



## SUSTAINABLE LIVELIHOODS: AN ANALYSIS OF THE METHODOLOGY

### [MODOS DE VIDA SUSTENTABLE: UN ANÁLISIS DE LAS METODOLOGÍAS]

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#### SUMMARY

This essay discusses the meaning and methodologies of sustainable livelihoods (SL), or sustainable livelihood approaches (SLA), as applied strategies for rural development. Given the existence of several social organizations applying their methodology, with each one having its own expectations; the different approaches that have been developed to achieve a better perspective of sustainable livelihood are discussed in this paper in terms of their objectives and goals. Furthermore, a comparative analysis of the approaches is carried out. It can be concluded that despite the different approaches by each organization to achieve SL, all have a common objective: the development of human groups in situations of social disadvantage and the eradication of poverty.

**Key words:** Sustainable livelihoods; human development; poverty.

#### RESUMEN

En este ensayo se discute el significado y las metodologías de los medios o modos de vida sustentable (MVS) conocidas también como SL (Sustainable Livelihoods) o SLA (Sustainable Livelihoods Approaches) —por sus siglas en inglés— como enfoques aplicados en estrategias de desarrollo rural. Dado que existen diversas organizaciones sociales trabajando en su aplicación; cada una con expectativas propias; aquí se analizan las diversas opciones metodológicas que se han desarrollado con la finalidad de tener una mejor perspectiva de sus objetivos y metas. Además, se realiza un análisis comparativo de los enfoques; donde se puede concluir que, aunque cada organización tiene su manera particular de implementar los MVS, existe un objetivo común: lograr el desarrollo de los grupos humanos en situaciones de desventaja social y la erradicación de la pobreza.

**Palabras clave:** modos de vida sustentable; desarrollo humano; pobreza.

#### INTRODUCTION

The concept of sustainable livelihoods (SL) has its origin by the Brundtland Commission on Environment and Development (Krantz, 2001). This theoretical and methodological foundation spread to other countries after the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil in 1992, with a wide focus on poverty reduction, that not only assess the economic status and consumption patterns, but also the livelihoods strategies (SACOAST, 2009; Krantz, 2001; Rakodi, 1999). This approach emerged, as a part of the agreements during UNCED regarding the goals among sustainable practices for environmental improvement and the pursuit of economic development, that sustainable livelihoods serve as an integrating factor

between the politics of resource management and poverty reduction.

According to the Food and Agriculture Organization (FAO), the term **livelihood** involves the capacities, goods such as capital and social, and the activities needed to live. The **livelihoods** are sustainable when they can cope with and recover from adverse trends and sudden shocks, and when they allow the maintenance and enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (FAO, 2009).

The terminology sustainable livelihoods does not discriminate between social classes; however, since its origin it is mainly concerned with understanding the differential capability of rural families to cope with crises such as droughts, floods, food insecurity, or

plant and animal pests and diseases (Allison and Ellis, 2001). For example, the Development Alternatives (DA) organization considers sustainable livelihoods to be all those existing approaches of development that economically try to support marginalized/disadvantaged groups, so that they subsist acceptably in their local environment, and they have dignified and environmentally sustainable lives (DA, 1999). This approach is comparable to that of FAO (2009), where sustainable livelihoods should provide assistance, goods and services to people living in poverty. On the other hand, the Overseas Development Institute (ODI) considers that a sustainable livelihoods approach must be developed to understand and to alleviate poverty from a more integrated perspective (Farrington et al., 1999).

Within the terminology of SL, there are different approaches, but they should focus on a common goal: sustainable social development. However, the concepts and strategies used in each approach might differ, as well as the results. Thus, the main objective here is to analyze and compare the different approaches of SL used by the international community. The approaches analyzed are those from the United Nations Development Program (UNDP) as a pioneer in using this methodology; the Department for International Development (DFID) from the United Kingdom which has had a large impact on other organizations such as the International Fund for Agricultural Development (IFAD) which approach is also assessed; the program for Cooperative Assistance (CARE); and the Development Alternatives Organization (DA), that seeks to achieve sustainable solutions.

## METHODOLOGY

A web search was performed to precise the meaning and methodologies of SLA of highest international relevance. From the web search and the level of representativeness and documentation, five methodologies were chosen: UNDP, DFID, IFAD, CARE and DA. Subsequently, the working strategies for each approach, including their aims and methods were analyzed. To have a better understanding of the critical elements that are considered in the conceptualization of each SLA, graphic schemes were performed. Finally, comparative analyses of the strengths and weaknesses of each approach were identified to provide a general perspective and comparison of all approaches.

Before presenting the approaches of the organizations indicated, it is important to define the meaning of each approach from the perspective of social development, to provide a better understanding of their extent and expectations. From this perspective, a sustainable livelihood approach is a set of policies, technologies and strategies used in decision-making that aim to

contribute to the livelihoods through the construction of adaptive strategies for improvement (SACOAST, 2009). The approaches of SL have the objective of constructing a framework that allows for the identification of main capitals and the interactions among them. These approaches usually have a theoretical and methodological proposal for deployment, relying largely on participatory methods (Twigg, 2007).

There is not a unified approach on SL; it depends on the institution or organization responsible for its management; therefore it can be used as an analytical framework or as a tool for programming actions, or as a program itself (Twigg, 2007). Thus, this essay reviews proposals for SL from various social organizations to analyze and compare them, as well as to identify their strengths and weaknesses to provide improvements in theory and application.

## RESULTS

Critical analyses of the methodological approaches used are presented in the following order: UNDP, DFID, IFAD, CARE and DA.

### The UNDP Approach

The promotion of the SL is part of the mandate on the Sustainable Human Development Program of the United Nations Development Program (UNDP), implemented in 1995. The mandate includes poverty eradication, employment, sustainable livelihoods, gender equitability, environmental protection, and governance. It also considers the SL to be applied as one strategy to alleviate poverty, as there are other strategies proposed by the Organization that try to promote economic and community development, and natural resource management (Krantz, 2001).

According to the mandate of UNDP, the SLA should provide a conceptual and programmable framework to reduce poverty in a sustainable manner. The SL exposes the economic means, activities, properties, and goods that people have and use to support their lives. Assets are defined as natural (land, water, vegetation, wildlife), social (community, family, social networks), political (participation), human (education, labor, health), physical (roads, health care clinics, schools), and economic (jobs, savings, credit opportunities). The SL must be able to recover from sudden changes and stresses through adaptive strategies, they should be economically effective, ecologically and socially equitable so that one group does not exceed options, either at present or in the future.

The UNDP approach uses an approximation based on values, emphasizes that people have access to a

sustainable use of the “assets or capitals” that they require to reduce poverty. To achieve such a goal, it is imperative to understand the adaptive strategies of the people. The main features of this approach are:

- It focuses on the strengths and abilities of individuals, as opposed to the needs
- It takes into account policies links at macro and micro levels as well as government affairs when they impact on people’s livelihood through specific actions.
- It constantly relies on sustainability.

The UNDP operates at national level and collaborates with governments through cooperation frameworks. To facilitate the process, the UNDP has developed a methodology that allows for the design and evaluation of SL through the following steps:

1. A participatory appraisal is carried out in a particular community to determine the adaptive strategies of the people.
2. A policy analysis is performed (at micro-, macro- and sectoral levels), those that influence strategies of livelihoods.
3. A study of the potential of technology and science that allow to complementing indigenous knowledge to improve their livelihoods.
4. An identification of the social and economic mechanisms that support the livelihood strategies.
5. Ensure that the first four stages are integrated in real time, such that this process becomes as a part of a development program, rather than a series of isolated events.

Furthermore, the PNPD approach identifies people as being in possession of capacity for their livelihood, which in turn is influenced by two types of capitals, tangible (stocks and physical resources) and intangible (claims and opportunities for people). The effect caused by any of these capitals has an effect on the others (Figure 1).

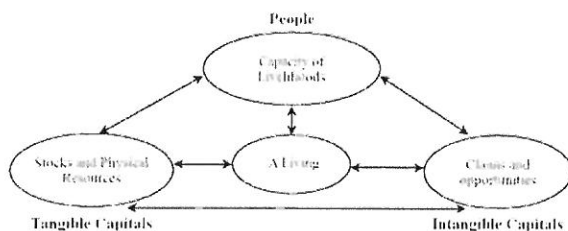


Figure 1. Operational scheme of the UNDP approach (Modified from: Krantz, 2001).

Methodological tools and guides have been developed for each stage. This includes a participatory appraisal guide, forms to be applied in the field, policies analysis, and indicators of livelihood development.

To summarize, the UNDP SL approach, it is mainly used as a framework to program and integrate sets of actions focused on improving the sustainability of livelihoods among poor people and vulnerable people. The way in which this approach operates is by strengthening their adaptive strategies and their capacity to deal with problems. The process emphasis on the introduction of new technologies as well as to promote economic investment. It also considers governmental affairs and national policies that can potentially impact on the livelihoods. The actions are organized within programs that are usually implemented at a district level, and then extended to communities and families.

### The DFID approach

The Department for International Development (DFID) in the United Kingdom undertook a broad consultation to develop an approach for sustainable livelihoods as a part of its goals of reducing extreme poverty (Farrington et al., 1999). This approach is depicted in Figure 2. According to Farrington et al., (1999) the displayed schema assumes that people adopt livelihoods to improve health, good income, and less vulnerability, etc. What they do to achieve these goals are influenced by their own preferences, priorities and vulnerability for unexpected events (e.g. drought, floods, etc.), trends (e.g. resource scarcity) and seasonal variations. While their opportunities are defined by governmental and private sector structure and the institutional processes, or political and social factors that people have to face. Overall, the context defines their capitals and opportunities, so poverty and lost opportunities depend upon such conditions. This approach identifies five types of capital that people can build: human (H), natural (N), financial (F), physical (P) and social (S). These capitals constitute the blocks that make up their livelihoods. When limitations exist, or some kind of capital is missing, it can be replaced by another. In this way, for example, one social capital (support from family or friends) compensates for the lack of financial capital. Thus, resulting livelihoods are not only driven by monetary or tangible things, but also by people empowerment’s on making decision or have clarity on their available options.

The SL approach based in this framework tries to reduce poverty by making people’s SL the ultimate goal of development for the poor (Farrington et al., 1999).

The basic principles of this approach are:

**People-centred:** People are placed in the center of the development plan at both micro- and macro- levels (from community to national politics). Putting this method into practice can be summarized as:

- Begin by analyzing the people livelihoods and how these have changed over time.
- Getting involved with the people and supporting them in accomplishing their goals.
- Focusing on the impact that policies and institutional regulations have on livelihoods.
- Seek to modify such regulations to include the agenda of the poor.

**Holism:** Opportunities and limitations relevant to the livelihoods are identified wherever they occur through the following guide:

- Do not focus on a particular sector, but to all social groups.
- Recognize the influence of multiple people on others and try to understand the relationships among those influences.
- Recognize multiple actors (from private to public sector).
- Recognize the multiple strategies that people adopt as a livelihood.
- Search various results of different livelihoods achieved by people themselves.

**Links macro-micro and multilevel:** requires the participation at the level of the same people involved (micro- oriented), but also considers the macro-level factors affecting livelihoods, such as national and international policies, affecting the region. This implies the involvement of both the public and private sectors to achieve sustainability by seeking equilibrium among environmental, social, institutional, and economic aspects (Ashley and Carney, 1999).

In summary, the focus of DFID on SL is not just a framework of programming, but also a way of thinking about poverty. The framework focuses on livelihoods of the poor to identify issues or problems that must be met for poverty reduction. The most important areas of contribution are: direct support to the fundamental

capitals of livelihoods (H, N, P, F, S) and the support towards the improvement of structures and processes (public, private, markets, social relations) that affect livelihood strategies.

**The IFAD approach**

The approach of the Foundation for International Agricultural Development (IFAD) (2007) on SL states that people are the center of attention, more than the resources that they use or their Governments. The foundation places particular emphasis on the factors that affect poor people and their livelihoods, as well as the relationships among these factors. The SLA can be used for planning new activities of development and to evaluate the contribution of current activities of sustainable livelihoods.

The key components of the SLs are:

1. A network that supports the understanding of the complexity of poverty.
2. A set of principles to guide actions to reduce poverty.

According to IFAD (2007), the support network places poor people and those of rural origin at the center of the influences that affect the development of their livelihood and living. Around them are the resources that they have access and therefore use. These resources include those that are technological, natural, capabilities, knowledge, capacities, health, education, sources of credit, and social support networks. Access to these resources is strongly influenced by their context of vulnerability, which depends on the political, institutional, and social trends that prevail. Therefore, these characteristics participate in the strategic development of ways of life for each person (IFAD, 2009).

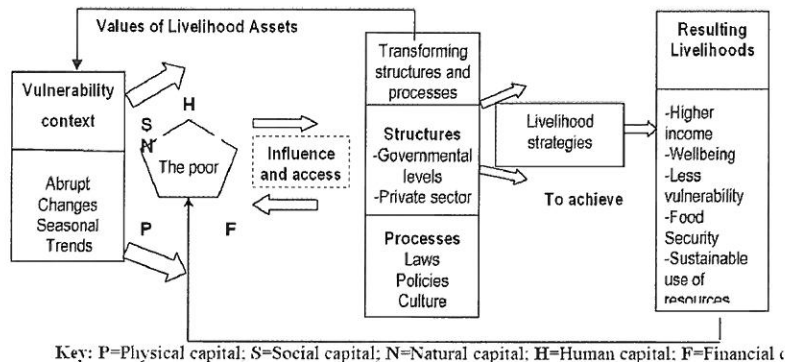


Figure 2. Schematic representation of the DFID approach for SL (from: Farrington et al., 1999).

The IFAD principles guide SLs so that they are flexible and adaptable to local conditions. These principles are:

**People centred.** Starts analyzing the livelihoods of the people and how these change with time, and people actively participate in this project.

**Holistic.** It is accepted that people adopt many strategies to assure their livelihoods, and that there are many actors involved.

**It is a dynamic process** as it seeks to understand the dynamic nature of the different livelihoods and the factors that influence them.

**It promotes micro- and macro-links** to examine the influence of politics and institutions on the options for livelihoods and emphasizes the need that policies internalize local priorities of the poor. In this sense, broad alliances between the private and public sectors are sought under the assumption that sustainability is important for poverty reduction.

Figure 3 shows a simplified schematic view for SL that IFAD applies. The schema is likely based on the DFID approach, and the same approximations are managed here. The components of the strategy provide a way of thinking of the poor people livelihoods and to stimulate reflection about the factors that affect their livelihoods, their interactions and their importance within their particular conditions (IFAD, 2007). Through this way tries to identify effective forms of managing different livelihoods and to reduce poverty.

### The CARE approach

The non-governmental humanitarian organization CARE (Cooperative for Assistance and Relief Everywhere) handle a framework known as HLS (Household Livelihood Security) as its analysis program, design, monitoring and evaluation of livelihoods. This concept is based on three attributes: the possession of skills (such as education, abilities,

health); access to tangible and intangible values and economic activities. The interaction among these three attributes defines the strategy of livelihood that a household seeks to achieve. CARE places particular emphasis on strengthening the capacities of the poor themselves to take the initiatives to ensure their livelihood (Krantz, 2001). Therefore, the main focus lies in achieving empowerment of the people (Lindenberg, 2002).

Krantz (2001) states that CARE considers people as active human beings who can build their own livelihoods, rather than be passive beings that just receive external aid. This approach has grown following major changes:

1. A change of concern of the food security from the national or regional level to the household level.
2. A change of perspective from, "food in first place" toward the perspective of a livelihood; that focuses not only on food production, but also in the skills of families to produce additional food, enabling them to improve their diet.
3. A change in the materialistic perspective focusing on food production, towards the social perspective focused on improving the capabilities of people to ensure their own livelihoods.

Figure 4 shows the parameters of the CARE approach. The main strategy is centered in the maintenance of the household. The box for capitals includes, in addition to human, social and economic values, the capacities and access to available resources. Moreover, production, processing and consumption activities are seen as means to achieve an end, and not as the ultimate objective. Natural resources and infrastructure belonging to the community are seen as external contexts and not as a capital. The outputs of this strategy are better levels of security and community participation, but these results feedback directly to the contexts where natural resources and infrastructure occur.

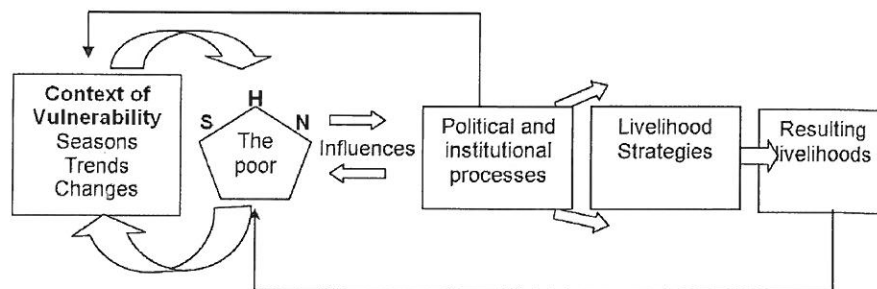


Figure 3. Schematic representation of the IFAD approach on SL (modified from: IFAD, 2007).

This approach tries to operationalize the SL through interactive dynamic processes that involve the following steps:

1. Identify the potential geographical areas where poverty is concentrated.
2. Identify vulnerable groups and the obstacles they face in their livelihood.
3. Collect analytical data (guided by the model of CARE) on temporal trends and identifying the indicators that will be monitored.
4. Select communities for intervention programs.

The CARE approach utilizes methods of participatory research to obtain and analyze information in order to understand the livelihoods strategies and categorize them. It tries to identify the opportunities and obstacles that should be handled during the development program. As mentioned previously, CARE places much emphasis on empowerment of people and describes two levels:

**Personal empowerment:** Refers to capacities and personal abilities, including the social and economic capital that people have; gender equality within families and communities also are considered as important parts of the strategy.

**Social empowerment:** Refers to the establishment or strengthening of organizations based in the community, so that members of the same community have the same capacity to plan and implement their own activities for development. As such, democratic participation is promoted, represented and governed.

### The DA approach

For the organization Development Alternatives (DA, 1999), the development of an approach for SL incorporates the inter-generational concept of sustainable development. This concept is based on the idea of creating self-sustainable villages whose economies are handled by factors of biomass. This alternative has also the mandate for the creation of sustainable livelihoods, especially for women with low-income, by using:

1. The design and dissemination of appropriate technologies to generate alternative income.
2. The promotion of sustainable use and regeneration of natural resources through appropriate administration techniques and technologies.

Appropriate technologies involve dwellings (with appropriate materials and concrete floors), textiles (manual looms), water (small dams and hand pumps), paper (artisan production units), soil (vermicompost) and energy (bio-gas and smoke-free stoves). Where regeneration and sustainable use of natural resources involves clean drinking water, development of irrigation techniques, reforestation and conservation of wetlands, and soil fertility.

The approach on SLs is not uniform because it varies by project and by region. It is dynamic because it evolves in agreement with the lives of the local people, thus improving their understanding of what constitutes a sustainable livelihood for themselves.

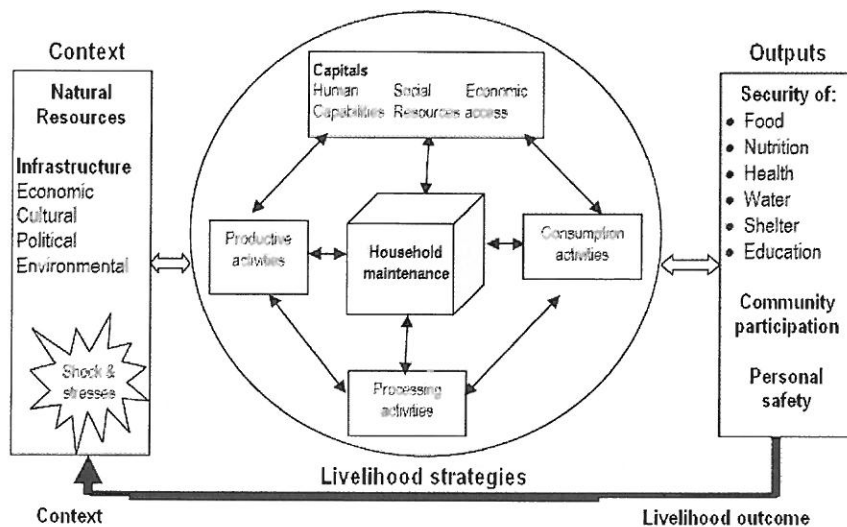


Figure 4. Action model for CARE regarding sustainable livelihoods (from: Krantz, 2001).

## DISCUSSION

### Comparing the approaches

From the documentation analyzed on the diverse approaches of SL, it can be seen that in general they all have in common that they manage and direct their strategies toward groups afflicted by poverty. They also share a holistic vision on the resources that should be considered in their programs, such as physical (nature, materials, and infrastructures), economic, political and social (social networks) and the application of participatory appraisals to better understand the groups that wish to support. Nevertheless, the study of the relations between poverty and environmental degradation, a key aspect in any sustainable livelihood approach (Rakodi, 1999), is not mentioned in any of the approaches analyzed here, so it can be inferred that they all give greater priority to social resources over the natural resources.

The difference in the approach of each SL lies in the identification of the values and key capitals of their strategies and implementation approaches. The UNDP has an overly simplified framework of reference, with few details on the elements that make up a SL (see Figure 1). On the other hand, although the organization plans its projects in a programmatic manner through Governmental collaborations (Krantz, 2001). This implies that its projects should start with greater emphasis on links at the macro-level, within regions or districts, and later they can extend to micro-levels. This situation might cause resources to arrive later, or minimized, to groups in poverty seeking to support.

The approach of DFID, however, is not supported by a programming framework, but in the search and identification of values that determine livelihoods in terms of capitals that influence its structures and processes (Farrington et al., 1999). This detailed analysis on the tangible and intangible values affecting livelihoods shows an improvement regarding to the UNDP model, which is more simplistic (see Figures 1, 2). Likewise, based on its method of analysis, DFID is initially located at micro-level, but maintains later macro-links to provide for contributions from national and international levels (Ashley and Carney, 1999). Given this strategy, this model attempts to achieve greater support for poverty groups intended to help.

In the case of IFAD, it puts more emphasis on people rather than on resources (IFAD, 2007). Therefore, sustainability is not completely defined when it is apparently placed at a secondary level. Nevertheless, its schematic representation is based in great part on the representation of DFID (see Figure 3) as its source, and probably the application of its strategies are similar to those of DFID.

CARE includes some DFID initiatives in its strategies, but considers activities for home maintenance only as means to arrive at an end result and not the end in and of itself (Figure 4). As such, it seeks a greater focus on capacities of the people at the micro-level, personal empowerment and commonality among groups (Krantz, 2001; Lindenberg, 2002). This greater focus on the personal level is perhaps the most individualistic of all the strategies and is probably more appropriate for application to small groups in poverty situations.

DA does not show any plan or proposal of its concept of SL, but highlights greater endorsement to the search for sustainable new alternatives that allow conservation of natural resources and the support of domestic technologies involving smaller environmental impact and better use of regional resources (DA, 1999). Something that the other approaches not include at the same degree, suggesting that this approach is more oriented to sustainability.

A comparative summary of the different methodological approaches of SL are analyzed in Table 1. This summary is based chiefly on the analysis of the main purpose of each approach, and its strengths and weaknesses.

## CONCLUSIONS

Since the beginning of the concept of sustainable livelihoods, it has been largely taken by several social organizations as development strategies to support the eradication of poverty (Krantz, 2001; Farrington et al., 1999; IFAD, 2009; DA, 1999). The SL approaches analyzed here are centered, in general, on the search for human capabilities and values that enable groups to face problems and obstacles where they are living, and to subsequently reinforce and achieve empowerment fairly and democratically. The organizations that apply these methods work in an international framework, so they are facing very diverse situations depending on the location where they intend to work. Hence, they apply holistic approaches and use participatory evaluations where people of each community collaborate actively to achieve equivalent improvements in their ways of life. Likewise, the strategies of these organizations involve also the establishment of collaborations both macro- (national or regional) and micro-levels (communities or families) to achieve their purposes.

Of the approaches presented here, it seems clear that UNDP and DFID are the predecessors of the other approaches, as IFAD, CARE and DA. On the other hand, CARE has refined more its scheme of conceptualization; probably due to its greater international extension (CARE, 2010). Although DA does not bring to light the visual schema of its

methodology, it is more focused on searching for sustainability considering local options that minimize environmental impact; while the other approaches (UNDP, DFID, IFAD and CARE) seem to be more interested in the social aspects of communities they seek to help.

Finally researchers suggest that an enhanced SL approach would be a great advantage for the CARE approach because it combines and amplifies those approaches of UNDP and IFAD. But at the same time it would also be beneficial to add to the CARE

approach a detailed analysis of the relation between poverty and environmental degradation where the groups they pretend to support are immersed, so as not to lose the natural resources sustainability aspect that is key to this methodology (Rakodi, 1999). As well, it is of extreme benefit not to lose the application of interactive methods of investigation (Pretty, 1995) where vulnerable groups stop being objects of study and they become joint participants in decision-making.

Table 1. Comparative summary of the methodological approaches for SL

Approach	Purpose	Strengths	Weaknesses	Reference
UNDP	Improve sustainable livelihoods of vulnerable groups.	Increase the capacity of adaptive strategies to address the problems of vulnerable groups.	Does not consider the relations of power and dominance that sometimes exist in socially disadvantaged communities.	Krantz, 2001
DFID	Eradicating poverty by making livelihoods the goal of development efforts.	Identifies the capitals of livelihoods and the relationship of power as a transforming process that should be examined.	Lacks of programming framework. Difficulty of initiating the methodology at the micro-level without relying on the macro-level.	Farrington et al., 1999; Krantz, 2001
IFAD	Improve the quality of people's life above the resource or their Governments.	Builds supporting networks based on people-centered that actively participate in projects.	Minimizes the importance of natural resource conservation.	IFAD, 2009
CARE	Strengthen the capacity of the poor to themselves take initiatives and secure their way of life.	Considers people who are active rather than passive to receive external help.	Uses rapid appraisal participatory methods where people are objects more than participatory subjects.	Krantz, 2001
DA	Develop livelihoods that satisfy current necessities without compromising future generations.	Develops highly sustainable local technologies more than importing external technologies to increase dependence.	Does not possess a programming framework, and does not clearly establish how to achieve its goals.	DA, 1999

## REFERENCES

- Ashley, C. and Carney, D. 1999. Sustainable livelihoods: Lessons from early experience, pp.31-32 Department for International Development, London. U.K.
- CARE, 2009. About CARE. Home Page, <<http://www.care.org/about/index.asp>> [1 de Julio del 2009].
- CARE, 2010. CARE's Work. <http://www.care.org/careswork/index.asp> [19 de Abril del 2010].
- DA, 1999. What are Sustainable Livelihoods? In: Livelihoods Vision. Sustainable Livelihoods Development Alternatives. <<http://www.dainet.org/livelihoods/slvision.htm>> [29 de Junio de 2009].
- Farrington, J., Carney, D., Ashley, C. and Turton, C. 1999. Sustainable Livelihoods in Practice: Early Applications of Concepts in Rural Areas, Natural Resource Perspectives. pp. 1-4, Overseas Development Institute, U.K.
- FAO, 2009. Medios de vida sostenibles. In: Gente. In: Social Development Dimensions. Departamento de Ordenación de Recursos Naturales y Medio Ambiente. Food and Agriculture Organization. <[http://www.fao.org/sd/pe4\\_es.htm](http://www.fao.org/sd/pe4_es.htm)> [02 de Julio del 2009].



- IFAD, 2007. Sustainable Livelihoods Approach (SLA). <<http://www.ifad.org/sla/index.htm>> [30 de Junio de 2009].
- Krantz, L. 2001. The Sustainable Livelihood Approach to Poverty Reduction. An Introduction. Executive Summary. pp. 6-21. Swedish International Development Cooperation Agency. Division for Policy and Socio-Economic Analysis.
- Lindenberg, M. 2002. Measuring Household Livelihood Security at the Family and Community Level in the Developing World. World Development. Great Britain. 30(2):301-318.
- Pretty, J.N. 1995. Participatory learning for sustainable agriculture. World Development. Great Britain. 23(8):1247-1263.
- Rakodi, C. 1999. A Capital Assets Framework for Analysing Household Livelihood Strategies: Implications for Policy. Development Policy Review. Overseas Development Institute, U.K. 17:315-342.
- Sustainable Livelihoods Education & Awareness. Resource Center (SACOAST) 2009. South African Coastal Information Centre. <<http://sacoast.uwc.ac.za/education/resources/sustain-livelihoods/index.htm>> [29 de Junio de 2009].
- Twigg, J. 2007. Sustainable Livelihood Approaches, In: Tools for Mainstreaming Disaster Risk Reduction, ProVention Consortium Secretariat, Geneva, Switzerland, <[http://www.proventionconsortium.org/theme\\_s/default/pdfs/tools\\_for\\_mainstreaming\\_GN10.pdf](http://www.proventionconsortium.org/theme_s/default/pdfs/tools_for_mainstreaming_GN10.pdf)> [26 Octubre de 2009].

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