the following differences:
- first row: the number of consumption units per unit of family agricultural labour (CU/FALU) is not automatically calculated: the average CU/FALU for the farms studied in the region must be entered manually;
- second row: the level of income corresponding to the satisfaction of basic needs per consumption unit is calculated automatically (from the data in Table 1.1).

The **second table** focuses on the total economic surplus per family labour unit (S/FLU). It aims to evaluate the extent to which all the farm's activities (not just the agricultural activity) are able to generate an economic surplus (difference between the income generated and the level of income required to satisfy the family's basic needs).

Here too, two approaches are proposed. Each approach corresponds to one of the two sub-tables (2.1 and 2.2). These sub-tables are generated on the same principle as the two sub-tables of first table. The calculation is entirely automatic. The specific data to be entered on this sheet were already entered in the first part and are automatically retrieved:

Table 2.1. Total economic surplus for the farm per FLU (S/FLU)
Using the actual number of consumption units for the farm.

Consumption units/FLU		-	CU/FALU
Level of income corresponding to the satisfaction of basic needs	Per CU:	-	MU/CU
	Per FALU:	-	MU/FLU
Total income (TI) per FLU		-	MU/FLU
Total surplus per FLU (S/FLU)		**-**	**MU/FLU**

Table 2.1 is based on the actual number of consumption units per unit of family labour (CU/FLU) for the farm. The result obtained (S/FLU) is the one that corresponds best to the actual current situation of the farm in question. The sub-table has four rows.

1. Number of consumption units per unit of family labour (CU/FLU, data from Sheet 12, tables 2 and 3).

2. Level of income corresponding only to the satisfaction of basic needs:
   - per consumption unit (from Table 1.1);
   - per unit of family labour (level of income corresponding to the satisfaction of basic needs per CU. CU/FLU).

3. Agricultural income per FLU (AI/FLU, from Sheet 14, Table 3).

4. Agricultural economic surplus/FLU (S/FLU, AI/FLU – level of income corresponding to the satisfaction of basic needs per FLU).

Table 2.2. Calculating a number of CUs based on an average FLU/CU ratio for the territory.

Consumption units/FLU		-	CU/FALU
Level of income corresponding to the satisfaction of basic needs	Per CU:	-	MU/CU
	Per FALU:	-	MU/FLU
Total income (TI) per FLU		-	MU/FLU
Total surplus per FLU (S/FLU)		**-**	**MU/FLU**

Table 2.2 is based on the average number of consumption units per unit of family labour (CU/FLU) for the territory. The result obtained (S/FLU) makes it possible to better compare the different types of farm in a given region by taking out of the equation the current number of CUs for the farm, which results from factors specific to the farm in question, and in particular the specific moment at which the farm is situated in its life cycle. The four rows are the same as those in Sub-table 2.1, with the only difference being the fact that, in the first row, the number of consumption units per unit of family agricultural labour (CU/FALU) comes from the data entered in Table 1.2 (CU/FALU).