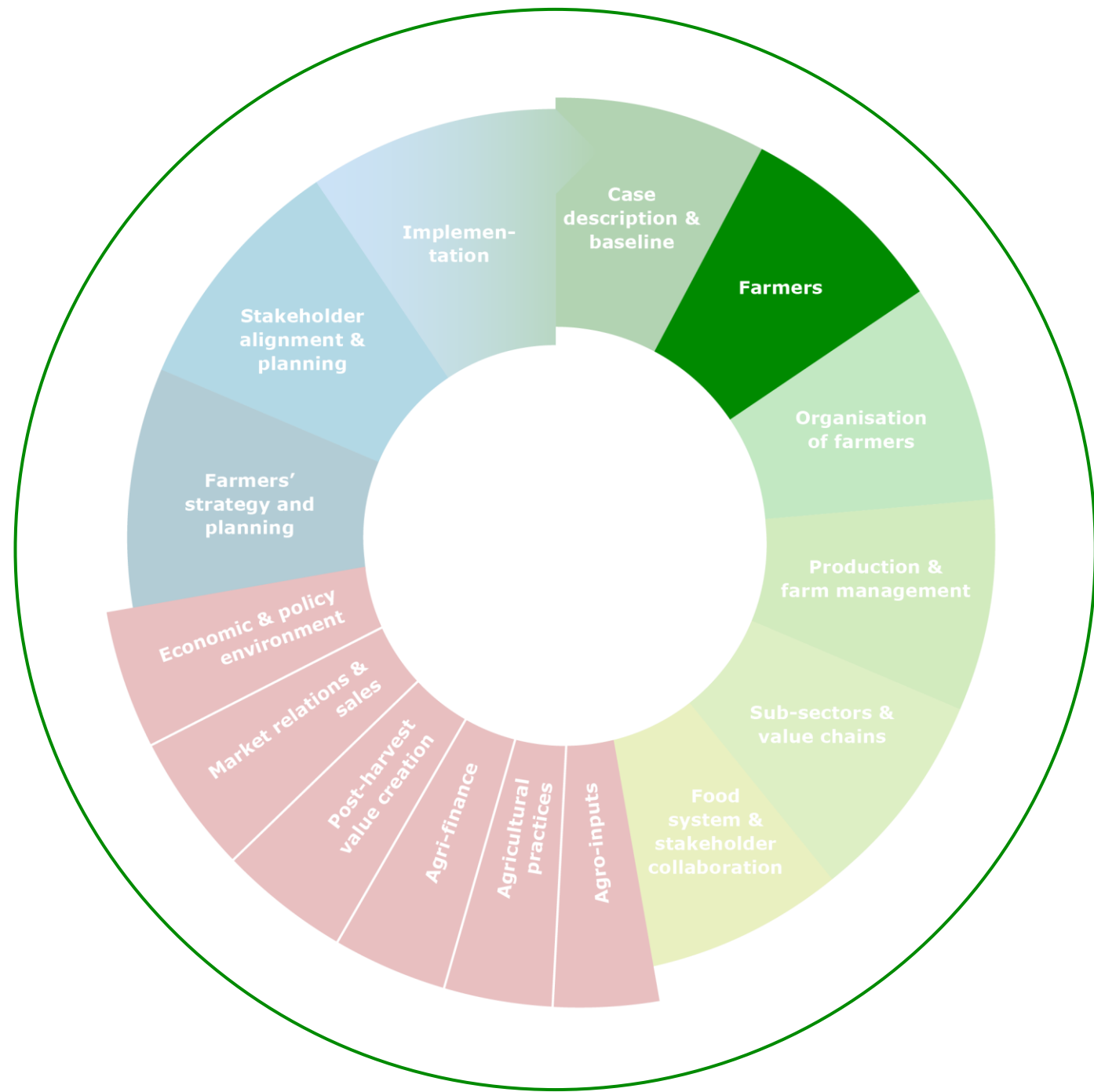


Farmers' resource endowment (capital pentagon)



WUR E-depot:
[Guide 636120](#) | [DIY 636154](#) & [636155](#)

Introduction

About the tool

By exploring human, natural, physical, financial and social capital, the 'Capital Pentagon' helps to reflect on the resources farmers have and how this has an impact on the strategies they adopt.

The five capitals help to be sensitive to the resources people have. For any particular case, the central question is: **"What are the resources that farmers have and can use, and what can be done to improve these?"** The relative strength of the five capitals can be visualized in a 'pentagon' (penta = 5 and refers to the 5 capitals).

Awareness of the resources that farmers have access to, and the identification of options to improve these, is essential for farmer empowerment and for designing programmes that are farmer-inclusive. Assessing the farmers' resources with the Capital Pentagon is especially relevant for action research, programme design, monitoring and evaluation. It helps to reflect about options to strengthen the resource endowment, e.g. making the five capitals more robust, predictable and balanced. In the sustainable livelihood approach, the capitals are also referred to as livelihood assets.

The 'Capital Pentagon' exercise is done in three steps: (1) Reflect on the current farmers' resource endowment (5 capitals); (2) Analyse and show the relative importance of the 5 capitals in a capital pentagon and (3) Identify possibilities to strengthen farmers' resources. The tool is suggested for anybody interested in exploring and assessing different perspectives for farmer agency and collective action, based on farmers' own resources and to proactively look for options to improve the farmers' resource base.

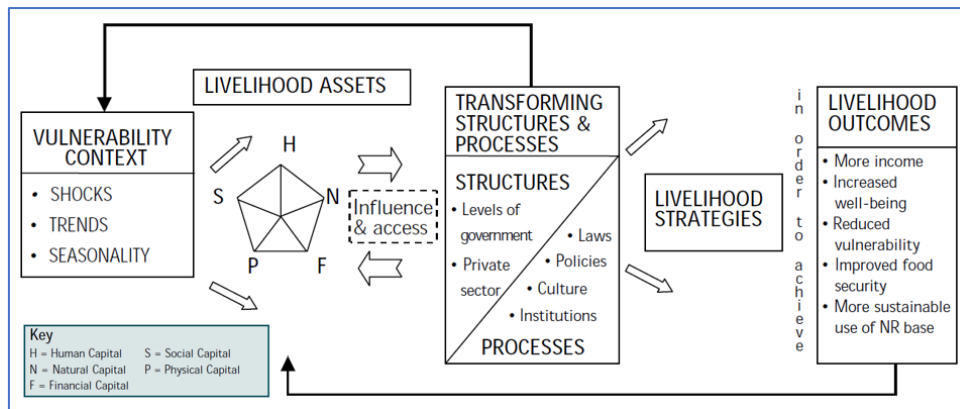
Aims of the tool:

- To assess the current resource endowment of farmers, through the analysis of five capitals (human, natural, physical, financial and social)
- To assess and show the relative importance of the 5 capitals in a capital pentagon
- To identify possibilities to strengthen farmers' resources

Sustainable Livelihoods Approach

The Sustainable Livelihoods Approach (SLA) provides a framework and checklist of important issues that define the livelihoods of people and sketches out how these are linked to each other. The key elements of the framework are: Vulnerability context, Livelihood assets, Structures and processes, Livelihood strategies and Livelihood outcomes. "A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living.

A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base." (DFID 2001; adapted from Chambers & Conway 1992).



Below, we focus on the analysis of farmers livelihood assets (five capitals), which are building blocks or means for achieving livelihood outcomes. The identification and assessment of farmers' resources is done with the aim to identify how to improve the farmers' resource endowment.

More information and interpretation on the five capitals approach: DFID (2001) Sustainable livelihoods guidance [sheets](#) and UNDP (2017) guidance [note](#). Both provide more information on the application of the Sustainable Livelihoods Framework in development projects.

Five capitals

The figure above shows that the livelihood assets have a central position in the SLA. They are composed of five capitals:

Human capital. This is in the body and mind of people. It concerns all capacities and abilities that enable a person to pursue a sustainable livelihood (health, ability to work, knowledge, skills and experiences, ability to reflect and innovate, ...). Ill-health and lack of information and education are core dimensions of poverty and overcoming these conditions may be primary objectives. Human capital is required to make use of any of the four other types of assets. It is therefore necessary, though not on its own sufficient for the achievement of positive livelihood outcomes.

Natural capital. This is in the physical environment of farmers. There is a wide variation in the resources that make up natural capital: land, water, trees, crops, livestock, pastures, lakes and wetlands, biodiversity, clean air, etc.). The natural resources that are available and accessible are particularly important for the livelihoods of farmers, as they are the basis for production. Shocks in the natural environment (climate change, floods, droughts, fires, pests and diseases, ...) may devastate the livelihoods of farmers. Sustainable natural resource use is essential for resilient rural livelihoods.

Physical capital. This comprises the basic infrastructure and producer goods needed to support livelihoods and agricultural activities. It is generally found on the farm or near to the farm. It includes: shelter and buildings, energy, water supply and sanitation, telecommunications, roads, transport, machinery, equipment, tools, inputs for production etc. These are also very important production factors. Physical capital has important links with other capitals. For instance: without teachers schools do not make sense, for buying agricultural inputs, farmers need financial capital.

Financial capital. This is about cash or assets that can be easily converted into cash. It can be the cash at hand (in the pocket and household savings), money on bank accounts, participation in informal saving and credit groups, gold and jewellery, stocks of agricultural production or animals that can be easily sold and

converted into money. Financial capital is the most versatile of the five capitals. It can be converted into other types of capital (land, inputs, food, training, ...). It is also the asset that tends to be the least available to farmers and to the poor in general.

Social capital. This is about the relations the farmer has. It is embedded in the formal and informal groups (s)he is part of. Examples are: family relations, neighbours and friends, groups, associations, organizations, cooperatives, relations with companies, traders, input suppliers, and government agencies. Originally, social capital referred to horizontal relations within a (relatively) homogenous group (bonding). It has been expanded by including connections and interaction between heterogeneous groups (bridging) and connections with higher levels and people/organizations in power (linking). The FARE approach seeks to promote farmer entrepreneurship and farmers' organisation; in this context social capital is of specific interest. It is important for joint action of farmers, such as collective procurement and collective marketing, relations with value chain supporters and enablers and for influencing the enabling environment.

Farmers' resources: determining the options for farmers to improve their conditions

The five capitals are the assets or resources farmers can use and combine. Some capitals (resources/assets) can be changed for others: this is called asset conversion. An example is using financial capital to buy land (natural capital) to buy inputs (physical capital) or to follow a training (human capital). Together, the five capitals are the resource endowment of farmers. The capitals, or resource endowment, determine the options farmers and other people can consider for securing or improving their conditions. Own capital is the starting point for farmer entrepreneurship.

An exercise in three steps

The 'Capital Pentagon' exercise is done in three steps, which are explained in the next sections:

1. Reflect on the current farmers' resource endowment (5 capitals)
2. Analyse and show the relative importance of the 5 capitals in a capital pentagon
3. Identify possibilities to strengthen farmers' resources.

Step 1 - Reflect on the current farmers' resource endowment

Fill out the table below and indicate the current resource endowment of farmers in your specific case. For each of the five capitals, think of what the farmers have and can use to develop their agro-economic activities and to improve their livelihoods. Describe for each of the five capitals the current situation. **Be as specific as you can in your description of the capitals!**

The following format is suggested for describing and scoring the farmers' resource endowment:

Resources ('5 Capitals')	Current farmers' resource endowment
Human capital	
Natural capital	
Physical capital	
Financial capital	
Social capital	

Guidance for assessing the current farmers' resource endowment

Using the mentioned reference documents (DFID 2001 and UNDP 2017), we suggest some subjects that can help you to analyse the different capitals in a specific context. Please be aware that these questions are indicative. It is recommended to elaborate further, taking the specific political, economic, social and cultural context into account.

Human capital

Indicators

- Health conditions of household members
- Prevailing diseases
- Life expectancy
- Education level
- Training
- Experience
- Access to information
- Technologies used
- Local innovations
- Awareness of civil rights
- Awareness about policies and regulations

Some questions:

- What is the food and nutrition security and diet diversity of family members?
- Are there differences in health conditions (men, women, children)?
- Until which grade is education accessible?
- Are there differences in access to education and training? Are some groups excluded?
- From what sources do people access information? Are these sources easily accessible?
- Do people feel that they are particularly lacking certain types of information or certain skills?
- What is the access to research and extension services?
- Is there a tradition of local innovation?

Natural capital

Indicators

- Land and soils / soil fertility / soil depletion
- Water / water quality
- Forests / woods
- Wild animals
- Air quality
- Erosion / erosion protection
- Storm/flood protection
- Biodiversity
- Local plant genetic resources
- Waste disposal
- Seasonality of natural resources availability

Some questions:

- Which groups have access to which types of natural resources
- What is the nature of access rights (e.g. for land tenure: private ownership, common ownership, rent, lease, sharecropping, ...)
- What is the access of women, youth and/or indigenous people to natural resources? How can disadvantaged groups increase their access to natural capital?
- Are there conflicts over resources?
- Productivity of the natural resources?
- Over-exploitation / degradation of natural resources?
- Do infrastructural developments have an impact on natural resources (e.g. dams urbanization, roads, forests clearing, ...)?
- Can certain natural resources be used for different purposes?

Physical capital

Indicators

- Shelter, houses and buildings
- Energy
- Water supply and sanitation
- Telecommunication
- Schools
- Roads and transport
- Machinery, equipment and tools
- Inputs for production (seeds, fertilizer, crop and animal disease management products, ...)

Some questions:

- What is the availability and the condition of public infrastructure (roads, energy, water, schools, telecommunications, ...) in the area?
- Do farmers have access to these infrastructures?
- Do support services ensure the operation of infrastructures (road maintenance, water and energy companies, school teachers, etc.)?
- Do farmers have the machinery, equipment and tools they need?
- Are production inputs available in the farmers' production zone?
- Are these accessible and affordable?
- Is the access to production factors and agro-inputs comparable for men, women and youth?

Financial capital

Indicators

- Cash at hand
- Savings
- Informal saving and credit groups
- Bank accounts
- Access to bank loans
- Collateral for bank loans
- Gold, jewelry or other forms of keeping savings
- Remittances
- Financial support of family, neighbours, friends
- Loans from informal money lenders
- Stocks of produce or animals that can be sold and converted into money

Some questions:

- What are the different forms of financial capital?
- What is the importance of informal credit systems?
- Are formal loans (banks, MFI's) accessible? For whom?
- What are the conditions and risks of accessing credit?
- Who controls the sales and income in the household?
- Do women and youth have own income generating activities?

Social capital

Indicators

- Family relations and support
- Relations with friends and neighbours
- Community structures and mutual aid
- Trust among farmers
- Informal groups and associations
- Formal organisations and their quality of governance and management, rate of membership and services to members
- Women groups, youth groups
- Relations with traders, processors and other value chain operators
- Relations with transporters, financial institutions and other value chain supporters
- Relations with public sector agencies, such as research and extension
- Farmers' voice to decision-making levels
- Networks farmers are part of

Some questions:

- What is the level of management of public goods (natural resources, public infrastructure)?
- Is knowledge and information shared?
- Do farmers trust each other? Do they easily cooperate? Or is there mistrust and conflict?
- What are the underlying reasons to cooperate or not to cooperate?
- What is the importance of informal groups and associations? For whom especially? How do informal groups function?
- How do formal groups function? What is the rate of membership? How is governance and management organized?
- What are the services to, and benefits for farmers of these informal and formal organisations?
- Is membership possible for all social groups? Are certain groups excluded?
- What is the bargaining power of farmers vis-à-vis input providers, traders, brokers and others?
- Are there farmer leaders who represent the views and interests of farmers?

Step 2 - Analyse and show the relative importance of the 5 capitals in a capital

pentagon

Scoring

Evaluate the capital endowment of the farmers and give a score for each of the five capitals:

- 0-20 The capital is absent to very weak
- 20-40 The capital is very weak to weak
- 40-60 The capital is weak to acceptable
- 60-80 The capital is acceptable to good
- 80-100 The capital is good to excellent

Please note that the scoring is based on the inventory made and set against a benchmark of what is good or excellent resource endowment in the local circumstances. This benchmark could be formulated as the ideal situation to which the current situation is compared.

Observation: The score you give an indicative, qualitative assessment. Choose therefore round numbers, ending on 0 or a 5. Example: If you think the capital is weak to acceptable: choose a score between 40 and 60, thus choose: 40, 45, 50, 55 or 60.

Resources ('5 capitals')	Score	Why this score ?
Human capital		
Natural capital		
Physical capital		
Financial capital		
Social capital		

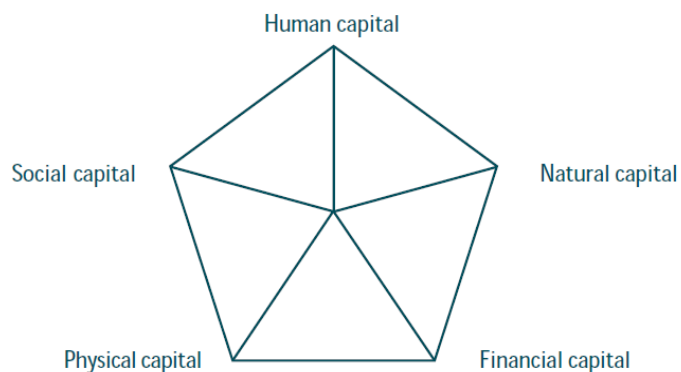
Drawing the pentagon

For the drawing of the Pentagon there are two options: manually and with Excel. Both options are explained on the next page. The size and shape of the pentagon show the specific resource endowment of farmers in your situation.

- The larger the size of the pentagon, the larger the resource endowment of farmers.
- The shape of the pentagon informs about the relative strength and weakness of the five capitals.

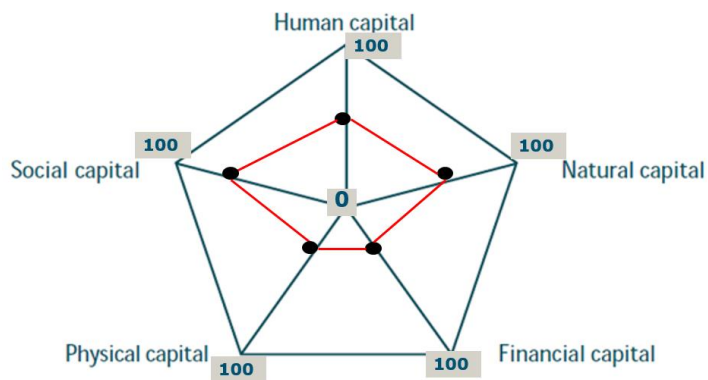
Draw the pentagon manually

Draw first a regular pentagon such as the figure to the right. There are 5 axes, one for each of the 5 capitals. Starting from the middle, each axis represents a potential maximum score of 100.



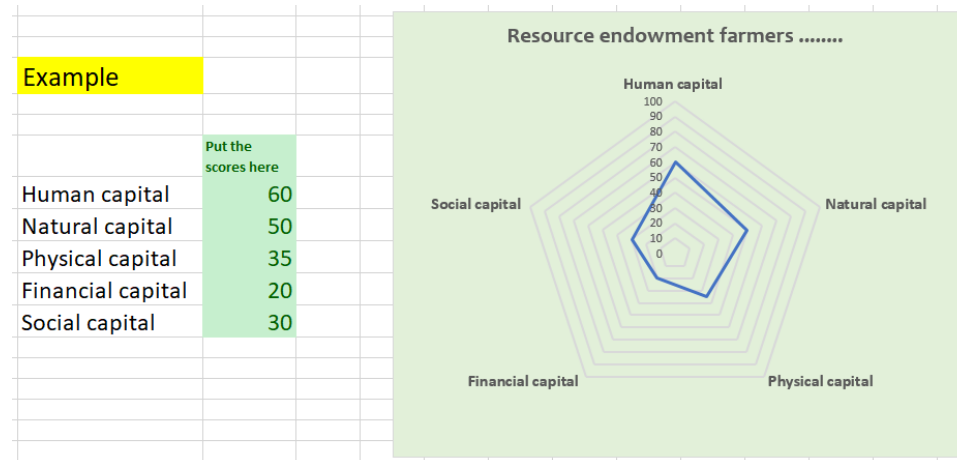
Now, dot your scores on the axes of each of the 5 capitals and draw the specific pentagon for your case.

The size and the shape of 'capital pentagon' then shows the relative strength and weakness of the 5 capitals for farmers of your case.



Drawing the pentagon with Excel

Go to the Excel tool and enter the scores for the five capitals in the green column. The pentagon and scores are automatically made. You can adapt the title of the figure. Copy the Pentagon figure and use it for presenting the results.



After producing the pentagon, it is important to comment on the size and shape and to assess what can be done to strengthen the farmers' resource endowment.

Step 3 - Identify possibilities to strengthen farmers' resources

The third step is action oriented and focused on the possibilities to strengthen the farmers' resource endowment (for each of the 5 capitals). The availability and use of resources (five capitals) are the starting point for farmer entrepreneurship. For farmer-inclusive agribusiness development, the strengthening of farmers' resources and capacities is very important. Generally, specific attention is required for the resources and capacities of small, female and young farmers. The analysis of the farmers' resource endowment ('Capital pentagon') leads to the identification of challenges and opportunities and options to strengthen farmers' resources. These can be structured according the five capitals (1st table on the next page), and according to the six intervention areas (2nd table).

Resources ('5 Capitals')	Options / possible actions to strengthen farmers' resources
Human capital	
Natural capital	
Physical capital	
Financial capital	
Social capital	

Linking the 5 capitals to the six FARE intervention areas

You can relate the five capitals to the six FARE intervention areas. Some examples are the following:

- Human capital: the challenge of insufficient farmers' knowledge and skills to control pests and diseases can be linked to the intervention area 'Agricultural practices'
- Natural capital: the challenge that farmers do not have secure land rights can be linked to either 'production factors and agro-inputs', 'Enabling environment' or both.
- Financial capital: challenges and opportunities can generally be linked to 'Agri-finance'
- Physical capital: challenges and opportunities most often link to 'Production factors and agro-inputs'.
- Social capital: the challenge that farmers sell individually and the opportunity of collective marketing can be linked to 'Market relations and sales'. The challenge of weak governance and management of the farmers' organisation can be linked to 'FO Governance and management'

Please refer to this document as:

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