

## ASSESSING INTERVENTIONS SUPPORTING SUSTAINABLE DEVELOPMENT IN RURAL AREAS – A DIALOGICAL APPROACH

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**Abstract:** *Based on the Community Capitals framework, developed by Professors Jan and Cornelia Flora of the Iowa State University, the paper puts forward a dialogical method for assessing, mainly public, interventions supporting sustainable development in rural areas. The framework proposed by Flora & Flora identifies seven types of capital, collective resources that serve as basis for sustainable development. These capitals include for instance natural, social, human, cultural and economical capital. The paper expands the understanding of natural capital by introducing ecosystem services to the framework, hereby bridging the concepts of a bio based economy and sustainable development. By basing sustainable development of rural areas on ecosystem services the notion of the city as resourceful and rural areas as scarce is challenged. The paper presents the adapted framework.*

*Via contextualization and operationalization of the different kinds of capitals in a Scandinavian setting indicators are established. These enable initial assessment of a community aimed at tailoring (public) interventions supporting sustainable development based on ecosystem services. The method has been successfully tested in a few cases in Denmark and Sweden within the Interreg IV A KASK project “Rural Regions”. Further adaptation and development is to take place in upcoming research and projects. In the paper it is demonstrated how the community capitals framework is used as a structure in participatory dialogical processes, raising awareness within the community itself as well as guiding public bodies supporting sustainable development in rural areas.*

*The method is based on initial surveying of available data followed by a semi structured dialogue with representatives from the community resulting in a graphical representation of the assessment. Based on the assessment it is possible to discern whether an intervention (“investment”) in the community is meaningful, and how it should be designed to strengthen the community’s capacity for sustainable development.*

**Key words:** *ecosystem services, community capital, sustainable development of rural areas, dialogical approach.*

### THEORETICAL FRAMEWORK

In an overview by the Swedish Research Council Formas [1], they conclude that research aimed at sustainable development in rural areas is a “thin and fragmented genre” and that there is a need for a more “sustained building of capacity for research into cultural, social, economical and ecological conditions”. Despite this lack of consistent knowledge and capacity public interventions are made both on EU, national and regional levels. The European Commission states that “similarly, policy that sets out to stimulate rural development must be weighed up against its success at achieving it . . . there is considerable work to be done to define the appropriate indicators” [2], and Thomson argue that “rural development” means – or should mean – structural and institutional changes in the rural parts of the wider economy. This definition would include changes in all components, including production, consumption and trade, as well as economic processes such as new forms of marketing and policy delivery.” [3] To analyse and successfully intervene for sustainable rural development we need a more systemic and integrative approach.

In order to identify key factor contributing to a community’s capacity to work together for a common good Jan and Cornelia Flora [4] have introduced the concept “social entrepreneurial infrastructure”. They argue that where social capital is abundant, it is more meaningful to intervene. Strengthening the social will increase a community’s capacity, thus creating opportunities for more effective interventions by public sector. According to Flora & Flora three basic “structures” make up social capital:

- Diverse symbolic structure
- Resource mobilization capability
- Diversity of networks

These structures are operationalized [5], to gain an understanding of how they are means to attain a sustainable development.

Diverse symbolic structure is understood as a capacity to disagree while retaining mutual respect. There is an acceptance for different opinions, among others by separating problems and solutions. It is permissible to point out a problem, and to survey different solutions in cooperation. During the conversation the item at hand is separated from the messenger, enabling participation without the risk of being personally attacked. A diverse symbolic structure is also characterized by a broad, inclusive definition of the community and by permeable borders against the surrounding world. Diverse symbolic structure is surveyed by examining cultural root systems, such as religious affiliation. Public and other support for sustainable development is also of interest. Local schools, good relationships with regional authorities, a sense of regional belonging and for instance the existence of local newspapers are also deemed interesting. Through studies of the local history an understanding of how conflict is managed is also established (managing by doing nothing is included). Public festivals and more are also used as indicators, etc.

Resource mobilization capability, where the term resource is used in a wide sense, is assessed from different factors: how equal is access to different resources such as education and leisure activities? Large, communal (i.e. public), investments is seen as contributing to equal access. Private investments also contribute and are assessed by surveying in what amount local banks and businesses finance local initiatives. A general expectation of people to contribute to the common good, and high status and joy associated with these contributions is another part.

Where there are networks among relatively homogenous but different groups it is an indicator for so called diversity networks (young and old, women and men, different ethnic groups and maybe the most difficult: newcomers and long time dwellers etc.). Both horizontal and vertical networks contribute to a sustainable development; horizontal networks by connecting different communities, vertical by connecting a community with a regional or federal level for support.

Flora & Flora take a narrative and qualitative approach when assessing the social capital. Interviews and conversations are paramount. Statistics and the local paper are other important sources. From this basic understanding Flora & Flora have developed the model on social capital further and established a framework of Community Capitals, a seven perspective approach. [6]

Capital in this framework is viewed as collective resources, not just individual property. The types of capital are shown in a particular order, with *natural capital*, the natural environment, being the first and the basis for all the others. In our approach we have expanded this to ecosystems based capital.

1. *Ecosystems based capital* includes the quality and quantity of water and soil, air quality, biodiversity, and the landscape, as well as all functions that the natural environment enable (pollination, water cleaning, erosion control, etc.). It can be viewed as a set of resources to be extracted or as a source of life that needs to be tended and cared for, depending on a group's cultural capital.
2. *Cultural capital* determines how communities and groups within communities see the world, how they connect the seen and the unseen, what they take for granted and what they think is possible to change. Cultural capital is often highly determined by and determines natural capital.
3. *Human capital* represents the skills, abilities, and knowledge that each human being possesses in a community.
4. *Social capital* consists of interactions among people and groups for mutual support. It involves trust, shared norms, reciprocity, and working together. Social capital has two dimensions: bridging and bonding. Bridging social capital is the linking of local groups or institutions to resources and external partners with similar goals, while bonding social capital is the strengthening of internal organization and the capacity to take collective action based on the common backgrounds and experiences of the individuals or groups involved
5. *Political capital* refers to the codification of community's norms and values into standards that are supported by rules and regulations, which are enforced equally.
6. *Financial capital* is the financial instruments, including but not limited to money, that can be easily traded and monetized.

7. *Built capital* refers to technology, infrastructure, tools, and machinery. While an individual can accumulate tools and machinery, collective goods such as roads, water systems, school buildings, and community centres are generally best generated by a community working together.

**TAILORING INTERVENTIONS**

Assessing different resources and tailoring interventions based on local resources is a way of supporting a sustainable development in a community, and conducting appropriate follow up based on indicators. Indirectly, it also challenge the notion of the city as resourceful and rural areas as scarce, mainly by basing sustainable development of rural areas on a broader view on existing capitals and ecosystem services.

In our research the Community Capital approach is used to contextualize and operationalize the different kinds of capitals in a Scandinavian setting. Furthermore, indicators are established as a dialogical tool. Together, these enable initial assessment of a community aimed at tailoring (public) interventions supporting sustainable development based on local resources and ecosystem services. The method has been successfully tested in a few cases in Denmark and Sweden within the Interreg IV A KASK project “Rural Regions”. Further adaptation and development is to take place in upcoming research and projects.

In the paper it is demonstrated how the community capitals framework can be used as a structure in participatory dialogical processes, raising awareness within the community itself as well as guiding public bodies supporting sustainable development of rural areas.

Table 1 exemplify possible interventions and what the expected outcomes are (based on the work of Flora & Flora and adapted to a Scandinavian setting).

Table 1

**Examples of interventions and expected outcomes**

Intervention	Expected outcome
<b>Investments in ecosystems based capital</b> Actions aimed at achieving environmental objectives and increasing capacity and value of ecosystem services.	<b>Changes in ecosystems based capital</b> Healthy eco systems creating value for the community. Increased revenue based on eco system services.
<b>Investments in cultural capital</b> Using traditional knowledge and values to drive a sustainable development.	<b>Changes in cultural capital</b> Cultural awareness, identified possibilities and limitations. Strengthened dialogue and meeting places.
<b>Investments human capital</b> Use or add knowledge and skills to drive a sustainable development. Empower people to increase governance.	<b>Changes in human capital</b> Enabling participation and empowering people to contribute. Capacity for responsibility, initiative and innovation increases.
<b>Investments in social capital</b> Facilitate cooperation between different parties. Strengthen participation. Cooperate with parties outside the community. Strive toward diversity.	<b>Changes in social capital</b> Increased communication and cooperation internally and externally, strengthening of networks and trust. New groups contributing to sustainable development. New leaders emerging.
<b>Investments in political capital</b> Strengthen capacity and facilitate relationships with relevant bodies.	<b>Changes in political capital</b> New arenas for co-creation between public sector and the community. Moving from government to governance.
<b>Investments in financial capital</b> Direct resources, both external and local.	<b>Changes in financial capital</b> Local economic development, strengthening both balance sheet and revenue.
<b>Investments in built capital</b> Spatial planning supporting sustainable development.	<b>Changes in built capital</b> Increased gross regional net product. Appropriate infrastructure.

The mix of capital looks different from one rural area to another. Each area has a given potential, which are met in higher or lower degree. It is within such a framework a constructive dialogue among stakeholders are triggered: What do we have to build a sustainable future from? Where are our strengths and our weaknesses? How can we measure progress?

**PROPOSED PROCESS FOR DIALOGUE AND ASSESSMENT**

The assessment of an area or a community is done by stakeholders and carried out in a series of seminars. The starting point for the discussion is based on an initial survey as well as the experiences that the participants bring into the seminar. The participants receive the results of the survey beforehand to enable them to prepare for the seminar.

The initial survey is developed from available statistics. Every capital is described, discussed and assessed at the seminar. To simplify and to help participant to keep the whole picture in mind, the assessment is based on a scale from one to ten (table 2), the quality and reliability of the assessments are also estimated (table 3) and the result finally represented in a combined graph (figure 1). The ambition is to both clarify and simplify, but without reducing existing complexity. By doing this we enable stakeholders to learn together about existing potentials for sustained rural development. The integrative approach help the participants to keep the different capital forms in mind at the same time, and in dialogues identify new ways forward. From the perspective of public authorities one main benefit is that they can identify critical thresholds for interventions, supporting capacity building activities where needed or funding initiatives where the local community has a potential for sustained action.

Table 2

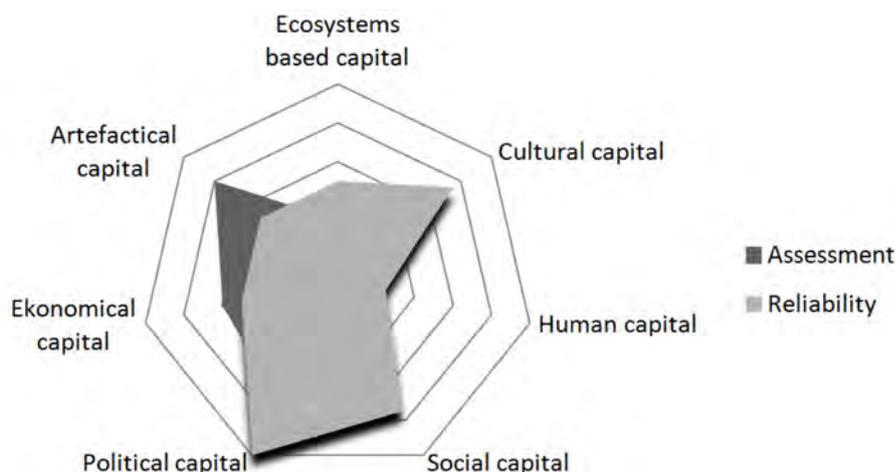
**Assessment of capital, using a scale from 1 to 10**

1.	Very scarce –almost no resources
3.	Sufficient resources – the resources suffice to conserving a status quo
7.	Resources enough to develop – there are resources enough to create sustainable development
10.	Abundant resources – the resources are basically limitless

Table 3

**Assessment of reliability in the used data used for analysis**

1.	The material has significant shortcomings
2.	The material has deficiencies
3.	The material is reliable
4.	The material is very reliable



**Figure 1. The results of the assessment and the reliability of the material are presented in a combined graph**

The graph developed by participants has a pedagogical function. The graphical representation used to conduct the community capital assessment balances and contrasts social and ecological factors. In a broader sense it can also be used to inform resource planners about the environmental implications of human needs and the impact of land-use decisions on human populations. One example is when developing artefactual

capital by destroying ecosystem based capital, leading simultaneously to increased economical capital and to decreased cultural capital. Such dynamic and complex processes can be illustrated by the graph, supporting systemic learning processes.

## CONCLUSIONS

So far we have tested the Community Capital framework in a Nordic pilot-project. Regardless rural context it seems to be applicable, and it enable an integrative and participatory dialogue among stakeholders. We argue that by assessing Community Capitals in a community:

- Awareness within the community is created.
- Interventions can be tailored to strengthen capacity within the community and increase effectiveness of public interventions.
- A multi-perspective understanding of situation and potential in rural areas is established and maintained.

The Community Capital framework addresses some of the needs described by Formas [1] and others [7]. We are now planning to test this approach in different real-life settings where development processes have been initiated, from physical planning and landscape strategies to the development bio-energy and local services.

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