



RESILIENCE: A CONCEPTUAL FRAMEWORK

Creating a shared language to make it concrete and specific

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1. Resilience: a popular but slippery concept

Resilience is a complex, broad and sometimes slippery concept. It is used in many ways and recently has become very popular in development jargon. The term can be used to characterize many different things: a household, a rural community, a specific agricultural practice, a certain service, an agri-food value-chain, a landscape, a socio-economic system, etc. Resilient systems can endure shocks or stresses and continue functioning. Consequently, resilience is context-specific and depends on the system and the nature of the shock or stress one is talking about. The resilience of a water utility for increasing pressures on water use in its catchment area, is something very different from the resilience of an agricultural value chain for variations in world market prices for inputs and produce.

With increasing popularity, a danger is also that “improving resilience” is used in superficial ways and as the new buzzword that ‘sells’, but without sufficient concrete meaning behind it or clarity on its implications.

This brief note is trying to bring some rigor to the way we use the term resilience within SNV and with our partners. This framework will help us to design projects more rigorously where a resilience orientation is required. It provides a basic but nuanced conceptual framework that can be applied across different areas in the agri-food sector (and possibly also in other sectors).

As circumstances shift and new vulnerabilities surface, addressing resilience is not a one-time affair but an on-going and evolving task. While it may appear quite complex to understand various dimensions of resilience, this does not imply that it requires complex solutions. Rather, one needs to make a clever choice of (simple) solutions that focus on essential leverage points to shift the situation. And one needs to continue considering and if necessary, adjusting these choices over time.

This framework can help to make such choices in a deliberate and transparent manner. It creates shared logics and terms that enable us to propose and discuss concrete resilience challenges and ways to address them. We think it will help to make resilience concrete, practical and specific for application in each situation or project.

A Glossary is presented in Annex A, which will be nurtured as we learn from concrete applications in our projects.

2. Why focus on resilience and what resilience?

Due to climate change, pandemics, world market events and other factors, increasingly different types of systems (e.g., households, communities, (sub-) sectors, value chains, water systems, market systems, landscapes) are exposed to shocks and stresses. Deviations from the ‘average’ or ‘expected’ situation tend to increase and become more regular.

By strengthening resilience, we seek to improve the way a system operates before, during, and after an exposure to shocks and stresses. The growing attention to ‘resilience’ sits within a broader ambition for ‘sustainability’. But ‘resilience’ deepens the idea of ‘sustainability’ with a particular focus on adequate functioning in the face of uncertainties and variations. Resilience seeks to strengthen capacities to cope with vulnerable or fragile situations. Considering **‘resilience’ can be seen as a ‘stress-test** for any sustainable development ambition or effort.

Strengthening resilience needs to be done with a long-term mindset, as shocks may happen only irregularly, and stresses gradually increase over longer timelines. This also suggests the importance of linking different (complementary and successive) interventions

to achieve lasting results. Considering this, it is also unrealistic to think that a project will address all resilience aspects at stake for the topic or system it works on. The challenge is to evaluate different vulnerabilities and consciously consider trade-offs between priorities that a project can set. The three 'what-questions' are intended to help you do this.

As indicated above, resilience depends on the specific context and situation. Also, it is not feasible to say that "resilience was achieved" in a system, as building resilience in one aspect at one point in time, does not necessarily lead to longer-lasting or broader and resilience for other vulnerabilities.

That said, when addressing resilience, there are always three main questions to be answered to help you specify what you want to address and why:

- Resilience **to what** (to kind of shock or stress)
- Resilience **of what** (of what kind of entity or system)
- Resilience **for what** (for which specific objective or ambition)

In addition, to the above way of specifying particular resilience, the OECD (2019) suggests that resilience of a certain system can also be treated in a more 'agnostic' way. Because building resilience capacities means not just to try to address particular threats, "but rather assumes that at some stage, some threat or combination of threats will materialize and disrupt the system" (OECD, 2019, pg.3) and thus one may seek to strengthen general resilience features of the system as a whole, which may help it to deal with a variation of, as yet unknown, shocks or stresses.

Finally, developing these logics not only helps us to be clear about what resilience is for ourselves, but also to confidently and practically engage donors in a conversation on what forms of resilience to address. This understanding of resilience has already been taken forward for example, in the Food Pavilion at COP 27 in Sharm-El-Sheikh in November 2022 and other fora. Internally, SNV will seek to weave it systematically into its regular development approaches in a range of domains and projects. It will feature in the development of guidance on systemic change in early 2023.

3. A definition of resilience

We propose the following definition for resilience for our work in SNV (in particular in the agri-food sector).

The first part of the box above is the technical definition of resilience, the second part puts that in the context of SNV's vision. Our mission further indicates that we work in food, water, and energy systems. So, we will usually talk about resilience in the context of these three sectors and the specific (sub-)systems within them, as for example specified in the SNVs products.¹

Resilience is the ability of a system to absorb, adapt and transform its functioning and continue to produce results when exposed to shocks, stresses, changes, and uncertainties

to foster all people, to live with dignity and have equitable

Other definitions commonly used by well-known organisations include:

- **Organization for Economic Co-operation and Development (OECD):** Guidelines for resilience systems analysis: "Resilience is the ability of households, communities, and nations to absorb and recover from shocks, whilst positively

¹ Note that resilience may not just relate to sub-sectors, but to more cross-cutting sub-systems like governance, market, and knowledge systems or to geographically defined systems (a landscape, an administrative area).

adapting and transforming their structures and means for living in the face of long-term stresses, change and uncertainty” (Mitchell, 2013 as cited in OECD, 2014)

- **Oxfam:** Framework and Guidance for Resilient Development: “Oxfam defines resilience as the ability of women and men to realize their rights and improve their well-being despite shocks, stresses and uncertainty” (Oxfam, 2016).
- **United States Agency for International Development (USAID):** The Resilience Agenda: Measuring Resilience in USAID: “The ability of people, households, communities, countries, and systems to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth” (USAID, 2013).
- **Inter-governmental Panel on Climate Change (IPCC):** 6th Assessment Report: “Resilience in this report is defined as the capacity of social, economic and ecosystems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure as well as biodiversity in case of ecosystems while also maintaining the capacity for adaptation, learning and transformation” (IPCC, 2022)

In the above definitions common elements can be observed such as:

- a) The existence of shocks, stresses, disturbances and/or uncertainty that strengthening resilience should address,
- b) The concept of resilience as a capacity and/or ability,
- c) The understanding of resilience considering a system as the object of analysis (e.g., individuals, households, communities, etc.),
- d) The use of different verbs that refer to resilience capacities such as absorb, recover, adapt, mitigate, transform, etc.

It is relevant to mention that resilience can also be viewed at different levels in a system. Therefore, as part of the ‘of what’ question it is essential to reflect at which system level (i.e., micro-meso-macro levels) resilience will be analysed. For example: a value chain as a whole, or specific types of businesses or smallholder farmers within that same value chain, or both? It can also be used at the intersection of different systems, for example: the interaction between a physical landscape and a market system. Resilience, or the lack of resilience, within various interconnected systems or system levels are likely to influence one another².

To have a clear focus when working on resilience, one should not only determine what systems one wants to strengthen (‘of what’) but also against what shocks and stresses (‘to what’) and with what objectives in mind (‘for what’) making such choices needs to be based on good information and analyses. This requires a dynamic understanding of the situation and of trends occurring in the system(s) concerned.

Next to the three ‘what questions’ above, to make resilience concrete, we propose to use two complementary frameworks that help to specify what we are dealing with: the three ‘resilience capacities’ and the four ‘ABCD dimensions’.

These have been selected after careful consideration of many and diverse frameworks in use. We believe the selected frameworks together will help us constitute a pragmatic and shared language that is simple and nuanced enough to help us discuss resilience in a meaningful and practical manner across SNV products, projects and between very different situations.

² A link to a separate note on ‘systems change’ will be developed. (Presently still under development).

4. Specifying levels of ambition - Three resilience capacities

Internationally various versions of resilience capacities are used, distinguishing 3, 4 or 5 different capacities a system has. One distinction broadly used (e.g., by OECD, USAID, World Bank and OXFAM) is that of **absorptive**, **adaptive**, and **transformative** capacities, as sketched in the Table from Oxfam below/on the next page.

It is usually **neither realistic nor feasible to fully address all three capacities at the same time**. It is therefore essential to prioritise by paying attention to how to operationalise resilience in a given context and in relation to the specific shocks and stresses, actors, linkages and other factors in that situation.

The table shows that the three capacities represent **different ambition levels and related timelines**. Absorptive capacity focuses more on stability in existing system and shorter-term actions. Adaptive capacity seeks more incremental change towards the future and often requiring medium-term timelines. Transformative capacity works towards deeper change in more fundamental logics and requiring longer timelines.

Table 1: Three resilience capacities, adapted from Oxfam -2018. (See reference list no. 17)

KEY ELEMENTS TO CONSIDER	RESILIENCE CAPACITIES		
	Absorptive	Adaptive	Transformative
Definition	The capacity to take intentional protective action and to cope with known shocks and stresses	The capacity to make intentional incremental adjustments in anticipation of or in response to change, in ways that create more flexibility in the future	The capacity to make intentional change to stop or reduce the causes of risk, vulnerability, poverty, and inequality, and to ensure the more equitable sharing of risk so it is not unfairly borne by people living in poverty or suffering from discrimination or marginalisation
Aim	Stability	Flexibility	Deep Change
Shock typology	Addresses specific, known, short-term shocks and stresses	Address medium to long-term uncertainties and stresses; can be specific	Addresses structural or root causes of risk and vulnerability, and how risk is shared within societies
Time horizon	Short term	Medium to long term	Long term
What the capacity involves	Intentionally anticipating, planning for, coping with, and recovering from short-term shocks and stresses	Intentionally making incremental changes on an ongoing basis through a process of continuous adjusting, learning and innovation	Intentionally generating and engaging in deep ongoing change that addresses the root causes of poverty and injustice, vulnerability, and risk.

It is relevant to note that **the three capacities are not strictly separate but are rather complementary and may in practice also overlap**, but it is good to distinguish the level of ambition one is essentially aiming for^{3,4}.

It can also be observed that in situations under pressure and for vulnerable people, even basic activities to improve their situation already can add to their resilience (if only 'absorptive'). This confirms that resilience is usually not a separate component or set of activities, but a dimension to be made explicit in a project's objectives and strategy.

It is worth mentioning that, considering SNVs ambition to contribute to systems change/transformation, **in general SNV's ambitions will be towards adaptive resilience with elements of transformational**, as far as these are realistic to address in the project context. In that sense the understanding of the overlapping nature of the three capacities / levels of ambitions, can help to position short-term goals into longer-term systemic change orientations. Adaptive and transformational capacities are usually not developed without paying attention to shorter-term absorptive ambitions.

5. The ABCD logic - what constitutes or builds resilience

In order to explore what constitutes resilience (or the lack of it) in a specific system, it is relevant to have some more general language on different features or elements of a system that usually contribute to its resilience. An interesting logic was proposed in 2021 by WUR, the so-called 'ABCD of resilience' that can be applied to many kinds of socio-technical systems. This is the most generally applicable logic that we have found for specifying dimensions and components of resilience⁵.

AGENCY	is about empowerment of the actors in a system, their ability to act
BUFFER	is about reserves, stock, free space that can be deployed in case of need
CONNECTIVITY	is about connections with other elements inside and outside the system that can be mobilised
DIVERSITY	is about having different options so one can adjust to shifting circumstances

We see these four dimensions as a general logic that can be used to explore different elements that can (help to) constitute resilience in a specific situation or system. In other words: you can use one of the ABCD 'lenses' to explore and specify what is missing or what may build the absorptive, adaptive, or transformative resilience capacity ambitions discussed under the previous heading. We have developed a checklist with five questions per category, that will help to explore the resilience challenges and opportunities for a certain issue in a specific setting. See Table 2 below.

Note that variations on these ABCD dimensions come back in many frameworks and tools. There are other logics for unpacking resilience as well, but none of them is broadly

3 ODI (2015) defines anticipation as a separate capacity, WUR/SNV (2021). Other authors mention the recovery capacity. The absorptive capacity considers preparedness as key. Planning activities are crucial as proactive actions will help to strengthen resilience. The adaptive capacity can be put in place before or in response to change. Therefore, the anticipatory capacity is included in both. Adaptive capacity also can be put in place before or in response to change. The last option involves recovery capacity as what preceded it was a shock. The transformative capacity puts the recovery capacity into action bearing in mind a structural change not solely maintains the status quo. The recovery capacity also is included in both.

4 It may also be relevant to mention the use of the terms ability and capacity. They are closely related and many times they are used interchangeably. However, capacity implies potential and ability more of a real possibility to use that.

5 Note that the ABCD logic is oriented at socio-technical systems indeed and are not necessarily oriented to physical, computer, biological or ecological systems.

used by various organisations. For now, we consider the ABCD categories as one that easily speaks to a broad audience and is widely applicable to various kinds of socio-technical systems⁶. We have noticed it easily communicates with practitioners in various field of work.

Table 2: The ABCD Checklist

AGENCY – empowerment of the actors in a system, their ability to act
<ul style="list-style-type: none"> • Are actors well informed to act in a timely manner on stresses, shocks or risks? • Do they have the position/ability to react and make relevant choices (or are they dependent/passive/disempowered to make those)? • Can actors represent their interests in the system and is the system able to respond? (See Connectivity – coordination/governance elements) • Are actors collaborating/organised to learn from experience and act together if needed? <p>➤ <i>Do they have the buffers, connectivity, and options to act? (link/pointer to other dimensions)</i></p>
BUFFER - reserves, stocks, free space that can be deployed in case of need
<ul style="list-style-type: none"> • Does the financial and economic status and viability of specific actors allow to allocate extra resources/cover extra expenses at moments where that is needed? • And for the system (or parts of that) as a whole? • Are there physical stocks with individual actors (and at the tight time) that can be deployed or grown? • Can the business process in the system (or parts of that) as a whole be reshaped to increase physical stocks (and timing of those) or required redundancies. <p>➤ <i>Are there forms of agency, connectivity or diversity that could be deployed to enhance buffers?</i></p>
CONNECTIVITY – connections with elements inside/outside the system that can be used or mobilised
<ul style="list-style-type: none"> • How are individuals connected / are they connected well enough to deal with the risk(s)/shock(s)/stress(es)? • Is the system internally adequately connected/wired/governed or are other linkages or arrangements needed? • Are the external connections adequate/can they be improved? • Are there forms of overall coordination and governance that can be strengthened (in the face of...)? <p>➤ <i>Are there agency, buffer or diversity considerations suggesting improvements in connectivity?</i></p>
DIVERSITY – having options to adjust to shifting circumstances
<ul style="list-style-type: none"> • Is the system as a whole diverse enough – in terms of actors, business processes, products, supply/inputs and off-take/outputs? • Do actors have sufficient variation in 'technical' options to choose from for key needs / services / activities? • Do they have options into choosing relationships (increasing agency, limiting over-dependency)?

6 For example, the MSRI tool for market systems distinguishes: Redundancy (= Buffer), Diversity, Integration (= Linkages/Connectivity) and Inclusion (which has considerable overlaps with Agency). If one looks to examples from a range of international organizations and cases, one sees other options as well (capitals, components etc.).

- Are alternatives available (or do they need to be created) for key functions in the system?
- *Are there agency, buffer and connectivity considerations that suggest strengthening the degree of diversity in one way or the other?*

It is important to indicate, that we do not see the ABCD logic as a fixed set of elements. Rather, it is a number of lenses that help explore what constitutes or can constitute resilience in a particular system. To do so properly, one needs to have in mind a particular type of stress/shock(s) and the resilience level one is pursuing. In doing so, you may end-up distinguishing different elements of resilience that may not neatly fall into the ABCD categories. This is not a 'fill-the-boxes' exercise.

6. How to integrate systematic attention to resilience into a project

Clarification of resilience ambitions and resilience strengthening elements for a project (using the three capacities and the ABCD dimensions respectively) can be integrated in the regular project management cycle:

- in analysis,
- in strategy development and priority setting,
- in implementation of activities, and
- in M&E processes.

At a basic level, this can be done in six simple steps, as sketched in Table 3 below.

Table 3: Six steps for integrating resilience in a project or intervention strategy

STEP 1 Define the resilience problem, including the identified causes and stakeholders.

- Specify the risk, shock, and stress(es) (resilience to what?)
- Determine the system (resilience of what?)

STEP 2 Define the desired resilience end-goal

- Formulate the goal of strengthening resilience for (resilience for what?)

STEP 3 Define resilience related outcome and impacts needed to achieve the desired end-goal

- Choose main strategic resilience focuses (intervention areas)
- Determine resilience capacities in these (ambition levels to work on)

STEP 4 Select resilience-oriented activities that could lead to the short- and long-term outcomes

- Apply the ABCD checklist to operationalize resilience elements
- Choose priority elements and related activities to be undertaken

STEP 5 Identify the main assumptions in relation to resilience, and how valid or uncertain they are

STEP 6 Develop the LogFrame or Results Framework

- This includes determining indicators relevant to resilience

The six steps help you to become concrete on formulating: a) what the resilience issues are; b) the ambition level one wants to pursue; and c) which specific elements are relevant to address these. Depending on your situation/need (parts of) the six steps sketched below can be applied in each of the four stages of the project cycle mentioned above: in analysis, in strategy development/priority setting, in implementation or in M&E. Depending on which of these steps you are, you will put the emphasis on different steps and also somewhat adjust the way you interrogate/elaborate each of them.

The six steps constitute an iterative process. They can be applied at any stage of the project. But of course, depending on the phase of the project, some information may be shaped differently, or its availability may differ.

Note that under step 4 the ABCD checklist can be used for identification of possible dimensions/elements that can help to realise the resilience capacities/ambitions as formulated in step 3. As mentioned before, this process is not a linear one so steps 1 and 2, as well as steps 3 and 4, can and should be done iteratively.

The combination of the three capacities and the four ABCD dimensions can also be represented in a matrix as shown below. This matrix can also be used as a simple tool/framework to scan, inventory, or brainstorm the specific resilience focus and approach in a certain situation.

3*4 Matrix		Resilience capacities		
		Absorptive	Adaptive	Transformative
ABCD logic	Agency			
	Buffer			
	Connectivity			
	Diversity			

In using this tool, one doesn't need to fill in all the 12 different boxes of the 3x4 quadrant. The suggestion is rather to prioritise specific entries where one really sees a potential impact can be made, bearing in mind the set objective, ambition levels and specific shocks/stresses one seeks to cater for. Trying to work 'all at once' is usually unrealistic. At the same time, it will be relevant to recognise that resilience is indeed in many cases a multi-faceted feature and its development will usually need sufficient attention in various elements. While progressing with a project or activity, one may also discover one wants to shift attention to another/new element as a next 'weakest aspect' to be addressed in view of overall resilience.

The three capacities and four dimensions will help you become specific and realistic about what your project can seek to do and what it may not be able to cover well. Especially, the distinction of the three capacities (types of resilience ambitions) should be used to manage expectations. Often donors, governments, and project implementors themselves formulate complex and at times unrealistic statements on building resilience that are not necessarily underpinned well and do not take into account precisely enough what that will require.

A light application of this Matrix for a SNV case in Digitalisation for pastoralists is given in a [separate case study](#) "Resilience: an application of the conceptual framework in the area of digitalisation for agriculture (D4AG)" that can be found in the general repository of resources that CORE leaves behind.

7. Measuring resilience

Operationalizing resilience by applying the guidance provided in this conceptual framework will also help to measure (project contributions to) resilience.

The abstract notion of resilience can be made operational by using the three key concepts that we have provided:

- **The three 'what' questions** - to what, of what for what.
- **The three capacities** - absorptive, adaptive, transformative.
- **The four ABCD dimensions** - Agency, Buffer, Connectivity, Diversity.

Using these three key concepts in the six steps sketched in the previous section, actually helps you concretise resilience within a project's general Theory of Change (ToC) and results framework (A paper that explains this further [is available as a separate CORE document](#)). In this way you can integrate in your ToC a detailed, coherent, and plausible logic about what resilience is, and how it is strengthened through (some of the) various project activities. As such, it is also logical that resilience is multi-faceted and usually cannot be adequately tracked by just one universal quantitative indicator.

If the six steps of the previous section are applied and resilience has been made concrete in your general ToC, it becomes a matter of collecting data along your ToC (with its output, outcome, and impact levels). Usually, several general project indicators can simply be connected to the improved resilience ambitions, so they do not need to be framed separately.

Essentially, 'working on resilience is an art not a science'. Even if we seek to specify the project goals, we do not have a fixed recipe and 'the resilience problem' won't get addressed or solved forever. Shocks and stresses will usually evolve and interfere in unpredictable manners. If one vulnerability has been more or less addressed, another weakest point of the system will come to the fore. This requires us to keep on working on resilience as an evolving feature over time.

ANNEXES

Glossary

ABILITY - the power or skill needed to do something, or the fact that someone is able to do something. (Cambridge Dictionary)

CAPACITY - someone's ability to do a particular thing. (Cambridge Dictionary)

EXPOSURE - The presence of people; livelihoods; species or ecosystems; environmental functions, services, and resources; infrastructure; or economic, social, or cultural assets in places and settings that could be adversely affected. (IPCC, 2018)

FRAGILITY⁷ – the combination of exposure to risk and insufficient coping capacity of the state, systems and/or communities to manage, absorb or mitigate those risks. (OECD, 2020)

IMPACT - The consequences of realized risks on natural and human systems, where risks result from the interactions of climate-related hazards (including extreme weather and climate events), exposure, and vulnerability. Impacts generally refer to effects on lives; livelihoods; health and well-being; ecosystems and species; economic, social, and cultural assets; services (including ecosystem services); and infrastructure. Impacts may be referred to as consequences or outcomes and can be adverse or beneficial. (IPCC, 2018)

RISKS - The likelihood that a combination of *vulnerability* and exposure to *shock* will lead to disruption. Risk, in this view, is a function of the likelihood of shock exposure and vulnerability (effects of shocks and stresses when occurring). (SNV/WUR, 2020)

SHOCKS - (Unexpected) events which have a disruptive effect. These can have different and/or combined origins and characters such as economic (e.g., stock market crash), political (e.g., a coup), environmental (e.g., drought). (SNV/WUR, 2020)

STRESSES - Prolonged disruptive pressures. (SNV/WUR, 2020)

SUSTAINABILITY⁸ – meeting the needs of the present without compromising the ability of future generations to meet their own needs. (The Brundtland Commission, 1987)

SYSTEMS PERSPECTIVE – Taking into account all of the behaviours of a system as a whole in the context of its environment [...] the idea of a systems perspective is to use a non-reductionist approach to the task of describing the properties of the system itself. (NECSI, 2011)

VULNERABILITY⁹ – the propensity or predisposition to be adversely affected and encompasses a variety of concepts and elements, including sensitivity or susceptibility to harm and lack of capacity to cope and adapt. (IPCC, 2022)

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⁷ "... a **fragile** state is fragile in its own way. Therefore, it is all too often unhelpful to reduce the definition of fragility to standardized, static lists or indicators – in so doing, we miss the complexities and nuances of fragility in some situations and miss other fragile situations all together" ([World Back Blog](#), 2015).

⁸ By deconstructing the origins of sustainable development, we suggest that the concept is best defined in terms of its core goals of protecting and maintaining natural and cultural resources for the future and mitigating undesirable change (A. Lew et al., 2016).

⁹ "**Vulnerability**, like resilience, is generally viewed as being specific to perturbations that impinge on the system; in other words, a system can be vulnerable to certain disturbances and not to others" (G. Gallopín, 2006).

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[Resources: selected examples and frameworks](#)

EXPLANATORY NOTE:

On the following pages we have simply gathered a range of figures, tables, or examples of how resilience is operationalised by others. We don't provide much explanation but simply show key logics.

Depending on your specific project, context and need one or the other may seem relevant to you. Then please consult the reference / source document provided with each table/figure below and in the previous list of references for further explanations and backgrounds.

Table 4: Resilience capacities developed for the PRIME program in Ethiopia

Absorptive	Adaptive	Transformative
Informal Safety Nets, including Credit or micro-finance group, Savings group, Zakat, Mutual help group (including burial societies), Civic ("improving community") group, Charitable group ("helping others"), Religious group, Women's group	Livelihood diversity, including crop production, livestock production, wage labor, salaried work, sale of bush products, own business, land rental, remittances, gifts/inheritance, other	Basic services, including a primary school or within 5 km, a health center within 5 km, veterinary services within 5 km, agricultural extension services, institutions where people can borrow money, security services that can reach the community within 1 hour.
Asset Ownership, including consumer durables, agricultural productive assets, livestock	Human Capital, including basic literacy, primary or higher education, number of trainings received	Formal safety nets, including institutional food assistance, housing or non-food items, assistance for lost livestock, NGO disaster response assistance
Hazard insurance availability	Financial service availability	Access to infrastructure, including piped water, electricity, telecommunications, paved roads
Perceived ability to recover	Exposure to information	Number of livestock services
Local shock preparedness structure in place	Asset Ownership, including consumer durables, agricultural productive assets, livestock	Access to communal natural resources, including grazing land, water sources for livestock, community forest
Household savings	Aspirations and confidence to adapt	Access to markets, including livestock, agricultural products, and inputs
Bonding Social Capital	Bridging social capital	Bridging social capital
	Linking social capital	Linking Social capital

Source : USAID, 2018

Resilience Matrix

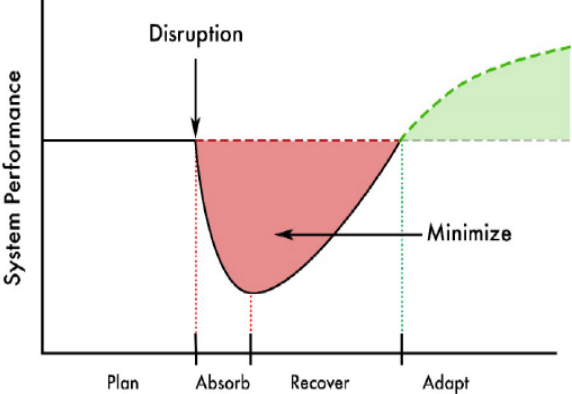


Figure 3. Stages of Resilience as Proposed by US NAS.

Source : OECD, 2019

	PREPARE	ABSORB	RECOVER	ADAPT
Physical				
Information				
Cognitive				
Social				

Figure 4. Demonstration of a Resilience Matrix. The Y-axis includes domains of resilience, and the x-axis includes stages of resilience as established by NAS

Table 1: Examples of actions that could strengthen the capacities of livelihoods systems (in different contexts)

	Absorptive capacity	Adaptive capacity	Transformative capacity
Financial Capital	Support access to markets to increase the sale of agricultural/livestock products Setting up and linking savings groups, pooling of community goods, mutual solidarity banks	Better access to micro-credit and revolving funds, to encourage risk taking for new incoming generating activities Introduction of e-banking mechanisms	Open a formal insurance market Social protection systems. Simplify and explain the tax law to limit corruption
Human Capital	Integration of displaced children into new schools in host communities Use of traditional medicine Social support groups to help families pay for health care	Increase understanding of the rights of the child (including education) Establish formal health insurance schemes	Provide free education Decentralise the healthcare system
Natural Capital	Sale or slaughter of livestock Moving to a more secure area Vaccination Reforestation Setting and securing national park boundaries	Diversification of livestock holdings Animal vaccination Support to the REDD+ process	Reform of Land tenure Law: assuring proper planning and synergies with different land users
Physical Capital	Strengthen committees in charge of infrastructure maintenance Ensure community participation in planning processes for community infrastructure	Introduce new technologies: efficient combustion fireplaces, recycling and improved management of waste, alternative energy sources Promote civic education in schools, including a component on energy, environmental protection and climate change	Advocate for greater decentralisation of national budgets and systems
Political Capital	Better transparency and accountability in community decision-making Support and strengthen local initiatives for community meetings, and for land conflict resolution	Support community organizations to participate in local power structures, including greater inclusion of women and different ethnic groups Educate voters, strengthen democratic culture, and increase dialogue between political parties	Advocate to improve election transparency Educate citizens about democratic principles Advocate for the respect and the reform of land-related legislation
Social Capital	Use of mediation and peace committees Community networks for the protection of children, youth patrols to prevent theft and rape	Training of peace committees and other groups Promotion of shared community spaces and natural resources Strengthen the role of women in community governance	Support the restoration of formal justice systems and promote trust in these mechanisms Reinforce women in leadership positions Remove the stigmatisation of those suffering from rape and other critical protection incidents

Source: OECD, 2014

In the document “Operational guidance for monitoring and evaluation (M&E) in climate and disaster resilience-building operations” (2017), the World Bank suggests 8 concepts, listed in the following table, that can be used to specify and build absorptive, adaptive, and transformative capacities. While this logic comes from a disaster management perspective, it is worth noticing that these elements overlap to a considerable extent, but not completely, with the ABCD logic. The same is true for several other distinctions of resilience dimensions or elements, such as those from USAID and OECD publications mentioned in this appendix as well.

Resilience Concepts (World Bank, 2017)	<ul style="list-style-type: none"> ○ Protection ○ Robustness ○ Preparedness ○ Recovery 	<ul style="list-style-type: none"> ○ Diversity ○ Redundancy ○ Integration / Connectedness ○ Flexibility
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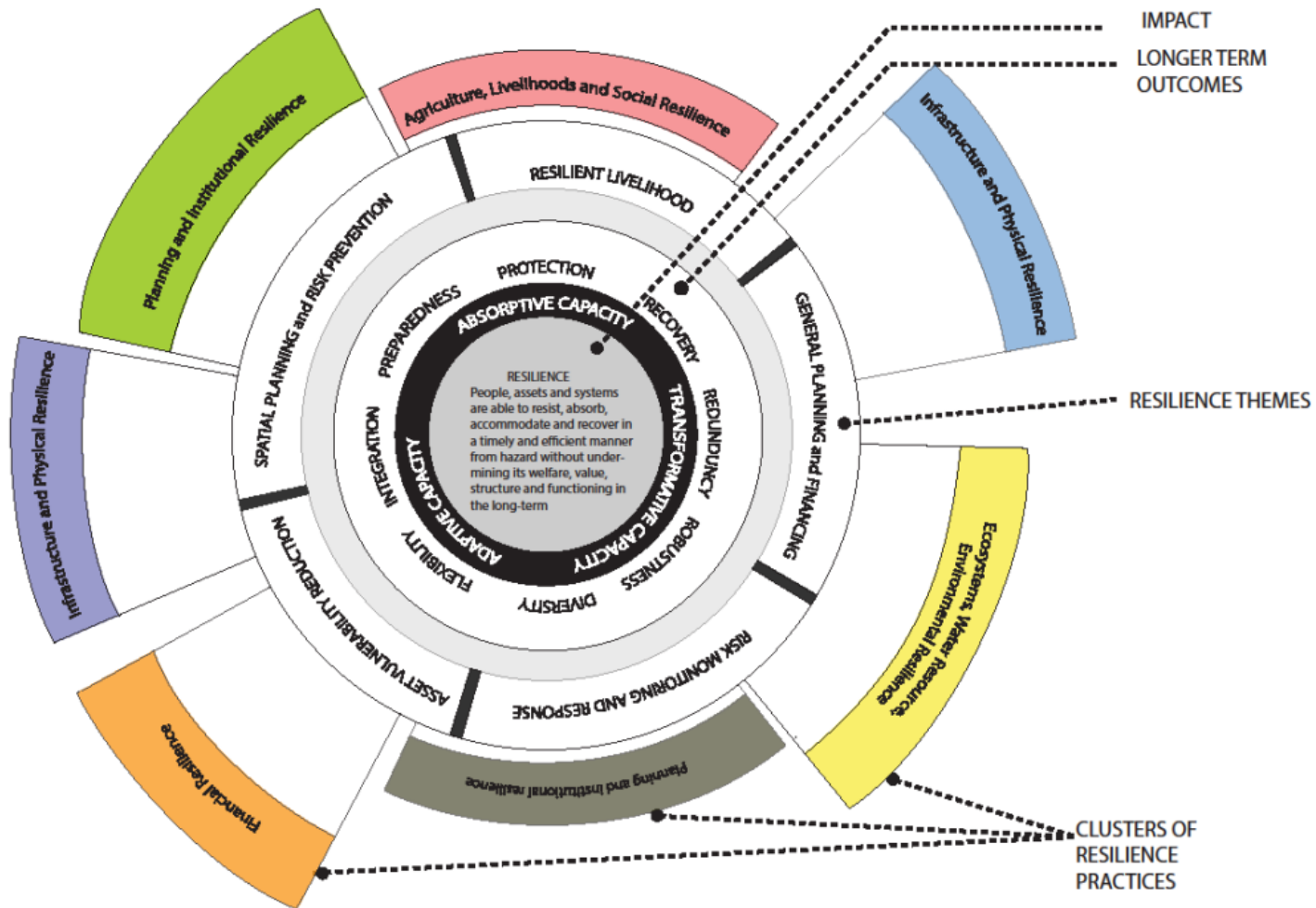
Source: World Bank, 2017

Table 1: Activity examples for resilience-building concepts that support the building of absorptive, adaptive, and/or transformative capacity

Concept	Activity Example
Protection	Building/ Reinforcing protective infrastructure (e.g., seawalls)
	Improving tree canopy cover for environmental protection
	Resettling communities away from risk-prone areas
Robustness	Maintaining and upgrading roads and other critical infrastructure
Preparedness	Developing contingency plans/ funds
	Developing early warning systems, emergency shelters and evacuation routes
	Providing disaster risk insurance for vulnerable populations
Recovery	Reconstructing damaged housing and infrastructure
	Rehabilitating damaged ecosystems (e.g., forest restoration)
	Food transfers to disaster affected households
Diversity	Providing less weather-sensitive income generating activities, (e.g., jobs in the tourism industry)
Redundancy	Establishing multiple power-generation back-up systems at different physical locations
Integration/ connectedness	Managing/governing water resources across jurisdictions (e.g., with states and local governments at the basin scale) and sources (e.g., surface and ground water)
Flexibility	Building an irrigation system for farmers previously dependent on invariable rainfall to water their crops
	Constructing BRT public transport to provide residents with access to the city center within 60 minutes
	Budgeting and planning for contingencies to allow for swift action in the face/wake of a disaster

Source: World Bank, 2017

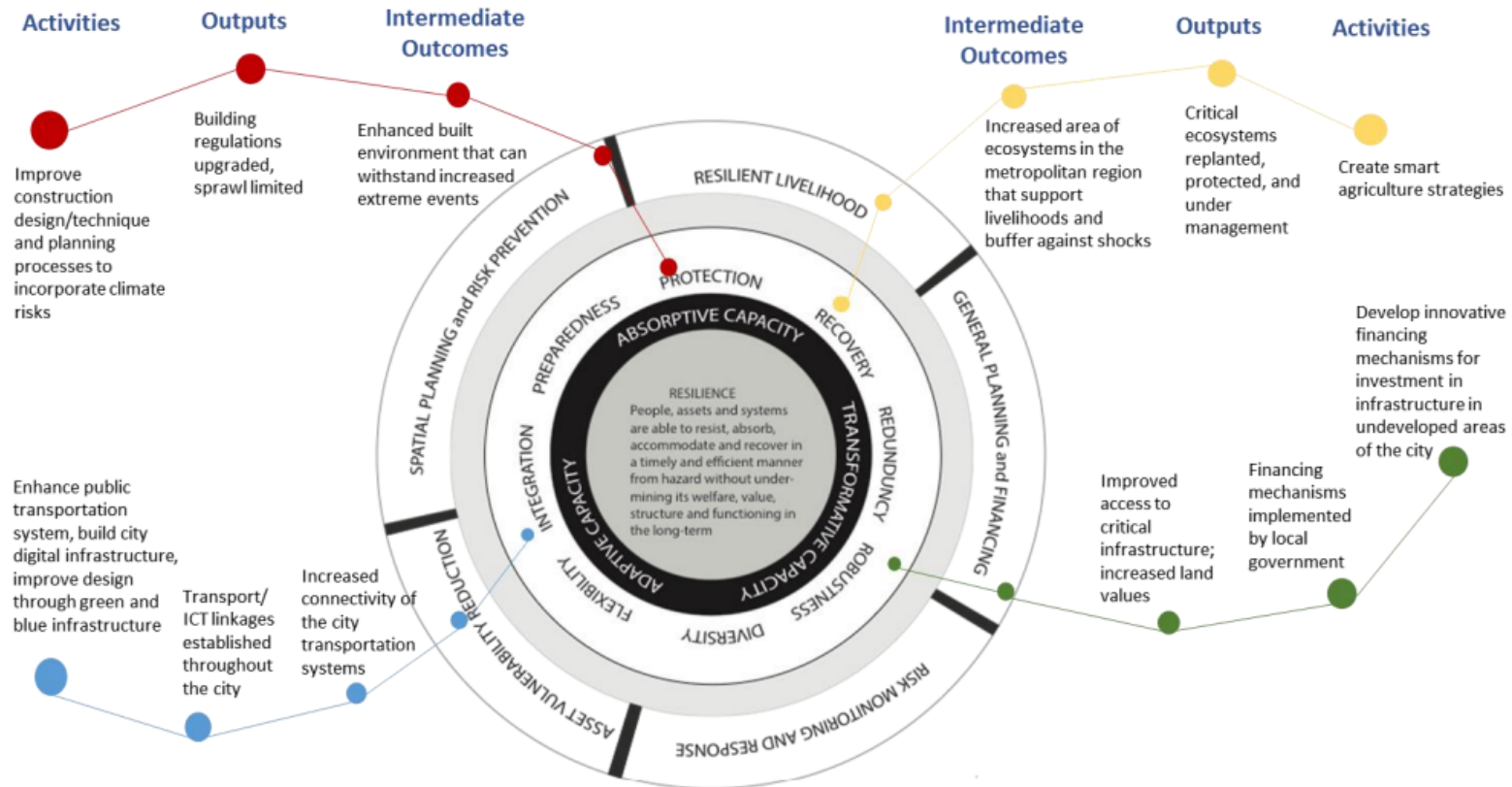
Figure 2: Illustrative World Bank ReM&E Overarching Results Framework



Source: World Bank, 2017

Note: ReM&E stands for 'Results Monitoring and Evaluation for Resilience Building Operations'

Figure 3: Pathways Toward Resilience Using the ReM&E Results Framework Based on a Resilient Cities Project Example



Source: World Bank, 2017

Note: ReM&E stands for 'Results Monitoring and Evaluation for Resilience Building Operation'



IMPACT THAT MATTERS



About us

The COVID-19 Response and Resilience Initiative for Food Value Chains (CORE) ran from July 2020-December 2022. Initiated by the Netherlands Ministry of Foreign Affairs and led by SNV, it was set up by to strengthen responses to the COVID-19 pandemic across eight major SNV-implemented agriculture projects in Africa: BRIDGE, CRAFT, HortInvest, HortiLIFE, TIDE, MODHEM+, PADANE and STAMP+.

Based on field-level demand, CORE selected four themes that capture key structural challenges highlighted by the pandemic across agri-food systems: farmer inputs and services; consumer-oriented strategies; environmental hygiene integration; and digitalisation for agriculture (D4Ag). Each theme contributes to the structural resilience of food value chains and agri-food systems to shocks and stresses.

This brief is published by SNV Netherlands Development Organisation under the COVID Response and Resilience Initiative (CORE - Africa)

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