Sustainable Livelihoods from Theory to Conservation Practice:

An Extended Annotated Bibliography for Prospective Application of Livelihoods Approaches in Protected Area Community Research

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Foreword

There was time not too long ago when conservation was seen to be mainly the purview of the ecological sciences. Now the reality is widely appreciated that conservation is primarily about managing ourselves, people, and the societies we create. To fail to appreciate this symbiosis is to fail to grasp the essence of what will determine future sustainability on the planet.

From a lifetime of work in the tropics, mainly in Southeast Asia, this lesson has been taught and re-taught to me many times. One particular experience stands out where we were investigating poaching rates in different sectors of a protected area complex in Thailand. We found two sectors that had significantly reduced poaching. In one, we found out, the Chief of the guard station was a particularly frightening individual who ran a very effective anti-poaching ranger squad. Poachers were too scared to go in the forest. In the other sector the story was totally different. A recent initiative had seen the development of several manufacturing plants in the vicinity and many of the villagers had found work in those plants. The average income levels in this sector were significantly higher than anywhere else around the protected area. Interviewees told us that poaching was previously on an "as needed" basis. As incomes had risen the need was considerably reduced and poaching as a practice and tradition was dying out.

These examples illustrate the need to fully understand the complexity of place-based solutions to conservation. Any such understanding must be fully grounded in knowledge of the socio-ecological systems that prevail in the area and especially in livelihoods. This basic premise forms the basis of the Protected Areas and Poverty Reduction (PAPR) project funded under an International Community University Research Alliance (ICURA) grant by SSHRC and IDRC. It draws upon experience in different contexts in three differing countries, Canada, Tanzania, and Ghana, to work towards sustainable futures for communities in and around protected areas.

It is important to note that our enquiries do not exist in a vacuum. There is a wealth of global experience in these kinds of challenges. Our approach is to learn from this body of knowledge and combine this with the wealth of knowledge in the PAPR Team and amongst our local partners. This annotated bibliography is one contribution towards this effort. It brings together, synthesizes and makes recommendations based on the main sources related to Sustainable Livelihoods, which are at the nexus of many of the challenges society faces both now and in the future.

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Introduction and Overview

Both terrestrial and marine protected areas can have a number of actual, desired, and perceived positive social, cultural, physical, environmental, and economic benefits for neighbouring communities (e.g., Stevens, 1997; Machlis & Field, 2000; Langton, Rea & Palmer, 2005; Bajracharya et al., 2006; Lai & Nepal, 2006; West & Brockington, 2006; Bennett, Lemelin & Ellis, in press). Yet studies have also shown that the formation of protected areas can have a number of negative impacts on local communities and populations, including displacement, restricted access, changes in tenure, conflicts with wildlife, cultural decline, and social impacts from tourism (e.g., Rao, 1990; West & Brechin, 1991; Stevens, 1997; Scherl et al., 2004; MEA, 2005; West & Brockington, 2006; West, Igoe, & Brockington, 2006; Coad et al, 2008). Additionally, there has been an ongoing debate about whether parks and protected areas exacerbate local levels of poverty (e.g., Adams et al, 2004, Roe & Elliot, 2004; Roe, 2008).

Of course, local people's livelihoods and even survival often depend on local and regional natural resources (e.g., Whittingham et al, 2003; Fisher & IUCN, 2005). As a result biodiversity and natural resource conservation initiatives, in the form of terrestrial and marine parks and protected areas, can often come in conflict with livelihood strategies (Borrini-Feyerabend, Kothari & Oviedo, 2004; Naughton-Treves, Holland, & Brandon, 2005). Moreover, since the long-term success of protected areas and biodiversity conservation initiatives depends on local benefit and support (Nepal, 2000; Child, 2004; Lockwood & Kothari, 2006), it is an imperative that local livelihoods and poverty reduction are considered during the formation and ongoing management of protected areas.

Recent decades have seen a proliferation of theoretical and practical literature in the area of sustainable livelihoods and livelihood enhancement and diversification as tools for rural development and poverty reduction. Since the emergence of the sustainable livelihoods definition proposed by Chambers and Conway (1992), sustainable livelihoods definitions and frameworks have proliferated (e.g., Hoon, Singh & Wanmali, 1997; Carney, 1998; Scoones, 1998; Ellis, 2000), have been adopted by a number of different types of organizations (bilaterals, mutlilaterals, NGOs, research centres; see Hussein, 2002; Scoones, 2008), and have been adapted to fulfill a wide variety of different practical applications (i.e., increasing food security, poverty alleviation efforts, disaster relief, HIV/AIDS; see Scoones, 2008). Additionally, the sustainable livelihoods frameworks have been applied in biodiversity conservation and development projects and research (e.g., Vaughan & Katjiua, 2003a, 2003b; Murphy & Roe, 2003; Wilder & Walpole, 2008). In consideration of the effects of protected areas on local communities, the sustainable livelihoods frameworks might offer a particularly valuable tool for balancing conservation goals with local development outcomes (Igoe, 2006; Cattermoul, Townsley & Campbell, 2008).

This annotated bibliography of sustainable livelihoods literature is motivated by an interest in meeting biodiversity conservation objectives in both terrestrial and marine protected areas while ensuring that local communities benefit socially and economically from their creation. The document begins with a synthesis of the annotated bibliography through exploring the roots of livelihoods thinking, the key concepts, and several definitions and frameworks of livelihoods. Uses, values and critiques of the approach are also summarized. Some of the key lessons from previous livelihoods and conservation-focused research are explored as well as some future entry points for livelihoods and conservation research. The annotated bibliography follows and it is divided into three sections:

- Section 1 focuses on some of the seminal works and key texts related to livelihoods thinking and practice;
- Section 2 explores livelihoods related articles that focus on a variety of terrestrial and marine biodiversity conservation related issues; and,
- Section 3 provides references for additional literature on livelihoods thinking in practice and includes a selection of methodological documents and livelihoods websites.

Synthesis

This section synthesizes the information contained in the annotated bibliography through a review of the sustainable livelihoods approach and a discussion of the potential of the sustainable livelihoods approach to contribute to protected area community research. In conclusion, this section explores key lessons regarding conservation and livelihoods and proposes a number of questions and entry points for both ongoing and future exploration.

The Sustainable Livelihoods Approach

Roots of Livelihoods Thinking

There were a number of early cross-disciplinary research efforts focusing on household studies, village studies, and farming systems that later informed and influenced development studies and livelihoods thinking (e.g., Lipton & Moore, 1972; Farmer, 1977; Long, 1984; Moock, 1986); however, it was not until the 1990s that the term 'sustainable livelihoods' entered the development discourse. Increased attention to poverty reduction, people-centred approaches, and sustainability in the political arena and development theory and practice resulted in the widespread adoption and adaptation of livelihood definitions, models, and frameworks during the next two decades (Scoones, 2009). Several documents and events were particularly relevant in shaping the political milieu into which the livelihoods approaches emerged. First, people-centred approaches to development were emerging in response to the perceived shortcomings of top-down, bureaucratic, market-oriented approaches to development thinking of the 1950s-1970s (see Chambers, 1984, 1987, 1997; Chambers & Conway, 1992; Scoones, 1998). Arce (2003) explores how the theoretical roots of the sustainable livelihoods approach represented a shift away from the nation-state orientation of prior community development efforts, which focused on modernization and political control, through advocating for the analysis of the realities of poor and marginalized people from their own perspective. The sustainable livelihoods approach, Arce (2003) argues, originated in "a period when policy-makers perceived nation states to be less politically important than regional markets or the economic global interdependence of national governments" (p. 202). Secondly, the Brundtland Report, titled *Our Common Future*, emerged in 1987 from the World Commission on Environment and Development of the United Nations (WCED, 1987). This document signified the entrance of the term sustainability into development discourse and policy discussions (Arce, 2003). Thirdly, poverty reduction became the rationale and primary focus of much international development work in the 1990s and 2000s (Brocklesby & Fisher, 2003; Scoones, 2009). For example, in 1999, the World Bank introduced the Poverty Reduction Strategy Papers (Roe, 2008).

The explosion of livelihoods research and literature is most often traced to a working paper that emerged from the Institute of Development Studies by Robert Chambers and Gordon Conway in 1992, which sought to theoretically locate sustainable livelihoods within the actor-oriented approaches to development, the framework of environmental and social sustainability, and the rhetoric of poverty reduction. In proposing the following definition, Chambers and Conway sought to steer away from previous narrowly defined conceptualizations of poverty (i.e., production, employment, and poverty-line thinking) and to incorporate the fundamental ideas of capabilities (i.e., Sen, 1984; 1987), assets (i.e., Swift, 1989), equity, and sustainability (i.e., WCED, 1987):

> A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and

> recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term. (Chambers & Conway, 1992, p. 6)

The important works of Amartya Sen (1984; 1987) form the basis for the inclusion of 'capabilities' within sustainable livelihoods thinking. The contextually dependent concept of capabilities refers to "being able to perform certain basic functionings, to what a person is capable of doing and being" (Chambers & Conway, 1992, p. 4). The ability to feed oneself, one's access to commodities, and the length of one's life, for example, all contribute to one's capability to function (Sen, 1984). Capabilities can also be seen as the 'freedom' of individuals or households to choose pathways and participate in activities that increase their quality of life (Sen, 1984; Chambers & Conway, 1992). Chambers and Conway's definition of sustainable livelihoods also incorporates Swift's (1989) work on human vulnerability and famine through distinguishing between three types of assets: investments, stores and resources, and claims. Swift differentiates between the three types of assets in the following way: 1) Investments include human investments (health, education), individual productive assets (animals, equipment, houses, land), and collective assets (soil, water, irrigation systems); 2) Stores and resources are more tangible assets such as food, stores of value (jewellery, gold), and money; and, 3) Claims are obligatory requests or appeals that can be made on other households, officials, other communities, governments or the international community for resources or assistance (Swift, 1989, p. 44; Chambers & Conway, 1992, p. 7-8). In Swift's view, assets are built up or invested when production exceeds consumption requirements with the end goal of reducing the vulnerability of households and communities to shocks and stresses.

Though there was some preliminary engagement with this definition in the early 1990s, the combination of "supportive political environment, ample resources and available intellectual capacity" (de Haan & Zoomers, 2005, p. 31) ultimately resulted in the adoption of sustainable livelihoods approaches by a combination of bilaterals (e.g., DFID), multilaterals (e.g., FAO, UNDP, World Bank, World Food Programme), NGOs (e.g., CARE, Khanya, Oxfam, SID), and research institutes (e.g., IDS, ODI, IISD, IIED). This widespread engagement with the 'Sustainable Livelihoods Approach' resulted in the emergence of a plethora of definitions and models in the later 1990s and early 2000s (see Hussein, 2002; de Haan & Zoomers, 2005).

Definitions, Models, and Key Concepts

The most often cited definition of sustainable livelihoods emerged from Department for International Development in 1998 (Carney, 1998; DFID, 1999). This definition built upon Chambers and Conway's earlier definition and the subsequent work of Rennie and Singh (1996) and Scoones (1998) through adding a natural resource dimension:

> A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base. (Carney, 1998, p. 4)

Alongside this definition, DFID forwarded a framework for analyzing sustainable livelihoods (Figure 1).

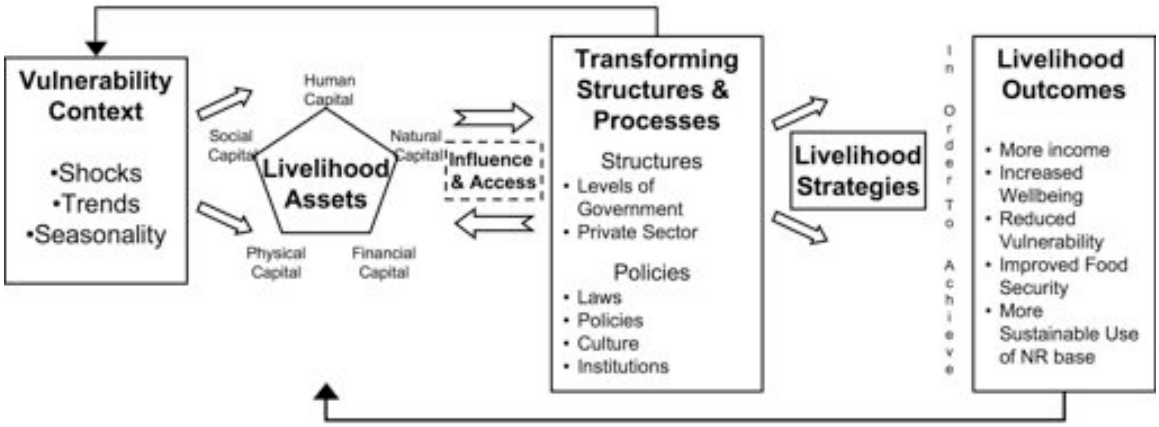

Figure 1 - DFID's Sustainable Livelihoods Framework (adapted from Carney, 1998)

The DFID Sustainable Livelihoods Framework presents a number of factors that impact on livelihood strategies and outcomes and also emphasizes the many relationships between these factors. Central to the framework is a pentagon of interchangeable livelihood assets or capitals (i.e., natural, social, physical, financial, and human capitals; see Table 1) that can be utilized for achieving self-determined outcomes of livelihood strategies in order to reduce the vulnerability of households and communities to to shocks, trends, and seasonality. Access to the capitals is mediated by transforming structures (i.e., levels of government, private sector, civil society) and processes (i.e., laws, policies, culture, institutions, power relations), which are also perceived to be contributing factors to the vulnerability of livelihoods. The sustainable livelihoods approach advocated for by DFID is framed by a number of core concepts that are explored variously in different documents (Carney, 1998; DFID, 1999; Carney, 2003; DFID, 2009). DFID's (1999-2001) Sustainable Livelihoods Guidance Sheets outline six core concepts of the framework, which include people-centred, holistic, dynamic, building on strengths, emphazing micro-macro links, and sustainable. Partially in response to later critiques and discussions, the core concepts grew to include empowering, responsive and participatory, multi-level, conducted in partnership, disaggregated (i.e., by gender, household, socio-economic status, race), and long-term and flexible (Carney, 2003).

Table 1 - Capital assets (Adapted from Scoones, 1998; in Carney, 1998, p. 7)

Capital Assets	
Natural Capital	The natural resource stocks from which resource flows useful for livelihoods are derived (e.g., land, water, wildlife, biodiversity, environmental resources).
Social Capital	The social resources (networks, membership of groups, relationships of trust, access to wider institutions of society) upon which people draw in pursuit of livelihoods.
Human Capital	The skills, knowledge, ability to labour and good health important to the ability to pursue different livelihood strategies.
Physical Capital	The basic infrastructure (transport, shelter, water, energy, and communications) and the production equipment and means which enable people to pursue their livelihoods.
Financial Capital	The financial resources which are available to people (whether savings, supplies of credit or regular remittances or pensions) and which provide them with different livelihood options.

A large number of other organizations and authors (e.g., Rennie & Singh, 1995; Hoon, Singh, & Wanmali, 1997; Scoones, 1998; Bebbington, 1999; Ellis, 2000; see also Hussein, 2002 and Carney, 2003 for comparative reviews) have also offered their own definitions of sustainable livelihoods, conceived differently of assets and capitals, and created widely differing models and frameworks (see Appendices). For brevity, I will only elaborate further on the works of Bebbington and Ellis in this discussion.

Basing his discussion on rural agricultural communities in Africa, Ellis (1998, 2000) examines the topic of livelihoods through the lens of diversification, which he sees as a rural household survival strategy. Livelihood strategies and outcomes, for Ellis, are similarly based on a platform of 5 assets, to which access is modified by social relations (i.e., gender, age), institutions (i.e., rules and customs, tenure, markets), and organizations (i.e., associations, NGOs, local and state governments) in a context of trends and shocks (Figure 2). The resultant livelihood strategies are composed of a variety of natural-resource based and non natural-resource based activities that ultimately have effects on livelihood security and environmental sustainability. In this and later writings (i.e., Ellis & Allison, 2004), Ellis suggests that diversification is a positive strategy for decreasing vulnerability, supporting asset building and decreasing poverty, while maintaining local natural resources. These benefits accrue because diversification decreases pressure on local resources, enhances people's options, builds individual human capital, increases cash flows to and within rural areas, and promotes 'spatially diverse transactions'. Ellis' focus is on the importance of changing macro-level development policy for supporting livelihood diversification.

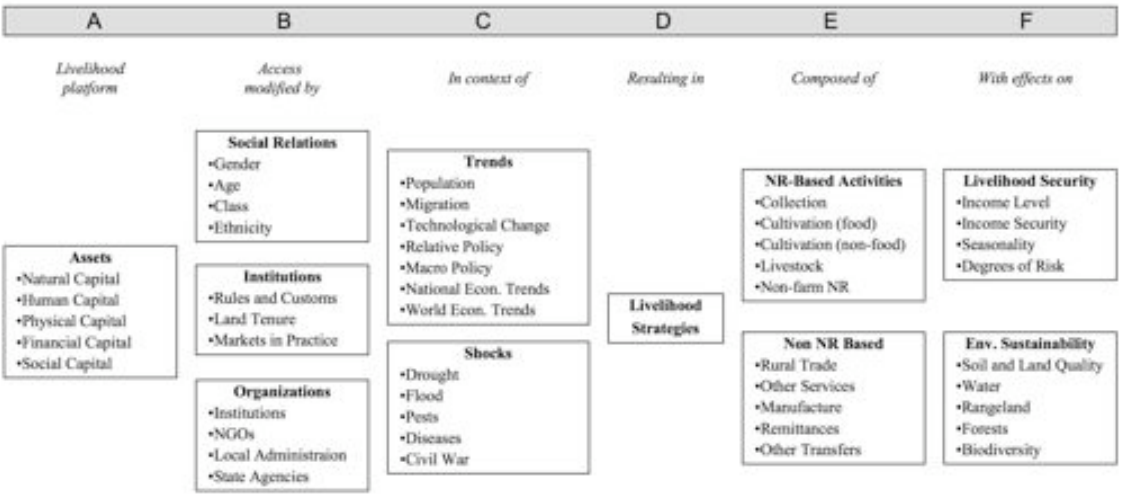

Figure 2 - A framework for micro policy analysis of rural livelihoods (adapted from Ellis, 2000)

Bebbington's (1999) framework for livelihoods analysis differs markedly from the others mentioned previously in that it is the least linear and prescriptive (Figure 3). The cyclical framework places the issue of individual and household access to five slightly different 'capital' assets (produced, human, social, natural, and cultural) as central to: 1) the combination and transformation of these assets to create livelihoods, 2) the expansion of these assets through state, market and civil society determined relationships with other actors, and 3) the enhancement of capabilities with the objectives of making life more meaningful, increasing levels of influence in the governance of resources, and transforming of resources into income. Social capital is seen by Bebbington to be a particularly important asset in determining and broadening access to other assets, resources, and actors.

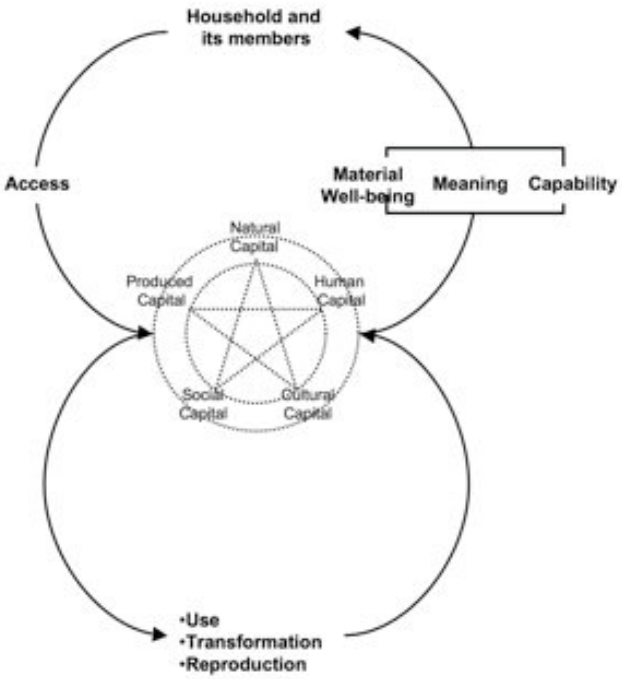

Figure 3 - Assets, livelihoods and poverty framework (adapted from Bebbington, 1999)

Uniting all of these definitions and frameworks is the central place of 'capital assets' in determining livelihood strategies and outcomes. Access to the array of assets (i.e., natural, human, social, cultural, produced, physical, economic) is emphasized as being an important issue. In the frameworks, access is mediated by micro-, meso-, and macro-level policies, institutions, and processes. All of the definitions and the frameworks are premised on idealistic commitments to poverty reduction, sustainability, and people-oriented approaches to development (Carney, 2003). Furthermore, the end goal of these frameworks for analysis is understanding local livelihoods in order to influence micro to macro level changes (e.g., in access to capital assets, in livelihood strategies and outcomes, in policies, in institutions), to reduce household and community vulnerability to stresses and shocks, and to increase wellbeing. The sustainability of the local environment is an important aspect of not undermining the livelihoods of future generations.

Uses, Values and Critiques

The sustainable livelihoods approach has proved to be of value in a number of areas. Early reviews suggested that the approach was particularly useful for: 1) the systematic and holistic analysis of poverty; 2) providing an informed view of development opportunities, challenges and impacts; and, 3) placing people at the centre of development work (Ashley & Carney, 1999). The sustainable livelihoods approaches have also lead to: 4) improving understandings of poor people's lives; the constraints facing them, and inter-group differences; 5) increasing intersectoral, collaborative, and interdisciplinary community development research and work; and, 6) creating increased links between micro, meso, and macro level considerations in poverty and development discourse (Carney, 2003; Hussein, 2002). Moreover, the theoretical shift away from the nation-state orientation of community development

resulted in advocacy for the analysis of livelihoods of poor and marginalized people from their own perspectives (Arce, 2003)

Hinshelwood (2003) writes that the critical and creative adaptation of the framework by trained and experienced community development professionals will make it a priceless conceptual toolkit and useful addition at any stage of almost any development project. Indeed, livelihoods thinking, frameworks and approaches have been applied in a wide variety of geographical contexts to explore urban and rural locales, a diverse array of occupations, social differentiation, and livelihood directions and patterns (Scoones, 2009). In recent years, livelihoods thinking has been adapted to situations ranging from exploring livelihoods in situations of chronic conflict (Longley & Maxwell, 2003) to framing community energy development projects in Wales (Hinshelwood, 2003) and from examining the relationships of HIV/AIDS to food security and livelihoods (Loevinsohn & Gillespie, 2003) to assessing the impacts of tourism on livelihoods (Simpson, 2007). Of course, livelihoods frameworks have also been used to explore the relationships of livelihoods to terrestrial and marine biodiversity conservation initiatives (e.g., Salafsky & Wollenberg, 2000; Vaughan & Katjiua, 2002, 2003; Cattermoul et al, 2008).

Though livelihoods thinking has proliferated in development practice, there have been a number of persistent critiques of the sustainable livelihoods approaches. Early critiques of the sustainable livelihoods approaches included: 1) the potential costliness of the process, 2) the over-emphasis of the SL framework, vocabulary and processes, and 3) the need for additional tools and skills to complement various aspects of the SL framework and to support change agendas (Ashley & Carney, 1999). In reviews of sustainable livelihoods thinking in practice, Carney (2003) and Hussein (2002) expressed concerns about the downgrading of issues associated with governance, power, rights, markets and economics, sustainability, and micro, meso and macro level policies, institutions and processes. The adaptation of livelihoods to long-term stresses and shocks particularly related to environmental change and to long-term (10, 20, 50 years) changes in rural economies also deserves increased attention in future application (Scoones, 2009). Murray (2001) felt that livelihoods approaches did not attach enough importance to the vulnerability context and that an ongoing tension exists between bottom-up 'participatory' methodologies and the top-down involvement implied by development 'interventions'. Arce (2003) echoes this apparent hypocrisy within the approach and adds that the definitions and frameworks might perpetuate a top-down orientation through using conflated and abstract conceptualizations of capitals and assets as terms of reference for local realities at the expense of exploring value contestations and local understandings. The technical, compartmentalized, and oversimplified nature of the sustainable livelihood frameworks could be seen to result from a 'technocratic development drive', which Brocklesby and Fisher (2003) argue has resulted in the exclusion of the principles, ethos, and values of recent community development work from livelihoods thinking.

The Livelihoods Approach in Protected Area Community Research

One area where the livelihoods approach might prove to be particularly useful is in the area of community development related to conservation initiatives (Igoe, 2006). The sustainable livelihoods frameworks could be useful in several ways. First, they could offer a broad framework for researchers, conservationists, and protected area managers to look at the micro to macro level influences on livelihood assets, activities, and outcomes and particularly the ways that conservation related policies, institutions, and processes are impacting local peoples. The application of the frameworks in this manner

might give both initial and ongoing insight into ways that livelihood outcomes and biodiversity conservation might be balanced. Secondly, the frameworks might suggest entry points for further research or development interventions. The following section attempts to set an agenda for ongoing and future research through: 1) summarizing some of the lessons learned from the previous literature on livelihoods and conservation that is reviewed in this document, and 2) suggesting some entry points for research initiatives.

Lessons on Livelihoods and Conservation from Previous Research

The following discussion focuses on lessons regarding livelihoods and conservation that emerged from a literature review and is divided into two sections: theoretical considerations and research considerations. The theoretical considerations discussed in this document include: 1) the livelihood impacts of protected areas, 2) determinants of beneficial livelihood outcomes, 3) lessons for balancing biodiversity conservation and livelihood outcomes, and 4) ways to support local livelihoods related to conservation. A number of methodological, theoretical, and practical considerations also emerged from the literature that need to be taken into account when conducting research on livelihoods related to conservation.

Theoretical Considerations

1) The livelihood impacts of protected areas

- The formation of both terrestrial and marine protected areas has been shown to have a number of significant impacts on local livelihoods, which can be separated into the categories of costs and benefits:
    - Livelihood benefits: environmental services (i.e., increased fish catches, water quality, ecological integrity, restoration of degraded lands), tourism development (i.e., increased income, employment, capacity building and entrepreneurial support, cultural revaluation), payment for environmental services, development schemes, employment, security of land tenure, protection of natural resources and biodiversity, improved governance processes, increased participation in governance, greater community organization, increased community resilience and adaptation, improved health, decreased cultural loss, and poverty reduction/alleviation (Koziell, 2001; Murphy & Roe, 2004; Naughton-Treves et al, 2005; Leisher et al, 2007; Coad et al, 2008; Cohen et al, 2008; Bennett et al, in press)
    - Livelihood costs: displacement, reduced access to resources, loss of support for traditional activities, conflict with wildlife, loss of employment options, shifts in land tenure, shifting power structures, limited benefits of tourism, and unequal distribution of benefits (Vaughan & Katjiua, 2003; Murphy et al, 2004; Coad et al, 2008)
- The values of biodiversity conservation can be also classified as direct use (subsistence and tradable), indirect use (environmental services and informational), and non-use (future options and existence) (Koziell, 2001)

2) Determinants of beneficial livelihood outcomes

- The previous literature suggests that there are a number of important factors that might support beneficial local livelihood outcomes. These include:
    - Secure land tenure (Murphy & Roe, 2004; Sunderlin et al, 2005; Tyler, 2006; Coad et al, 2008; Harvey et al, 2008)
    - Adaptive, collaborative, and integrated management (Tyler, 2006; Coad et al, 2008; Cohen et al, 2008; Harvey et al, 2008)
    - Effective governance (Tyler, 2006; Coad et al, 2008; Harvey et al, 2008)
    - Inclusion of indigenous and local knowledge systems and practices (Tyler, 2006; Coad et al, 2008; Harvey et al, 2008)
    - Enabling and supportive policies, legislation, institutions, governments, and markets (Koziell, 2001; Murphy & Roe, 2004; Leisher et al, 2007; Cohen et al, 2008)
    - Local capacity for governance and for involvement in alternative livelihoods (Cattermoul et al, 2008; Coad et al, 2008; Cruz Trinidad et al, 2009)
    - Equitable distribution of benefit across genders, ages, classes and ethnic groups (Ellis & Frank, 2004; Murphy & Roe, 2004; Coad et al, 2008)
    - Broad community participation and stakeholder involvement in development processes (GEF-UNDP, n.d.; Coad et al, 2008)
    - Broad community participation and stakeholder involvement in governance processes (Tyler, 2006; Leisher et al, 2007)
    - Enabling environments for entrepreneurial development (Murphy & Roe, 2004)
    - Access to natural resources (Koziell, 2001; Ellis & Frank, 2004; Murphy & Roe, 2004)
    - Supportive and capable local leadership (Murphy & Roe, 2004; O'Garra, 2007)
    - Social cohesiveness of local populations (O'Garra, 2007)
    - Decentralization of authority and local control over resources (Sunderlin et al, 2005)
    - A diversified livelihood base (Ellis & Frank, 2004)
    - Social inclusiveness (Tyler, 2006)
    - Knowledge and awareness of livelihood opportunities (Elliot et al, 2001)
    - Initial and ongoing financing (GEF-UNDP, n.d.; Leisher et al, 2007)
    - Strong decision making processes (O'Garra, 2007)
    - Empowerment and capacity (Tyler, 2006; Leisher et al, 2007; Coad et al, 2008)

3) Balancing conservation and livelihoods

- A number of previous conservation and development-focused models have the potential to contribute to beneficial livelihood outcomes; however, they all have drawbacks. These models include: Integrated Coastal Management (ICM), Community Based Adaptive Management (CBAM), Community Based Natural Resource Management (CBNRM), Community Based Wildlife Management (CBWM), Community Based Ecotourism (CBET), Community Based Tourism (CBT), Integrated Conservation and Development Projects (ICDP), and extractive reserves (see Murphy & Roe, 2004; Naughton-Treves et al, 2005; Agrawal & Redford, 2006; Tyler, 2006; Coad et al, 2008; Cohen et al, 2008). A number of important lessons regarding conservation and livelihoods emerge from these critiques and other discussions:

a) Effectiveness of livelihoods in protecting biodiversity values:

- Environmentally degrading livelihood practices can significantly impact on both environmental and livelihood sustainability (Elliot et al, 2001)
- Incentives, in the form of alternative livelihoods, are not always effective in supporting biodiversity conservation (Salafsky & Wollenberg, 2000)
- Different livelihood strategies, such as tourism, might be more or less effective in supporting biodiversity conservation in various contexts (Salafsky & Wollenberg, 2000; Kiss, 2004)
- Ecotourism is often criticized for not benefiting either conservation or local socio-economic outcomes (Kiss, 2004)
- Tourism might be the most effective method of offsetting lost fishing incomes in MPAs (Leisher et al, 2007)

b) Alternative livelihoods and livelihood diversification as means of achieving conservation objectives:

- Livelihood diversification might be an effective mechanism for decreasing pressure on natural resources (Elliot et al, 2001; Ellis & Allison, 2004)
- Value differences might preclude local populations from participating in alternative livelihoods such as tourism (Pugholm, 2009)
- Both the enhancement of current and traditional livelihoods (i.e., through intensification, in ways that support conservation) and diversification into new livelihoods should be considered (Cattermoul et al, 2008)
- Conservation organizations need to be clear about their rationales and the types of benefit that might come from development interventions (Wilder & Walpole, 2008)

c) Balancing conservation and development:

- Ongoing measurement and evaluation of the impacts of conservation and livelihood interventions, through suitable frameworks and mixed methodologies, is an important consideration for balancing social and environmental benefits (Walpole et al, 2007)
- Supporting biodiversity conservation in agricultural areas could be strengthened through economic incentives, strengthening alliances, redesigning environmental laws and regulations, and increasing political support (Harvey et al, 2008)
- Using participatory approaches to identify hotspots, address threats, protect habitats, conserve areas, and utilize traditional knowledge might support biodiversity conservation (Harvey et al, 2008)
- Mainstreaming of biodiversity in development and poverty alleviation efforts, further examination of how various disaggregated aspects of biodiversity functions can benefit rural poor and enhance their livelihoods, creating strong partnerships with the private sector, increasing education on the effects of consumption on biodiversity, and further empirical and comparative research with improved methodologies might increase local benefit from biodiversity conservation (Koziell, 2001)
- Networks of community MPAs might be most effective in supporting conservation objectives and community benefit (Leisher et al, 2007)
- Ways to improve zonation, increase participatory processes, and strengthen institutions are areas that need further research (Naughton-Treves et al, 2005)

- Focusing on common objectives, communicating transparently, willingness to compromise can help to balance conservation and development objectives (Elliot et al, 2001)

4) Trade-offs between conservation and development:
- Although win-win outcomes for conservation and development is the ideal, trade-offs between conservation and development may need to be considered (Sunderlin & Wollenberg, 2001; Wilder & Walpole, 2008)

4) Ways of supporting local livelihoods initiatives related to conservation

- A number of initial and ongoing steps might be taken to support beneficial local livelihood outcomes in protected area communities:
  - Ensure that there is initial and ongoing financial support for projects (GEF-UNDP, n.d.; Leisher et al, 2007)
  - Focus on building local human, natural, physical, financial, and institutional capacities and assets as well as intangible outcomes, such as empowerment, security, and network development (GEF-UNDP, n.d.; Leisher et al, 2007; Wilder & Walpole, 2008)
  - Information dissemination, extension and outreach are important ways of increasing knowledge of benefits and creating realistic expectations (Elliot et al, 2001; Vaughan & Katjiua, 2003)
  - Work to create enabling and supportive plans, regulations, policies, legislation, institutions, governments, and markets (GEF-UNDP, n.d.; Koziell, 2001; Murphy & Roe, 2004; Tyler, 2006; Leisher et al, 2007; Cohen et al, 2008)
  - Re-examine policies and legislation governing access to resources, tenure, and rights (Koziell, 2001; Ellis & Frank, 2004; Murphy & Roe, 2004; Sunderlin et al, 2005; Coad et al, 2008)
  - Work to increase local access to and control over resources (Murphy & Roe, 2004; Sunderlin et al, 2005; Tyler, 2006; Coad et al, 2008)
  - Consider local livelihood values, context, and biodiversity impacts of livelihoods when examining and establishing desirable, appropriate, economic incentives and livelihood alternatives (Salafsky & Wollenberg, 2000; Koziell, 2001; Agrawal & Redford, 2006; Pugholm, 2009)
  - Cultivate local leadership, entrepreneurship, livelihood, and governance capacity (Murphy & Roe, 2004; O'Garra, 2007; Cattermoul et al, 2008; Coad et al, 2008; Cruz Trinidad et al, 2009)
  - Ensure consideration of local perspectives through participatory and collaborative governance and development processes that include broad stakeholder involvement (GEF-UNDP, n.d.; Tyler, 2006; Leisher et al, 2007; Coad et al, 2008)
  - Ensure long-term local, research organization, government, and NGO commitment to livelihoods (Tyler; 2006; Fortmann, 2008)
  - Incorporate local and indigenous practice and knowledge systems in research and development processes related to conservation and livelihoods (Tyler, 2006; Fortmann, 2008)

- Increase knowledge and awareness of livelihood benefits of biodiversity conservation among civil society, public and private sector (GEF-UNDP, n.d.; Elliot et al, 2001; Koziell, 2001)
- Plan for broad community involvement and equitable allocation of benefits from livelihood initiatives (Murphy & Roe, 2004; Coad et al, 2008)
- Capitalize on market-based mechanisms for supporting conservation (i.e., payments for environmental services, traditional knowledge, eco-tourism, transfer mechanisms) (Koziell, 2001; Sunderlin et al, 2005)
- Promote enabling environments for entrepreneurs (Murphy & Roe, 2004)
- Examine both diversification into alternative livelihoods and enhancement of existing livelihoods to support socio-economic and conservation outcomes (Sunderlin et al, 2005, Cattermoul et al, 2008)
- Levels of leadership capacity and support, strength of decision-making processes, and social cohesiveness of target groups should be considered prior to livelihood interventions (O'Garra, 2007)
- Ensure that both poverty and conservation are conceived of in broad terms (Tyler, 2006)
- Engage in social learning (i.e., research) processes that are participatory, interdependent, action oriented, and interdisciplinary (Tyler, 2006; Fortmann, 2008)
- Conservation related livelihood initiatives need ongoing monitoring and evaluation to ensure that both biodiversity and social outcomes are being effectively met (Agrawal & Redford, 2006; Walpole et al, 2007; Wilder & Walpole, 2008). Ongoing evaluation should be followed by adaptation of livelihood and development processes (Tyler, 2006)
- Focus on common objectives, communicate transparently, be willing to compromise to balance conservation and development objectives (Elliot et al, 2001)

Research Considerations

1) Methodological Considerations

- Research needs to examine conservation and livelihood outcomes over the long-term, as well as before and after interventions (O'Garra, 2007; Fortmann, 2008; Wilder & Walpole, 2008)
- Livelihood research should be participatory, empowering, locally responsive, and action-oriented (Tyler, 2006; Campbell & IMM, 2008; Cattermoul et al, 2008)
- A combination of traditional quantitative (i.e., surveys, quantitative reviews), qualitative (i.e., interviews, participant observation, life histories) and participatory (i.e, Participatory Rural Appraisal, asset mapping) methods might be the most effective when researching livelihoods (see, for example, Elliot et al, 2001; Simpson, 2007; Cruz-Trinidad et al, 2009)
- Baseline surveys and ongoing monitoring and evaluation might be particularly useful in determining the impact of interventions (O'Garra, 2007; see also Livelihoods and Forestry Program, 2004)
- Secondary data is useful for initial insight and for triangulating results of livelihoods research (Simpson, 2007; Cruz Trinidad et al, 2009)
- Greater attention is needed to increasing the generalizability and comparability of results across studies (Agrawal & Redford, 2006)

2) Theoretical Considerations

- Important to incorporate long-term environmental, social, political and economic trends into analysis (Scoones, 2009)
- Local perspectives on and definitions of poverty should be an integral part of livelihoods analysis (Chambers, 1992)
- Future research into conservation and poverty needs to incorporate broader theoretical conceptualizations of both poverty and biodiversity (Agrawal & Redford, 2006)
- As trade-offs between biodiversity conservation and poverty reduction might be necessary in certain contexts, methods for making decisions around trade-offs are important (Agrawal & Redford, 2006)
- Few previous studies have quantified the direct impacts of protected area formation; this is an area that needs future study (Coad et al, 2008; Bennett et al, in press)
- Intersectoral and interdisciplinary approaches support effective research on and management for livelihoods (Tyler, 2006; Cohen et al, 2008)
- Previous research has not examined which aspects of interventions have caused which effects (Agrawal & Redford, 2006)
- Local knowledges, practices, and scientists can inform and improve research processes for balancing conservation and development (Fortman, 2008)
- Participatory and "interdependent" research might be more effective in supporting conservation and local outcomes (Tyler, 2006; Fortman, 2008)
- Authors suggest that a number of factors might increase the effectiveness of participatory processes: increasing interaction, focusing on learning, engaging with humility and flexibility, long-term commitment, the transparency of the process, an action orientation, creation of contextualized solutions, and recognition of different knowledges, (Tyler, 2006; Fortman, 2008)
- Further research is needed into if and when tourism is an effective method for supporting the conservation of biodiversity (Kiss, 2004)
- Prior assessment of inter and intra-group conflict, local leadership capacity, and the strength of decision-making institutions might guide livelihood project design (O'Garra, 2007)
- Livelihood outcomes can be influenced by micro, meso, macro influences and endogenous and exogenous factors (Sunderlin er al, 2005)
- Theories that might inform livelihoods research include: socio-ecological resiliency; socio-economic development, political characteristics of communities, household resource uses, society wide perspectives, resource change, indigenous knowledge, agro-ecological systems, tenure, interdisciplinarity, social analysis, action research, and participation (see Sunderlin et al, 2005; Tyler, 2006; Scoones, 2009)
- The adoption of results by local resource users, governments, and development professionals is an important aspect of the research process (Tyler, 2006)

3) Practical Considerations

- Livelihoods focused initiatives need ongoing monitoring and evaluation to ensure that they are effective for supporting both bio-physical and socio-economic outcomes (Walpole et al, 2007; Wilder & Walpole, 2008)
- Low cost and locally suitable frameworks are needed to research, monitor and evaluate livelihoods (Cohen et al, 2008)

Entry Points for Livelihoods and Conservation Focused Research

As suggested previously, the sustainable livelihoods frameworks could provide a tool for assessing the broader contextual influences on livelihood strategies and outcomes in protected areas or guide attention towards specific entry points for research, management, or development interventions. In the context of protected areas and local community livelihoods, there are many potential points of entry for research related to various aspects of the sustainable livelihoods frameworks. Some potential research questions that emerged from this review are listed below under headings representing aspects of the various frameworks. These questions may a) deserve ongoing attention throughout the life of a protected area, b) require increased attention in future protected area research, or c) both.

Trends, Shocks, Seasonality, Context, Conditions

- How do larger changes in the environment (for example, climate change) impact on protected area community livelihoods?
- What is the macro-economic, political, historical, technological, population, or demographic context?
- How have macro-economic, political, historical, technological, population, or demographic trends impacted on local livelihoods outcomes?
- How might long-term environmental, social, political and economic trends impact on future livelihood opportunities?
- What micro, meso, and macro level causal factors might influence site level outcomes?

Capital Assets

- What capital assets or resources are available to support local livelihoods?
- What are the impacts of conservation on each of the capital assets?
- How do conservation efforts impact on local access to resources within a 'capitals' framework?
- How are choices and trade-offs between assets made when choosing livelihood activities and outcomes?

Policies, Institutions, Processes

- How do traditional and protected area governance institutions impact on livelihoods?
- What processes do protected area management use to ensure that local livelihoods are considered?
- Does management have the capacity to consider both the socio-economic and biophysical outcomes of park creation?
- How do protected area policies impact upon local people’s access to livelihood resources?
- How do you create and increase enabling policies, institutions, and processes to support local livelihoods in protected areas?
- How do currently operating macro, meso, micro level policies, institutions, and processes impact on local livelihood outcomes?
- What policy changes and institutional changes are needed to support livelihoods?

- How are communities involved in decision-making (planning and management) processes for the protected area?
- How can already effective local management and governance mechanisms and livelihood strategies be recognized and institutionalized in protected area management?
- How can local participation in management and governance be increased?
- To what extent are extension, outreach, awareness building, and knowledge mobilization considered by current protected area management? How can extension, outreach, awareness building, and knowledge mobilization be utilized to benefit conservation and communities?
- How do social relations (gender, age, class, ethnicity) modify access to assets and resources?
- How do various organizations (including local administration, nongovernmental organizations (NGOs), and the state) impact on influence and access?
- To what extent and how are local people involved in determining outcomes of protected areas?

Activities and Outcomes (Socioeconomic and Environmental)

- When are different livelihood strategies more or less appropriate for supporting conservation objectives?
- How do values impact on livelihood choices? Are alternative livelihood options valued in the same way?
- How do various potential livelihood incentives impact on biodiversity outcomes?
- Are current livelihoods activities effective in supporting desired socio-economic and environmental (i.e, biodiversity conservation) outcomes?
- What alternative livelihood activities might better support socio-economic and environmental outcomes?
- What are the barriers to engaging in alternative livelihood activities?
- How are livelihood benefits afforded to locals and outsiders?
- How does in-migration and out-migration impact on local levels of benefit from alternative livelihoods such as tourism?
- What key socioeconomic and biophysical outcomes of conservation are desired? By whom?
- How do local and external perspectives differ on the potential and actual benefits of conservation?
- Are local expectations of protected area related development outcomes realistic and feasible?
- What are the direct impacts (i.e., livelihood costs and benefits) of protected area formation?
- Does the protected area contribute to poverty? How can the protected area contribute to poverty reduction?
- How do shifting livelihood choices and activities caused by protected area formation impact on local social, economic, and environmental outcomes?
- How are conservation and livelihood related benefits and costs distributed across genders, ages, socioeconomic classes, and ethnic groups?
- What factors enable local communities to benefit more from conservation?
- How can decisions be made around potential trade-offs between conservation and development outcomes?

Additionally, the literature suggests that further research is also needed into the effectiveness of conservation and development related programmatic interventions and improved methodologies for research on livelihoods and conservation.

Effectiveness of Interventions

- How can effective capacity building be undertaken to ease transitions into alternative livelihoods?
- What aspects of programmatic interventions cause different outcomes?
- What factors influence the effectiveness of livelihood interventions?
- How should the effectiveness of livelihood interventions be analyzed?
- How can local values be considered when offering incentives for conservation?
- How can tourism be planned and managed so that it supports biodiversity conservation and provides equitable benefits to local communities?
- How can we ensure that benefits are evenly distributed across genders, ages, classes, and ethnic groups?
- How do endogenous and exogenous factors influence on outcomes of livelihood interventions?
- How effective is the SLED process (i.e., Cattermoul et al, 2008) at balancing conservation and socio-economic outcomes?

Research Methodologies

- How can livelihoods initiatives be monitored and evaluated to ensure that they are effectively supporting both bio-physical and socio-economic outcomes?
- How can more complex conceptualizations of poverty and biodiversity be better incorporated into studies of conservation and development?
- How can the comparability and generalizability of livelihoods and conservation studies be increased?
- How can a balance be created between working at local scales and creating knowledge that can be applied in other settings?
- How can post hoc analysis be conducted in ways that will effectively quantify the direct impacts of conservation on livelihoods?
- How can low cost, effective, and suitable frameworks for monitoring and evaluating livelihood impacts of protected areas and livelihood interventions be established?
- How can we ensure that results are adopted by local resource users, governments, and development professionals?
- How can local perspectives on poverty be better incorporated into livelihoods analysis?

Concluding Remarks

In theory, the sustainable livelihoods frameworks and thinking offer a systematic, holistic, intersectoral, actor-oriented approach for understanding the lives of poor and marginalized people and creating links to macro level policy for poverty reduction. In practice, sustainable livelihoods approaches have proved useful for research, programmatic interventions, and policies that have focused on poverty reduction, food security, tourism development, fisheries livelihoods, AIDS, and informal recycling. The sustainable livelihoods concept could also provide a particularly useful conceptual framework for studies that seek to balance conservation initiatives with development considerations in

local communities. To that end this annotated bibliography has provided: a) a review of the literature on the development of the sustainable livelihoods approach, definitions, and frameworks; b) an exploration of previous literature and research on conservation and livelihoods; and, c) a list of suggestions and questions for areas where ongoing and future research is needed into conservation and livelihoods. Future research could no doubt serve to further adapt and improve the sustainable livelihoods framework for specific application within the context of protected area community research. One particular adaptation that might be useful is the clear disaggregation of biodiversity conservation outcomes and poverty reduction outcomes of livelihood strategies, and the improved incorporation of conceptual definitions of both biodiversity and poverty as suggested by Agrawal & Redford (2006).

Annotated Bibliography

The following annotated bibliography is divided into three sections: Section 1 focuses on some of the seminal works and key texts related to livelihoods thinking and practice; Section 2 explores livelihoods related articles that focus on a variety of terrestrial and marine biodiversity conservation related issues; and, Section 3 provides references for additional literature on livelihoods thinking in practice and includes a selection of methodological documents and livelihoods websites.

Section 1 – Seminal Works and Key Texts

The first section of this annotated bibliography focuses on some of the seminal works and key texts that have influenced livelihoods thinking and approaches starting with Chambers and Conway's (1992) article. This section of the annotated bibliography will be organized atypically. Instead of listing works alphabetically by primary author, the literature will be reviewed chronologically and in the order in which it emerged and influenced livelihoods thinking and practice

Chambers, R., & Conway, G. (1992). Sustainable rural livelihoods: practical concepts for the 21st century. IDS Discussion Paper 296. Retrieved October 29, 2009 from http://catalogue.nla.gov.au/Record/1913332.

This discussion paper by Robert Chambers, international development guru and Research Associate for the Institute of Development Studies (IDS) at the University of Sussex, and Gordon Conway, professor of international development at the Imperial College in London, set the stage for the increased popularity and usage of the sustainable livelihoods concept in development practice. According to the authors, livelihoods is an integrating concept that is a response to 1) increasing change and uncertainty, particularly for the rapidly increasing population of rural poor and the natural resources on which they depend, and 2) the defects of previous narrow conceptual modes of development thinking that focused on production, employment, and poverty. The paper reviews three practical and normative concepts of capabilities, equity, and sustainability (both social and environmental) upon which the sustainable livelihoods concept is based. This paper forwarded the most often cited definition for sustainable livelihoods, which suggested that a) livelihoods are made up of people's capabilities, their available tangible assets (stores and resources) and intangible assets (claims and accesses), and activities which contribute to their overall means of living, and b) the sustainability of livelihoods refers to their resilience and ability to recover from stresses and shocks, the maintenance and enhancement of capabilities and assets, provision of opportunities for future generations, and long and short term global and local benefit. Livelihoods are seen as being central to overall quality of life. The authors suggest several considerations for practical analysis including the valuation of future livelihoods, the enhancement of livelihood intensity through practical optimism, and the measurement of net sustainable livelihoods. The policy implications of the concept include decreasing rural poverty through enhancing capabilities, improving equity, and increasing social sustainability. This paper provides a critical grounding in the theoretical and practical considerations that underlie the livelihoods concept.

Chambers, R. (1995). Poverty and livelihoods: whose reality counts? Environment and Urbanization, 7(1), 173-204.

This second paper by Robert Chambers (IDS, University of Sussex) explores how previous poverty rhetoric is universal, reductionist, and standardized and is projected onto Southern, rural, realities from Northern, industrialized, urban settings. This way of thinking about poverty fails to recognize the often-weak relationship between income-poverty and indicators of wellbeing, the complexity, diversity and dynamicism of local realities, or the ingenuity of "poor" people and their adaptive and improvised livelihood strategies. Other often-neglected aspects of deprivation in these settings include social inferiority, isolation, physical weakness, vulnerability, seasonal deprivation, powerlessness, and humiliation. Sustainable livelihoods, argues Chambers, provides an area of conceptual and practical overlap for local peoples and professionals by stressing not only income security but also the importance of considering livelihood resources, prices and payments, health, restrictions and hassle, and safety nets. Chambers stresses that effective livelihoods analysis will require personal and professional altruism, institutional change, and role reversals that include a) the replacement of concepts of wealth by wellbeing and employment by livelihoods, b) a shift to participatory research, learning, analysis and action by local, poor, marginalized and disempowered peoples, and c) increasing accountability through shifting power towards local populations through decentralization, democracy, and diversity in development institutions and processes. This paper builds on the previous paper by Chambers and Conway (1992) through further questioning frameworks of poverty, asking "Whose Reality Counts?" in social development work, and stressing the personal, professional and institutional requirements of conducting effective and bottom-up livelihoods oriented development research.

Hoon, P., Singh, N., & Wanmali, S. (1997). Sustainable Livelihoods: Concepts, Principles and Approaches to Indicator Development. Presented at the Sustainable Livelihood Indicators Workshop, Social Development and Poverty Eradication Division, New York: UNDP.

This document is a precursor to a United Nations Development Program (UNDP) workshop to further develop the sustainable livelihoods concept through the creation of a framework and the development of indicators for the various aspects of the sustainable livelihoods concept (i.e., coping and adaptive strategies, poverty reduction, sustainability, and the process). Prior SL work in UNDP had already resulted in the operationalization of the approach in 5 steps through focusing on 1) describing risks, assets, entitlements, activities, and knowledge, 2) exploring the micro, macro and sectoral policy environment, 3) examining technologies, 4) identifying investment opportunities, and 5) integrating the various aspects of the model together. In order to ensure that the various parts of the sustainable livelihoods concept were integrative and that the process was interactive, the document proposes an analytical model for discussion (Appendix A) and explores a number of indicators for poverty, sustainability, and participation and empowerment. The analytical model differs markedly from many of the proceeding SL models through visualizing livelihoods as coping and adapting strategies that are framed within a context of human ecology, expanded entitlements, and the political matrix. In the model, exposure, capacity and potentiality influence coping and adapting strategies mediated by processes, structures, values and decisions. The document suggests three potential ways of creating indicators for SL approaches: through identifying assets (described as stores and resources, and claims and access), through looking at impact of sustainable livelihoods on the environment or social equity, or through measuring the component parts of an SL system. The authors conclude the document through critiquing the 'unrealistically tidy' framing provided by the SL approach through not recognizing trade-

offs between various considerations nor the dynamism of livelihood and adaptation strategies in the future.

Ellis, F. (1998). Household strategies and rural livelihood diversification. Journal of Development Studies, 35(1), 1-38.

Livelihood diversification refers to processes that rural families and households use to create diversity in livelihood activities and social supports. In this article, Frank Ellis of the School of Development Studies at the University of East Anglia, brings together the prior literature on livelihood diversification in sub-Saharan Africa. This comprehensive review explores concepts of livelihood diversification, suggests a need for increased empirical investigation of household *income diversity*, and examines potential determinants of diversification (i.e., survival, seasonality, social constraints, risk, changing markets, coping, adaptation, vulnerability, disasters, civil strife, strategic investment behaviour, migration). The paper also explores previous research on the relationship between diversification and poverty, income distribution, farm productivity, non-farm growth, and gender. Ellis suggests that policy has an important role to play in diversification through targeting vulnerable social groups by increasing safety nets, reducing risk, providing micro-credit, increasing the rural service sector, considering non-farm enterprise, focusing on rural towns, increasing infrastructure and education, and, most importantly, raising farm productivity. Ellis concludes that generalization in livelihoods research is not desirable because of the heterogeneous nature of the rural economy, that policies should aim to reduce constraints to diversification, and that increased linkages need to be made between livelihood strategies and macroeconomic policies through informed livelihood monitoring. Ellis also argues that Chamber's participatory thesis (see prior) is desirable but adds that local action is required to validate the process. This review article brought the concept of diversification to the forefront in livelihoods thinking and practice and set the stage for increasing explorations of macro-policy implications for rural livelihood diversification.

Carney, D. (1998). Sustainable rural livelihoods: What contribution can we make? London: Dept. for International Development.

In 1998, Diana Carney, Research Fellow at the Overseas Development Institute and Facilitator of DFID's Sustainable Rural Livelihoods (SRL) Advisory Committee, compiled a book of papers presented at the DFID Natural Resources Advisers' Conference on Sustainable Rural Livelihoods. In the introductory chapter, Carney presents DFID's definition of livelihoods, which simplifies and builds on Chambers and Conways (1992) definition by adding 'while not undermining the natural resource base' (p. 4), and a second framework for analyzing livelihoods (Appendix B). The DFID Sustainable Livelihoods Framework presents a number of factors that impact on livelihood strategies and outcomes and also emphasizes the many relationships between these factors. The factors that influence livelihood strategies and outcomes include the vulnerability context (i.e., shocks, trends, seasonality), livelihood assets (i.e., natural, social, political, financial, and human capitals), and transforming structures (i.e., levels of government, private sector, civil society) and processes (i.e., laws, policies, culture, institutions, power relations). The rest of the book is broken down into two sections, the first focusing on key issues and entry points for application of sustainable livelihoods. The key issues discussed include the importance of sector wide approaches, the impact of decentralization on livelihoods, livelihood diversification, and rural/urban linkages. Various factors that impact on livelihoods, such as biodiversity, livestock interventions, ethical trade, research, aquatic resources, forestry, and land tenure, are explored

in the entry points section of the book. The final chapter outlines a number of additional shorter papers presented at the conference on environment and sustainability, enterprise development, social development, engineering, health and population, as well as presentations by the UNDP (Naresh Singh) and Institute of Development Studies (Ian Scoones).

Scoones, I. (1998). Sustainable Rural Livelihoods: A Framework for Analysis. IDS Working Paper, 72, 22.

In this paper, Ian Scoones, Fellow in IDS at the University of Sussex, offers a framework for analyzing sustainable rural livelihoods (see Appendix C). Scoone's sustainable livelihoods framework suggests the operationalization of five key elements in order to research and understand local livelihoods: 1) micro and macro contexts, traditions and trends (i.e., policy, history, demography, climate, social sphere), 2) local livelihood resources (i.e., social, political, economic, human, natural capitals), 3) mitigating institutional processes and organizational structures (both formal and informal), 4) resultant livelihood strategies (i.e., intensification, diversification, migration), and 5) sustainable livelihood outcomes (i.e., working days, poverty reduction, well being, capabilities, adaptation, vulnerability, resilience, natural resource conservation). A hybrid of quantitative and qualitative methodologies and a mix of traditional survey tools and participatory techniques, Scoones suggests, will be required to explore the various aspects of the framework. Though exploring each of these elements may not be necessary in any given development scenario, the framework provides a holistic and integrated overview for effective livelihoods planning and interventions. The framework emphasizes the critical importance of examinations and interventions at the institutional and organizational level suggesting that this will improve the effectiveness of conventional interventions that occur at the resources or strategies levels. Scoones encourages a multi-sectoral approach to livelihoods development. In conclusion, Scoones encourages the active participation of multiple stakeholders in dynamic and iterative livelihoods focused processes.

Ashley, C., & Carney, D. (1999). Sustainable livelihoods: Lessons from early experience. London: Dept. for International Development.

In this document, Caroline Ashley, Research Fellow at the Overseas Development Institute (ODI), and Diana Carney, Researh Associate of ODI, provide a progress update on the Department for International Development's implementation of Sustainable Livelihoods (SL) approaches and a critical assessment of the strengths and weaknesses of the approach. This document opens with an overview of the conceptual, practical and organizational roots of SL approaches, discusses core principles and explores definitions of livelihoods before exploring uses, strengths, weaknesses and shortcomings of the approach. Early application of SL approaches by DFID included designing projects and programs, guiding policy formation and change, assessing activities, strategic thinking, and conducting research. There were three areas where the SL approach was seen as being particularly useful: 1) for systematic and holistic analyses of poverty; 2) for providing an informed view of development opportunities, challenges and impacts; and, 3) for placing people at the centre of development work. Several of the key challenges and shortcomings discussed in this document are the under-emphasis of power, social relations, and gender, the potential costliness of the approach, over-emphasis of the SL framework, vocabulary and processes, the need for additional tools and skills to complement SL understandings (particularly of macro level institutions, organizations and policy) and to support change agendas, and the lack of focus on environmental sustainability within SL approaches. Suggestions provided for improving SL approaches

in practice include: utilizing a wide variety of methods for evaluation and monitoring, creating a common language through SL, sharing and ensuring compatibility of the SL approach with local organizations, ensuring the approach is underpinned normatively by a pro-poor stance, creating cross-sectoral understandings, partnerships, and links, creating mechanisms for ongoing monitoring and evaluation, and utilizing the holistic understanding provided by SL to find and prioritize entry points for development initiatives. When this document was produced, the SL concept was relatively new within DFID (1 year) and was constantly evolving in theory and practice. This document was the first of several (i.e., Carney, 2002; Hussein, 2002) that reflected on SL approaches in order to improve and refine them in development practice.

Bebbington, A. (1999). Capitals and Capabilities: A Framework for Analyzing Peasant Viability, Rural Livelihoods and Poverty. World Development, 27(12), 2021-2044.

Through exploring development processes and debates focusing on the Andean region of Latin America, Anthony Bebbington, then Hewlett Fellow at Stanford University, proposes a framework for analyzing the sustainability of rural livelihoods (Appendix D). The first part of this model places the issue of individual and household access to five 'capital' assets (produced, human, social, natural, and cultural) as central to: 1) the combination and transformation of these assets to create livelihoods, 2) the expansion of these assets through state, market and civil society determined relationships with other actors, and 3) the enhancement of capabilities to make life more meaningful and to increase levels of influence in the governance of resources and to transform resources into income. Social capital is seen by Bebbington to be a particularly important asset in determining and broadening access to other assets, resources, and actors. Though social capital is essential to well-being, Bebbington argues that it is the least understood of the capitals.

DFID – Department for International Development (1999). *Sustainable Livelihoods Guidance Sheets* (Sections 1 & 2). Retrieved November 2, 2009 from http://www.eldis.org/go/topics/dossiers/livelihoods-connect/what-are-livelihoods-approaches/training-and-learning-materials.

Based on extensive consultations with Department for International Development's (DFID) personnel, NGO representatives, donors, researchers and consultants, DFID produced a series of seven guidance sheets focusing on the Sustainable Livelihoods approach. The first two guidance sheets were produced in 1999. The first guidance sheet provides an overview of sustainable livelihoods thinking, traces the origins of SL thinking (i.e., Chambers, 1987; Chambers & Conway, 1992) and objectives (i.e., poverty reduction, human rights), introduces the core concepts of sustainable livelihoods approaches (i.e., people-centred, holistic, dynamic, building on strengths, micro-macro focused, sustainability), and creates links to previous development approaches (i.e., participatory development, sector wide approaches, integrated rural development). This paper also explores aspects of sustainability (i.e., environmental, economic, social and institutional) and what makes livelihoods sustainable (i.e., resilient, not dependant on external support, maintain natural resource base, not undermine livelihoods of others). The second guidance sheet echoes the definition and framework presented in *Sustainable Rural Livelihoods: What contribution can we make?* (Carney, 1998; Appendix B). In depth discussion of each segment of the framework is provided, including clarification of definitions, examination of ways that these factors can be directly or indirectly supported, exploration of linkages with other factors, and suggestions for analyzing each aspect of the framework. Guidance sheets 3-7 (produced in 2001) offer

further exploration of various aspects of the model, examine methods for the application of sustainable livelihoods thinking, and explore lessons from a number of case studies.

Ellis, F. (2000). Rural livelihoods and diversity in developing countries. Oxford: Oxford Univ. Press.

In this book about livelihood diversification as a rural household survival strategy, Frank Ellis, of the School of Development Studies at the University of East Anglia, provides us with a complete overview of livelihoods thinking from conceptual roots, to theory, to practical application. After providing a thorough grounding in the economic and development theory that led to the livelihoods approach, Ellis provides us with a definition that is more connected to economic thinking and an additional framework for examining livelihoods (Appendix E). Livelihoods, for Ellis, are based on a platform of assets, which are modified by access (governed by social relations, institutions, organizations), in a context of trends and shocks. The resultant livelihood strategies are composed of a variety of natural-resource based and non natural-resource based activities that ultimately impact livelihood security and environmental sustainability. The second part of the book explores determinants of livelihood diversification and the relationships between livelihood diversification and poverty, agricultural productivity, gender, environment, and macro policies and reform agendas. A third area of focus is on methods for examining livelihoods in order to impact macro development policy. Ellis suggests using a combination of traditional survey and participatory methodologies for achieving timely and cost-effective information. An overarching focus of the book is the ways in which institutions (i.e., rules and customs, tenure, markets) and organizations (i.e., associations, NGOs, local and state governments) impact on access.

Murray, C. (2001). Livelihoods research: Some conceptual and methodological issues. Chronic Poverty Research Centre. Retrieved November 4, 2009 from http://www.chronicpoverty.org/uploads/publication_files/WP05_Murray.pdf.

In this report, Colin Murray of the Department of Sociology at the University of Manchester, explores issues associated with livelihoods concepts and methods through examining the strengths and weaknesses of the methodologies of six different livelihoods projects. Murray suggests that livelihoods research should focus on the household or community level (micro), take into account the structural, historical, and institutional context (macro), analyze the impact of social relations and power inequalities on poverty, and reflect on the macro context of policy creation. Several conceptual issues identified by Murray include the lack of importance attached to the vulnerability context, the tension between 'participatory' methodologies and development 'interventions', the presumption that people's assets can be expanded, and a lack of specific criteria for sustainability. Furthermore, Murray sees the equation of assets with capital to be particularly problematic. Murray argues that livelihoods need to be examined circumspectively (at a moment in time), retrospectively (change over time from past), and prospectively (for future policy and action) and that trajectories need to be done for the various social classes. He concludes that a combination of methods will be most useful in practice and suggests that small sample surveys, participatory methods, and deep life histories all have advantages and disadvantages.

Carney, D. (2002). Sustainable Livelihoods Approaches: Progress and Possibilities for Change. London: DFID.

This summary paper, by Diana Carney, further explores SL approaches in theory and practice. The purpose of the SL framework as a guide, an approach to development, an analytic tool, and a reminder of the various points of entry for livelihoods oriented practice is clarified and a new list of core principles is suggested for SL: people-centred, empowering, responsive and participatory, sustainable, multi-level and holistic, conducted in partnership, disaggregated (disadvantaged groups' livelihoods), and long-term and flexible. This document provides an update on the expanding range of uses of SL approaches, including program planning, review, and analysis, monitoring and evaluation, disaster response, poverty assessments, poverty eradication strategies, policy, sectoral reform, and research. It also explores some of the main values and concerns about the SL approach. Values of the approach include increasing understanding of poor people's lives, constraints facing them, and inter and intra-group differences, creating more people-focused and participatory methodologies, increasing interdisciplinary and collaborative research, and providing a framework for macro and policy level analysis. Some ongoing concerns include ignorance and downgrading of issues associated with governance, power, rights, markets and economics, sustainability, and policies, institutions and processes (PIPs). In closure, Carney reminds us that the goal of SL is poverty reduction.

Hussein, K. (2002). Livelihoods Approaches Compared: A Multi-Agency Review of Current Practice. London, UK: DFID.

This DFID commissioned review examines ways that SL thinking has been adapted, altered and utilized by 15 development organizations, including bilaterals (e.g., DFID), multilaterals (e.g., FAO, UNDP, World Bank, World Food Programme), and international NGOs (e.g., CARE, Khanya, Oxfam, SID). In this document, Karim Hussein, Research Fellow at the Overseas Development Institute (a British international development think tank), compares SL approaches by examining the various organization's backgrounds, mandates, strategies and development approaches, exploring the origins of their SL approach, providing an overview of their application of SL, presenting each organization's SL framework, and summarizing observations and issues from the organization's implementation of SL. The document also provides a broad overview of key aspects of each organization's approach (e.g., core principles, asset categories, status, sectors, settings, levels, stages, analysis, assessment, distinguishing features, advantages, challenges). Though SL thinking in the various organizations shares similar roots and the fundamental aim of people-centred approaches to poverty reduction, the SL model of each organization was creatively adapted to address shortcomings (e.g., power-relations, gender, rights issues), to apply to new sectors and settings (e.g., urban, youth, conflict, disasters, food security), and to link with other approaches for understanding specific issues. The key benefits of the various organizations' applications of SL included increasing intersectoral and interdisciplinary work and aiding impoverished peoples to recognize and articulate opportunities, constraints and strategies. A major challenge for all agencies was linking livelihoods research to macro, meso and micro policies, institutions and processes. The document offers several suggestions for ensuring that SL research is people-centred, including using a combination of research methods, ensuring that research is action oriented and participatory, focusing on multisectoral, interdisciplinary and holistic analysis, and stressing micro-macro linkages.

Murray, C. (2002). Livelihoods research: Transcending boundaries of time and space. Journal of Southern African Studies, 28(3), 489-509.

This article by Colin Murray (Sociology, University of Manchester) explores the "How?" and "What for?" aspects of the livelihood research through reviewing the approaches, methods and application of a variety of case studies. He differentiates the case studies based on the retrospective (looking around), circumspective (looking back), or prospective (looking forward) nature of these approaches and examines the methods and implications of each. The circumspective case study utilized survey and participatory methods to describe the livelihood context in various regions of Africa, to differentiate between socio-economic groups, and to devise livelihood typologies. In the second retrospective focused case study in Nepal and India, livelihood trajectories were created through following both individuals and households over time and utilizing individual life histories, village mapping, wealth ranking, and sample surveys to explore both what was happening and why. A third retrospective case study in Lesotho utilized a series of cross-sectional and longitudinal surveys to explore quantitative differences in household variables over time which resulted in easily comparable data based on the SL framework categories. Using a series of qualitative interviews with various household to government level individuals and groups, a fourth retrospective case study in South Africa, explored changes in household livelihoods over time. Secondary statistical and other data sources were also used to situate livelihood trajectories within macro level influences. Murray discusses the complementary place of 'dispersed intensive' methods for reconstructing livelihoods across geographical times and spatial boundaries through discussing his own research experiences in Africa. Dispersed intensive methods that move beyond the boundaries of communities and households, that are conducted over long periods of time, and that are micro-intensive, costly, and time consuming but might help us to understand diversity, inequalities, and change over time in livelihoods research. He also argues that livelihoods research needs to be situated within the structural, historical and institutional macro-context prior to micro level research.

Arce, A. (2003). Value contestations in development interventions: Community development and sustainable livelihoods approaches. Community Development Journal, 38(3), 199-212.

In this paper, Alberto Arce, Senior Lecturer and Associate Professor in the Rural Development Sociology Group at Wageningen University, critiques the supposed actor-orientation of the sustainable livelihoods approach. He explores how the theoretical roots of the SL approach represent a shift away from the initial nation-state orientation of community development, which focused on modernization and political control, through advocating for the analysis of livelihoods of poor and marginalized people from their own perspective. Despite this hopeful starting place, subsequent livelihoods definitions and frameworks perpetuated the top-down orientation of development through using conflated and abstract conceptualizations of capitals and assets as terms of reference for local realities at the expense of exploring value contestations and local understandings. Furthermore, Arce suggests that there is an inherent hypocrisy in SL approaches as they question traditional development approaches while maintaining the right to intervene. Arce uses the example of developing alternatives to coca production in Bolivia to explore how livelihood and development issues are intricately linked with cultural identity, local aspirations, territorial and political control, and human agency. Arce insists that development policy and expert language should not make local people's experiences invisible and questions the potential of SL approaches to positively influence local people's lives. Through creating an abstract

framework and definitions of how local people's lives should be understood, Arce argues SL has reproduced previous issues and not improved the actor orientation of development practice.

Brocklesby, M. A., & Fisher, E. (2003). Community development in sustainable livelihoods approaches - an introduction. Community Development Journal, 38(3), 185-198.

Mary Ann Brocklesby, Lecturer in Rural Development and Planning, and Eleanor Fisher, Senior Research Officer in the Centre for Development Studies at the University of Wales, provide an introduction to SL thinking and explore whether this approach has incorporated previous community development thinking. Early community development practice (1950s-1970s) was externally defined, top-down, bureaucratic, and aimed at achieving national or international development goals. In response to perceived shortcomings of this approach, community development shifted towards participatory, bottom-up, grass-roots processes that were pragmatic and diverse in practice. Underlying this was a focus on themes of power, power relations, social organization, knowledge issues, people's agency, local realities, and values. Through exploring the application of SL approaches by three organizations (DFID, CARE International, and UNDP), Brocklesby and Fisher demonstrate that community development thinking is largely absent from SL thinking. The technical, compartmentalized, and oversimplified nature of SL frameworks is a result of a "technocratic development drive", which Brocklesby and Fisher suggests results in the exclusion of the principles, ethos, and values of recent community development work.

de Haan, L., & Zoomers, A. (2003). Development geography at the crossroads of livelihood and globalisation. Tijdschrift voor Economische en Sociale Geografie, 94(3), 350-362.

This paper by Leo de Haan, of the Centre for International Development Issues, University of Nijmegen, Netherlands, and Annelies Zoomers, of the Centre for Research and Documentation on Latin America, explores the roots of livelihood thinking in development geographies and examines the relationship between livelihoods and globalization. De Haan and Zoomers trace the geographical concept of livelihoods to Vidal de la Blanche's *genre de vie* and later Gidden's *locale* before returning to the sustainable livelihoods and livelihoods diversification development literature (outlined previously). In the following sections, the authors utilize a broad number of case studies available to extrapolate how globalization has influenced local livelihoods. In their analysis, globalization has: 1) resulted in the decomposition of households as a result of increased individuality/decreased solidarity in livelihood considerations and consequently the erosion of community life; 2) increased livelihood multi-tasking and income diversification but not necessarily levels of income; and, 3) allowed people to increasingly disperse their livelihoods between urban and rural settings and gain income from different types of employment. In conclusion, the authors suggest that further attention should be paid to dispersed and rooted lives in livelihoods research.

Hinshelwood, E. (2003). Making friends with the sustainable livelihoods framework. Community Dev J, 38(3), 243-254.

When used rigidly and inflexibly, suggests Emily Hinshelwood, independent consultant and community development practitioner from Awel Aman Tawe, South Wales, diagrams such as the DFID sustainable livelihoods framework can be ineffective and oversimplistic. Through using a community wind farm development initiative in her home town as an example, however, she demonstrates that when used

creatively, flexibly, and contextually the SL framework can be a useful tool for organization and analysis. The SL framework shifted the focus of the wind farm development towards being a community regeneration scheme. The framework supported three main shifts in the project: 1) from a focus on technology to people's livelihoods through examining benefits and threats to assets; 2) from a focus on product to a process of community regeneration; and, 3) to include both micro and macro issues (i.e., UK wind farm development, global energy crisis) for framing the project which increased external financial and social support for the project. In conclusion, the paper suggests that the critical and creative adaptation of the framework by trained and experienced community development practitioners will make it a priceless conceptual toolkit and useful addition at any stage of a development project.

Ellis, F., & Allison, E. (2004). Livelihood Diversification and Natural Resource Access: LSP Working Paper 9. Food and Agriculture Organization of the United Nations.

In this paper, a thorough examination of the relationship between livelihood diversification and natural resource access is provided by Frank Ellis and Edward Allison of the Overseas Development Group at the University of East Anglia. Ellis and Allison begin by exploring the benefits of the diversification of livelihoods, including decreasing vulnerability, supporting asset building and decreasing poverty, and maintaining local natural resources. These benefits accrue because diversification decreases pressure on local resources, enhances people's options, builds individual human capital, increases cash flows to and within rural areas, and promotes 'spatially diverse transactions'. Mobility, flexibility, adaptability, and ease of participating in 'spatially diverse transactions' are required to benefit from diversification. Local policy and governance often create barriers to these attributes. The paper turns to discussing the essentialness of natural resources (assets) in rural livelihoods and explores how NR management regimes often hamper livelihood diversification. Both land tenure regimes (customary and legislated) and common property institutions (e.g., CBNRM) can create barriers to livelihood diversification. CBNRM institutions are often sectorally focused (i.e., fish, forests), assume community and livelihood homogeneity, and are often territorial and exclusionary. The authors show that there are often gender imbalances in access to natural resources. A number of questions for future policy research related to NR access and livelihoods are proposed pertaining to land tenure institutions, rural taxation and licensing, migration and remittances, and the functioning of CBNRM institutions. In conclusion, the authors stress the importance of creating enabling environments to assist people in creating their own solutions and initiatives for poverty reduction.

de Haan, L., & Zoomers, A. (2005). Exploring the Frontier of Livelihoods Research. Development and Change, 36(1), 27-47.

This article by Leo de Haan and Annelies Zoomers (Centre for International Development Issues, University of Nijmegen, Netherlands; Centre for Research and Documentation on Latin America) explores the value of livelihoods approaches and examines several theoretical and practical obstacles inherent in livelihoods discourse. In particular, they suggest that the concept of access and the relationship between decision-making and livelihoods are areas that need further consideration. Poverty can be conceptualized as failure to access capitals. Access is mediated by social relations (inclusions or exclusions based on race, gender, language, ethnicitiy, origin, etc.), institutions (social, legal, formal, informal; micro, meso, macro levels), and organizations. Furthermore, the authors suggest that power relations are a key component of access. Decisions surrounding livelihood diversification are recognized as being both strategic and unintentional, and the result of structural factors. De Haan and Zoomers

suggest that the concepts of styles and pathways (historically and socially embedded livelihood patterns) might inform our understanding of individual decision-making through the application of 'livelihood trajectories' as a methodology. Livelihood trajectories go beyond life histories and probe deeper into people's beliefs, needs, aspirations, limitations, and the social and institutional context.

Scoones, I. (2009). Livelihoods perspectives and rural development. Journal of Peasant Studies, 36(1), 171-196.

Ian Scoones (Institute of Development Studies, University of Sussex), in this comprehensive paper, provides an overview of the development of livelihoods frameworks and approaches, explores several identified shortcomings and challenges of livelihoods approaches, and suggests four areas where livelihoods thinking could be improved. Scoones' overview of the development of the approach discusses the ideological and political background that led to the popularization, operationalization and extensive application of the approach. Four areas with which Scoones suggests livelihoods thinking have failed to engage include: 1) macro level shifts in global economies and politics; 2) power, politics and governance; 3) adapting to long-term stresses and shocks; and, 4) long-term (10, 20, 50 years) changes in livelihoods and rural economies. A re-energized research agenda, Scoones suggests, would: 1) focus more attention on politics and the framing of *knowledge* in livelihoods thinking, 2) make explicit the relationship of livelihoods to *power and politics*, 3) engage with issues of globalization through examining linkages, relations, and dynamics across local and broader *scales*, and 4) further examine the *dynamic* nature of livelihoods to increase the long-term resilience and sustainability of livelihood strategies. Pulling from diverse fields of related scholarship in order to rethink livelihoods will enable intellectual and practical reengagement with the framework and ideas.

Section 2 – Livelihoods Thinking in Conservation

This section of the annotated bibliography explores a number of documents that link biodiversity conservation considerations with the concept of livelihoods or research that employs the previously discussed livelihoods approaches and frameworks. This review attempts to bring together research that focuses on a variety of geographical contexts, an array of change agendas and development activities, and a selection of both marine and terrestrial environments.

Agrawal, A., & Redford, K. (2006). Poverty, Development, And Biodiversity Conservation: Shooting in the Dark? (Working Paper No. 26). Wildlife Conservation Society. Retrieved November 15, 2009, from http://www.wcs.org/science.

This critical review, by Arun Agrawal (of the University of Michigan) and Kent Redford (of the Wildlife Conservation Society Institute), explores research on three programmatic efforts (Community Based Wildlife Mangement (CBWM), eco-tourism, and extractive reserves) that have attempted to reconcile poverty alleviation and biodiversity conservation. Though in recent years constructions of poverty and biodiversity have become more complex, this review demonstrates how studies have used largely oversimplified and ignorant theoretical conceptualizations of both poverty and biodiversity when examining the impacts of CBWM, eco-tourism and extractive reserves. Recent conceptualizations of poverty recognize that it is multi-dimensional deprivation (e.g., health, income, education, clean water, acess to resources, social isolation) and not easily measurable. Similarly, recent literature on biodiversity recognizes that it is comprised of multiple attributes (composition, structure, function) and components

(genetic, population/species, community/ecosystem). The studies reviewed also tend to not examine the relationship between poverty and biodiversity, nor explore potential or necessary trade-offs between the two outcomes, nor analyze what aspect of the program causes the observed effects. The authors suggest that extended time frames, pre/post examinations of impacts, and better research design are needed for systematically collecting evidence about the impacts of programmatic interventions on both poverty and biodiversity. They argue that greater attention is needed to these critiques in order to increase generalizability, comparability, and policy-relevancy of findings.

Campbell, J., & IMM. (2008). Systematic Approaches to Livelihoods Enhancement and Diversification: A Review of Global Experiences. Gland, Switzerland; Cambridge, UK: IUCN & ICRAN.

This global review of livelihoods approaches by Jock Campbell of Integrated Marine Management (IMM) Ltd. was commissioned as part of the Coral Reefs and Livelihoods Initiative (CORALI), a collaborative project of the International Coral Reef Action Network (ICRAN), UNEP, and the IUCN. In seeking lessons to guide the creation of a systematic approach for the enhancement and diversification of sustainable livelihoods (i.e., Cattermoul et al, 2008; see below), the document explores literature on creating livelihood change from four areas: community development, aquatic resource dependant communities, entrepreneurship, and corporate development. The document summarizes the lessons learnt under the Appreciative Inquiry headings of Discovery, Direction, and Doing.

Cattermoul, B., Townsley, P., & Campbell, J. (2008). Sustainable livelihoods enhancement and diversification (SLED): A manual for practitioners. Gland, Switzerland: IUCN/CORDIO/ICRAN. Retrieved November 4, 2009, from http://www.eldis.org/go/topics/dossiers/livelihoods-connect&id=44789&type=Document.

As an extension of the previous work, IMM, a UK based research, development and consultancy organization, created a systematic approach for enhancing and diversifying livelihoods in coastal and marine dependant communities with the goal of increasing capacity for engagement in alternative livelihoods when resource protection measures are put into place. The Appreciative Inquiry guided SLED approach brings together lessons from previous livelihoods research and development practice in an action oriented community development tool. The manual provides practical guidance for preparing for SLED and for implementation during the Discovery, Direction and Doing phases of the process. In addition, the manual examines processes, outcomes, and lessons from a number of case study sites.

Coad, L., Campbell, A., Miles, L., & Humphries, K. (2008). The Costs and Benefits of Forest Protected Areas for Local Livelihoods: A review of the current literature (Working Paper). Cambridge, UK: UNEP World Conservation Monitoring Centre.

This review of livelihood impacts of forest protected areas was conducted by researchers at the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC). Discussion focuses on the benefits and costs of forest protected areas, the factors that contribute to levels of cost and benefit, and methodologies for assessing costs and benefits. The benefits of protected areas include environmental services, tourism development, payment for environmental services, development schemes, employment, secured land tenure, and protection of natural resources. Costs have included physical displacement, reduced access to resources, conflict with wildlife (i.e., crop damage, livestock

loss, human injury), declines in employment, and shifts in traditional land tenure institutions and power structures. Often costs are unevenly distributed between gender, age, class and ethnic groups within communities. Economic-cost benefit analyses and attitudinal studies have dominated previous discussions of costs and benefits; yet, the authors point out, no previous studies had quantified the direct impact of protected area formation. The authors conclude that this type of research is necessary to increase our management effectiveness. They also suggest that levels of local benefit from forest protected areas are related to tenure and management processes and governance institutions, particularly levels of local involvement and considerations of capacity.

Cohen, P., Valemei, A., & Govan, H. (2008). Annotated Bibliography on Socio-economic and Ecological Impacts of Marine Protected Areas in Pacific Island Countries (WorldFish Bibliography No. 1870). Penang, Malaysia: The WorldFish Centre.

In this document, P. Cohen of the WorldFish Center and ReefBase Pacific, A. Valemei of the University of the South Pacific and ReefBase Pacific, and H. Govan, private consultant, explore the impacts of marine protected areas in Pacific Island Countries through a review of available literature. The focus is particularly on reef-based marine protected areas and is driven by the increased importance of both conservation and livelihoods in the region. The authors suggest that MPAs that are managed collaboratively and in an integrated fashion might achieve a number of benefits: biodiversity conservation, increased fish catches, improved governance processes and outcomes, greater community organization, increased community resilience and adaptation, improved health, integrated resource management, decreased culture loss, and increased security of tenure. In order to achieve the potential of Integrated Coastal Management (ICM) and Community Based Adaptive Management (CBAM) to contribute to local benefit, strategies are needed to create supportive policy and institutional frameworks, develop low-cost and locally suitable frameworks, ensure locally responsive research, increase interdisciplinary and cross-sectoral approaches to management, and ensure that expectations are realistic. In closure, the authors suggest that the main challenge is for scientists, government and NGOs to embrace, support and promote the local and decentralized approaches that already exist in the region.

Cruz-Trinidad, A., Geronimo, R. C., & Aliño, P. M. (2009). Development trajectories and impacts on coral reef use in Lingayen Gulf, Philippines. Ocean & Coastal Management, 52(3-4), 173-180.

In this paper, Annabelle Cruz-Trinidad and Roland Geronimo of the University of the Phillipines and Porfiro Alino of Conservation International Phillipines examine the relationship between livelihoods and coral reef conservation in the Lingayen Gulf, Phillippines. Using a combination of household surveys, secondary data, and a Coral Reef Interaction Index, the authors explored the levels of dependency and impacts on coral reefs of fisheries, aquaculture, and tourism. Results showed that shifting fisher people into aquaculture was not likely due to socio-economic hurdles; however, tourism jobs could offer a more easy transition. Despite the shifts to alternative livelihoods (i.e., aquaculture and tourism), reef degradation remained high. Further degradation of reefs might result from further development of both aquaculture and fisheries. The authors suggest that improving local governance capacity and increasing local capacity for engagement in reef-supporting alternative livelihoods continue to be imperatives.

Elliott, G., Mitchell, B., Wiltshire, B., Manan, I. A., & Wismer, S. (2001). Community Participation in Marine Protected Area Management: Wakatobi National Park, Sulawesi, Indonesia. Coastal Management, 29(4), 295-316.

This research article focuses on the impacts of Marine Protected Area formation on local livelihoods and the extent of and potential for community participation in management in Wakatobi National Park, Indonesia. The team of researchers from York University (Toronto), the University of Waterloo (Waterloo, Canada), and Hulaleo University (Indonesia) used a combination of group and individual interviews, field observation, and participatory rural appraisal techniques. Results focused on coral reef management issues, livelihood activities, and an outlook for future participation in MPA management. Key management concerns focused primarily on the impacts of coral mining, harmful fishing techniques (i.e., with fertilizer bombs and cyanide), giant clams harvests, and outside fishers and secondarily on boating activities and pollution, mangrove wood harvest, and household waste disposal. More than 95% of the local population depend on marine resource extraction from coral mining, fishing, turtle trading, reef gleaning, mangrove harvesting, and lobster and shrimp harvesting. Local management priorities included decreasing bombs and cyanide fishing, improving coral reef, mangrove and sea grass conservation, diversifying economic activity, and increasing tourism development. However, in order to increase the effectiveness and equitability of management, strategies would need to be improved in the areas of information dissemination, fishing permits, zoning, monitoring and enforcement, coral mining, and tourism development. In conclusion, the authors suggest that meeting the needs of both conservation and communities is possible through focusing on achieving common objectives, communicating transparently, and being willing to compromise.

Fortmann, L. (2008). Participatory research in conservation and rural livelihoods: Doing science together. Chichester, UK; Hoboken, NJ: Wiley-Blackwell.

This book by Louise Fortmann, professor of Natural Resource Sociology at University of California at Berkeley, reflects on the place of participatory research processes, and local environmental knowledge, in supporting conservation and achieving locally beneficial livelihood outcomes. Fortmann recognizes the validity of local knowledge, the credibility of civil scientists, and the importance of democratizing science through bridging conventional and civil scientific knowledges and practices, in essence, conducting interdependent science. The majority of the book consists of chapters by local experts and researchers reflecting on participatory research processes. In the conclusion, the authors bring together the key lessons from these reflective chapters, discuss the importance of 'interdependent' science for conservation, and explore the necessary academic transformations required to conduct participatory research. Key lessons include: recognizing civil scientists as equals, speaking the local language, focusing on empowerment, conducting research transparently, being committed to community well-being, involving marginalized groups, conducting research over the long-term, building relations of trust, creating networks and partnerships, being flexible, building local capacity and confidence, and keeping records. The authors suggest that interdependant and participatory science might support conservation through connecting research to local outcomes, increasing interaction and mutual learning, improving data that will benefit conservation, supporting local benefit and consequently conservation outcomes, revealing new directions for conservation initiatives, and working at local scales. The creation of participatory spaces, Fortman et al write in the conclusion, will require an academic transformation, which includes training in participatory philosophies and processes, creating supportive institutional contexts, recognizing different kinds of knowledge, and engaging with humility.

GEF-UNDP (n.d.). Conserving Biodiversity Sustaining Livelihoods: Experiences from GEF-UNDP Biological Diversity Projects (p. 20). New York: GEF-UNDP.

This document put out by the Global Environment Facility Programme of the UNDP explores lessons learned regarding sustaining livelihoods and conserving biodiversity from a selection of GEF-UNDP funded projects representing various endangered ecosystems (i.e., mountain and freshwater ecosystems, agro-biodiversity, arid and semi arid lands, and coastal and marine ecosystems). The lessons learned from the various case studies include: 1) the need for ongoing co-financing throughout the life of a project; 2) the importance of strengthening human and institutional capacities for implementing policies and initiatives; 3) the requirement for supportive national policies, plans, and regulations to be informed by natural and social science research; 4) the importance of involving all stakeholders in planning projects and of cooperation between communities, NGOs and governments; 5) the value of considering the long-term sustainability of social, economic and environmental outcomes after project funding has ended; 6) the worth of maintaining and including local practice and indigenous knowledge; and, 7) the importance of building awareness among civil society and public and private sector organizations.

Harvey, C. A., Komar, O., Chazdon, R., Ferguson, B. G., Finegan, B., Griffith, D. M., Martinez-Ramos, M., Morales, H., Nigh, R., Soto-Pinto, L., van Bruegel, M., & Wishnie, M. (2008). Integrating Agricultural Landscapes with Biodiversity Conservation in the Mesoamerican Hotspot. Conservation Biology, 22(1), 8-15.

In this article, a group of researchers from several Central American, American and Dutch universities and NGOs, explore the potential for agriculture and small farmers to contribute to biodiversity conservation, propose an agenda for action, and outline a number of enabling socio-economic, legal and political conditions to implement their plan. The article is a response to increasing biodiversity loss in the "Mesoamerican biodiversity hotspot" that is resulting from agroindustrial intensification. The authors suggest that diverse agroecological landscapes, smallholder and indigenous farming practices, and indigenous knowledges can play an important role in conserving biodiversity. Based on these points, they suggest that action should be taken to ensure farming and biodiversity practices are reconciled. Six action points are fowarded: 1) Using a participatory approach, locating and prioritizing biodiversity hotspots; 2) addressing threats; 3) protecting existing native habitats; 4) conserving heterogenous tree cover in agricultural areas; 5) utilizing traditional practices and indigenous knowledge; and, 6) reforesting unproductive and degraded areas. In order to support this action agenda, five enabling conditions are outlined: 1) taking advantage of economic incentives (i.e, payments for environmental services), 2) redesigning environmental laws and regulations, 3) strengthening farmer alliance, 4) linking farmers to niche markets and participating in certification schemes, and 5) increasing political support at all levels. The authors suggest that the implementation of this agenda would bring about positive changes for farmers and biodiversity.

Kiss, A. (2004). Is community-based ecotourism a good use of biodiversity conservation funds? Trends in Ecology & Evolution, 19(5), 232-237.

In this article, Agnes Kiss (Environmentally and Socially Sustainable Development, World Bank), critically examines the ability of community based ecotourism (CBET) to support biodiversity conservation. Despite the hope that CBET will provide an economically self-supporting means to

achieve conservation outcomes, Kiss argues that there is little proof that this is happening in reality. A number of factors limit the ability of CBET to contribute to conservation and local development, including the small numbers of people involved, weak financial gains, declines in conservation with increasing commercial success, and the difficulty of the tourism industry. Furthermore, land uses and destructive practices do not often change and CBET often requires ongoing financial support. Kiss questions whether CBET is an efficient or effective method for achieving conservation and suggests that more rigourous research could help to clarify if and when CBET is an appropriate strategy.

Koziell, I. (2001). Diversity not adversity: Sustaining livelihoods with biodiversity. London: IIED.

In this paper, Isabella Koziell, coordinator of the Biodiversity and Livelihoods Group at the International Institute for Environment and Development, posits that poverty reduction efforts could be enhanced through realizing neglected livelihood opportunities from biodiversity. The opening sections explore the direct use (subsistence and tradable), indirect use (environmental services and informational), and non-use (future options and existence) values of biodiversity. The costs of protecting many of these values of biodiversity, Koziell contends, has been borne by poor peoples and countries. To help the poor achieve more from conservation, Koziell suggests that we will need to build greater awareness of biodiversity at all levels, create desirable development opportunities for poor peoples, create enabling conditions (policies, institutions, markets) for poverty reduction, reexamine policies governing access and rights to resources, and establish economic incentives through market-based approaches to conservation (i.e., environmental services, traditional knowledge, eco-tourism, transfer mechanisms). She offers five recommendations for creating improved and more equitable poverty reduction strategies that take biodiversity into account: mainstream biodiversity in development and poverty alleviation efforts, examine how various disaggregated aspects of biodiversity functions can benefit rural poor and enhance their livelihoods, build strong partnerships with the private sector, increase education on the effects of consumption on biodiversity, and further empirical and comparative research with improved methodologies.

Leisher, C., P. van Beukering & L.M. Scherl. (2007). Nature's investment bank: How marine protected areas contribute to poverty reduction. The Nature Conservancy/WWF International. 43 pp.

This document produced by the Nature Conservancy is one of the first to empirically link Marine Protected Areas to poverty reduction through examining four study sites of various sizes in Fiji (Navakavu), the Solomon Islands (Arnavon Islands), Indonesia (Bunaken) and the Philippines (Apo Island). Poverty was defined on three dimensions: opportunities (i.e., income, housing, luxury goods, fish catch, education, alternative livelihoods), empowerment (i.e., governance mechanisms, community participation, benefits to women, access and rights), and security (i.e., health, social cohesion, cultural traditions). The research utilized 958 household interviews, 33 key informant interviews, and 18 focus group discussions and compared MPA communities with comparable non-MPA communities. Results suggested that MPAs contributed to poverty reduction in five areas: increased fish catches, employment in tourism, participation in governance, improved health, and empowerment of women. Tourism proved the most successful method of offsetting lost fishing income. Other alternative livelihoods (e.g., seaweed farming, deep sea fishing, clay oven making, mat weaving) were not economically viable in the long run due to changing markets and rising input costs. The successful contribution of MPAs to poverty reduction, the authors suggest, requires policies that support initial financial investments and the

empowerment of local communities. The authors also suggest that networks of small community-integrated MPAs might be more effective than larger MPAs in benefiting local communities. Local involvement in governance and a focus on tangible benefits should be the focus of MPAs that are already created.

Murphy, C., & Roe, D. (2004). Livelihoods and Tourism in Communal Area Conservancies. In J. Long (Ed.), Livelihoods and CBNRM in Namibia: The Findings of the WILD Project. Windhoek, Namibia: Ministry of Environment and Tourism.

In this book chapter, Carol Murphy (Senior Researcher, Ministry of Environment and Tourism) and Dylis Roe (Researcher, International Institute of Environment and Development) explore the relationship of community based tourism (CBT) development to livelihoods in communal conservancies in Namibia. The chapter examines the implications of tourism development for land use, the links between tourism and poverty reduction, the relationship of tourism to other livelihoods, the benefits and costs of tourism, and factors that have resulted in successful community-based tourism development. Though tourism is steadily growing, current tourism strategies in communal conservancies tend to have a limited scope of benefit. Yet tourism has provided income, employment, capacity building, career and entrepreneurial support, cultural revaluation, improved natural resource governance, and increased awareness of the value of natural resources. Collective revenue from tourism is sometimes redirected to natural resource management and community development initiatives. These benefits are hopeful; however, authors caution that tourism is time intensive and high risk, requires significant investment in infrastructure, and is limited by lack of tenure rights and unequal distribution of benefits. Several factors that the authors suggest need ongoing attention to improve livelihood outcomes from CBT include promoting enabling environments for entrepreneurs, cultivating local leadership and governance, increasing community participation in CBT, and strengthening legislation, particularly in the area of land tenure.

Naughton-Treves, L., Holland, M. B., & Brandon, K. (2005). The role of protected areas in conserving biodiversity and sustaining local livelihoods. Annual Review of Environment and Resources, 30(1), 219-252.

This review by Lisa Naughton-Treves, Margaret Buck Holland (both at the University of Wisconson), and Katrina Brandon (Conservation International), opens with an overview of the expansion of protected areas in the last few decades and the evolving mandate of protected areas to include both conservation and human wellbeing. The subsequent discussion focuses on several measures of protected area effectiveness: maintaining levels of forest cover, integrating local development with conservation, and alleviating poverty. The authors suggest that protected areas tend to maintain forest cover but surrounding areas are often increasingly deforested. Integrated Conservation and Development Projects (ICDPs) have focused on promoting development in concert with conservation through creating core areas and buffer zones. Criticisms of ICDPS include not achieving either conservation or social mandates, not being participatory or truly integrating local perspectives, and being coercive conservation tactics. The ability of biodiversity conservation initiatives to contribute to poverty reduction is still a matter of debate; however, protected areas can provide a number of economic benefits (e.g., water security, improved ecological integrity, restoration of degraded lands, sustainable natural resource use, employment). The current focus on poverty reduction, Naughton-Treves et al argue, needs to be reversed. In conclusion, the authors recommend that future exploration needs to be done into how to

improve protected area design (e.g., through zoning and creating ecological corridors) and governance (e.g., through participatory processes and strengthening institutions) to suit various contexts.

O'Garra, T. (2007). Supplementary Livelihood Options for Pacific Island Communities: A Review of Experiences. Suva, Fiji Islands: The Foundation of the Peoples of the South Pacific International.

Based on the results of the Supplementary Livelihoods Options for Pacific Island Communities (SLOPIC) project, the Foundation of the Peoples of the South Pacific International produced this document, which reviews supplementary livelihood projects in the region from the last 5-10 years. Through consulting with 34 key individuals and reviewing documents, supplementary livelihood projects were documented and compared using the various aspects of the sustainable livelihoods framework. Several key considerations that contributed to a project success included: 1) baseline study and ongoing monitoring of supplementary livelihoods, 2) the level of leadership support for supplementary livelihoods, and 3) the target group's social cohesiveness. In order to ensure project success, assessment of a) intra and inter-group conflict, b) leadership skills and support for the project, and, c) the strength of decision making institutions should be done during the feasibility stage of the project. These factors will guide project design.

Pugholm, M. L. (2009). Fishing and Environmental Regulation in the Caribbean: Acts of Freedom and Control in a Jamaican Coastal Town. Landscape Research, 34(2), 241-256.

In this article, Monica Pugholm, an independent scholar from Denmark, explores the potential for tourism to act as an alternative livelihood strategy and replacement for fishing in marine protected areas in Port Antonio, Jamaica. Using ethnographic research with fishermen, Pugholm explores the socio-cultural values associated with fishing livelihoods and shows how fishing and tourism livelihoods are differently linked to individual's self-esteem, sense of autonomy, and self-identity. Fishing and tourism differ, she suggests, in the extent to which they coincide with local people's concepts of reputation and respectability. This article challenges the assumption that livelihoods can be reduced to money and Pugholm suggests that values associated with traditional livelihoods might provide a significant barrier to using tourism as an incentive for marine conservation.

Salafsky, N., & Wollenberg, E. (2000). Linking Livelihoods and Conservation: A Conceptual Framework and Scale for Assessing the Integration of Human Needs and Biodiversity. World Development, 28(8), 1421-1438.

In this article, Nick Salafsky of the Biodiversity Support Program in Washington, DC, and Eva Wollenberg of the Centre for International Forestry Research in Jakarta Indonesia, forward a framework and scale for assessing the linkage between livelihood activities and biodiversity conservation. The framework explores the ways in which non-linked protected areas, indirectly linked incentive strategies, and directly linked incentive strategies impact on internal and external threats to biodiversity conservation initiatives. In order to test the impact that livelihoods were having on biodiversity conservation, a scale was developed that measured the impact of livelihoods on a scale of 1-5 across five unranked dimensions: species dependence, habitat dependence, spatial dependence, temporal dependence, and conservation association. The authors suggest that the framework has potential to

contribute to designing and evaluating livelihood and conservation projects and to examining and comparing various incentive strategies with other conservation strategies.

Sunderlin, W. D., Angelsen, A., Belcher, B., Burgers, P., Nasi, R., Santoso, L., et al. (2005). Livelihoods, forests, and conservation in developing countries: An Overview. World Development, 33(9), 1383-1402.

This literature review by a team of international researchers from Indonesia, Brazil, Norway, Netherlands, and France focuses on theory and knowledge regarding forests and poverty. The overlap of forested areas and areas of poverty is noted. A number of theories related to forest-based poverty alleviation (FBPA) are explored, including forest community socio-economic development, social and political characteristics of forest dependant communities, household forest uses, societywide perspectives, and forest cover change. The paper explores the potential for agricultural conversion, timber, non-timber forest products, payments for environmental services, forestry employment, and indirect benefits (i.e., multiplier effects) to contribute to poverty reduction. The authors explore some trends in policy, market and other factors that might enable local peoples to achieve more benefit, including decentralization of authority and resource control, increasing local land tenure, market deregulation and liberalization, changing technologies, and increasing attention to environmental service payments. The authors stress that further site level research into poverty alleviation in forested areas should continue. Yet increased attention should be given to understanding meso to macro level influences, to distinguishing between endogenous and exogenous causes, and to examining factors that enable win-win outcomes for human well-being and forest conservation.

Tyler, S. (2006). Communities, Livelihoods, and Natural Resources: Action Research and Policy Change in Asia. Ottawa, ON: International Development Research Centre.

In this book, Stephen Tyler, previous director of the International Development Research Centre's (IDRC) Community-Based Natural Resource Management (CBNRM) action research program in Asia, reviews and synthesizes lessons on livelihoods, governance, and policy from 11 case studies from IDRC's 7-year program. IDRC's CBNRM research framework, similarly to the sustainable livelihoods frameworks and methodologies, was created in response to perceived shortcomings of previous research in assisting the rural poor or conserving natural resources. In the CBNRM framework, Tyler writes, the sustainability of the natural resource base was seen to be central to local livelihoods and well-being. The CBNRM action research framework was built on concepts of participation, indigenous knowledge, agro-ecological systems, tenure, interdisciplinarity, social analysis, learning by doing, livelihoods, and collective action. A number of key lessons and outcomes of the CBNRM processes included: establishing local trust and respect; incorporating local knowledge systems; encouraging learning and capacity building across groups; embracing methodological flexibility and an iterative social learning process; adopting interdisciplinary and participatory processes and solutions; focusing on contextualized outcomes and local action orientation; broadly conceptualizing of poverty; exploring innovative governance solutions and improving productivity in and management of common property resources; and, focusing on the creation of enabling conditions (i.e., technical innovations, improved institutions, supportive policy) to improve livelihoods and decrease resource degradation. However, Tyler suggests that there are a number of challenges that CBNRM needs to contend with including: ensuring government and policy support; ensuring long-term local engagement; dealing with social exclusion and inequity; transferring tools from researchers to local practitioners; and establishing mechanisms for

ongoing evaluation and adaptation. Moreover, the effectiveness of CBNRM, Tyler suggests, comes from 1) the engagement of key actors in posing relevant questions and developing innovative solutions, 2) the adoption of results by local resource users, governments, and development professionals, and 3) the empowering and transformative effect of the process.

Walpole, M., Wilder, L., Granziera, A., Thomas, D., & Elliot, J. (2007). Measuring the Impact of Livelihoods Initiatives in a Conservation Context. Cambridge, UK: FFI/Birdlife International/AWF

This document summarizes the results of a workshop convened by three conservation organizations that focused on the monitoring and evaluation of livelihoods interventions in a conservation context. The workshop brought together 40 professionals from international conservation and development organizations and academia to explore best practice in livelihoods monitoring and evaluation. A number of recommendations for improving monitoring and evaluation in livelihoods initiatives that emerged included: 1) planning for and creating frameworks for monitoring and evaluation from the outset, 2) using a suite of complimentary qualitative and quantitative monitoring tools, 3) building skills and expertise, 4) institutionalizing a culture of learning at all levels of the organization, and 5) learning from the experiences of development organizations. Particularly given the increased focus on local social well-being and the framing of conservation projects by livelihoods-focused initiatives, the report argues, the monitoring and evaluation of the impact of these projects is of increasing importance.

Wilder, M., & Walpole, L. (2008). Disentangling the links between conservation and poverty reduction in practice. Flora, 42(4), 539-547.

In this article, Matt Walpole and Lizzie Wilder, of Fauna & Flora International, examine 34 livelihoods-oriented conservation projects of Fauna & Flora International and categorize their rationales or goals, approaches to poverty reduction, and outcomes. The various projects' primary and seconday rationales were assigned as follows: reducing poverty improves conservation outcomes (18 and 23 projects); conservation hinders poverty reduction (8 and 13 projects); poverty reduction hinders conservation (5 and 10 projects); conservation underpins poverty reduction (2 and 13 projects); poverty reduction generates goodwill and trust (1 and 5 projects). The authors suggest that projects mostly sought win-win or trade-off scenarios between poverty reduction and biodiversity conservation; however, sometimes interventions were not directly linked to conservation. Of the project interventions, 18 focused on direct field-based benefits (such as income, food security, health), 8 focused on indirect benefits (governance, capacity, empowerment), and 8 focused on a combination of approaches. It is noteworthy that less than 20% of the projects focused on eco-tourism development. Though projects sometimes contributed to tangible natural, physical (i.e, infrastructure), and financial asset development, livelihood outcomes were most often in less tangible areas of empowerment, security and network development. In conclusion, the authors argue that conservation organizations need to be clear about their rationales and the types of benefits that might come from their interventions. Ongoing research, monitoring and evaluation of the impacts of interventions could further enhance future policy and practice in this area.

Vaughan, K., & Katjiua, J. (2003a). Talking with Torra: Proceedings of a Participatory Livelihoods Workshop with Torra Residents. Wildlife Integration for Livelihood Diversification (WILD) Project: Working Paper 17. Namibia: DFID/Ministry of Environment and Tourism.

This document, by field researchers from the Wildlife Integration and Livelihood Diversification (WILD) project of the Namibia Ministry of Environment and Tourism, summarizes the results of a participatory workshop in Torra Conservancy villages focused on livelihoods and natural resource management issues. Though not stated explicitly, the project uses the various aspects of the DFID Sustainable Livelihoods Framework (i.e., assets and resources, activities and strategies, vulnerability, policies, institutions and processes; Carney, 1998; DFID, 1999) to frame the research. During the four day workshop, group discussions also led to the prioritization of impacts, community development options, factors that influenced conservancy success, and improved conservancy processes. Results were shared with the broader community for feedback prior to producing the report.

Vaughan, C., & Katjiua, J. (2003b). An Overview of Community Based Natural Resources Management and Rural Livelihoods in Khoadi/Haos Conservancy - Kunene Region. Wildlife Integration for Livelihood Diversification (WILD) Project: Working Paper 5. Namibia: DFID/Ministry of Environment and Tourism.

Similarly to the previous paper, this document by WILD project researchers brings together results from PRA research techniques (e.g., focus groups, individual interviews, livelihood maps, and community workshops) with various stakeholders of the Khoadi/Haos Conservancy (Namibia) to explore conservancy livelihoods. The document explores the conservancy's context, examines various aspects of the sustainable livelihoods framework (i.e., assets and resources, activities and strategies, vulnerability, policies, institutions and processes), and provides an in-depth look at the livelihood issues related to natural resource management (NRM). Key NRM-related livelihood issues identified include 1) tenure considerations (Ownership, decision-making, and utilisation), 2) ongoing support for farming, 3) maintenance of livestock values, 4) access to land for grazing, 5) access to and levels of water, 6) support for increasing off-farm incomes, 7) lack of benefit from tourism, and, 8) conflict with wildlife. Several recommendations are made to improve the coordination of area planning and development that considers human-wildlife interactions, to increase conservancy extension and outreach and create realistic expectations, and to improve participation and consideration of local people's livelihood concerns.

Section 3 – Additional Livelihoods Resources

This section outlines, in brief, a number of additional resources and documents that have influenced the development of the livelihoods approach and that could guide the implementation of livelihoods approaches in biodiversity conservation and poverty reduction initiatives. The documents are listed in three sections: 1) further readings; 2) livelihoods webpages; and, 3) key methods documents.

Further Readings:

The following documents were in some way central to the framing and development of the livelihoods discussion, models, and definitions, and might provide a useful list of further readings:

Chambers, R. (1984). *Rural Development: Putting the Last First.* London; New York: Longman.
Chambers, R. (1987). *Sustainable Rural Livelihoods*. Sussex: Institute of Development Studies at the University of Sussex.
Chambers, R. (1997). *Whose Reality Counts?: Putting the First Last.* London: Intermediate Technology.
Farrington, J., Carney, D., Ashley, C., & Turton, C. (1999). *Sustainable livelihoods in practice: Early applications of concepts in rural areas.* Briefing Paper - ODI Natural Resource Perspectives.
Helmore, K., & Singh, N. (2001). *Sustainable Livelihoods: Building on the Wealth of the Poor.* West Hartford, CT: Kumarian Press.
Leach, M., Mearns, R., & Scoones, I. (1999). Environmental entitlements: Dynamics and institutions in Community-Based Natural Resource Management. *World Development*, 27(2), 225-247.
Sen, A. (1981). *Poverty and Famines: An Essay on Entitlement and Deprivation.* Oxford; New York: Clarendon Press; Oxford University Press.
Sen, A. (1987). *The Standard of Living.* Cambridge: Cambridge University Press.
Sen, A. (1997). *Resources, Values, and Development.* Cambridge Mass.: Harvard University Press
Swift, J. (1989). Why are rural people vulnerable to famine? *IDS Bulletin*, 20(2), 41-49.

Livelihoods Webpages:

Development Alternatives (2001). *Sustainable Livelihoods Online Module*. Development Alternatives. Retrieved December 11, 2009, from http://www.dainet.org/livelihoods/
Eldis (2009). *Eldis - What are livelihoods approaches?* Livelihoods Connect. Retrieved December 11, 2009, from http://www.eldis.org/index.cfm?objectid=07D70938-0664-EE3F-F57D2FF787FF2F9A
FAO (2008). *Livelihood Support Programme (LSP)*. Food and Agriculture Organization of the United Nations. Retrieved December 11, 2009, from http://www.fao.org/es/esw/lsp/
International Fund for Agricultural Development (IFAD), United Nations (2009). *The Sustainable Livelihoods Approach*. IFAD - Enabling poor rural people to overcome poverty. Retrieved December 11, 2009, from http://www.ifad.org/sla/
MET & DFID (2003). *MET, Namibia: Programmes - WILD Project - Working papers*. Namibia Ministry of Environment and Tourism. Retrieved December 11, 2009, from http://www.met.gov.na/programmes/wild/WildDownload.htm
Parrott, N., Hebinck, P., & Westendorp, A. (2006). *Livelihoods Training Module*. Livelihoods. Retrieved December 11, 2009, from http://www.livelihood.wur.nl/index.php?s=A0-Home
SAMUHA (2006). *Livelihood Research*. SAMUHA...working with vulnerable people. Retrieved December 11, 2009, from http://www.samuha.org/Page-6.htm
Singh, N. (2009). *Home. Sustainable Livelihoods*. Retrieved December 11, 2009, from http://www.sustainable-livelihoods.com/index.html
Wageningen International (2009). *Participatory Planning, Monitoring and Evaluation Resource Portal - Livelihood Approaches.* Wageningen University. Retrieved December 11, 2009, from http://portals.wi.wur.nl/ppme/?page=2167

Methods Documents:

Chambers, R. (1981). Rapid rural appraisal: Rationale and repertoire. *Public Administration & Development*, 1(2), 95-106.

Chambers, R. (1994). The origins and practice of participatory rural appraisal. *World Development*, 22(7), 953-969.

Chambers, R. (2007). *Participatory Workshops: A Sourcebook of 21 Sets of Ideas and Activities.* London: Earthscan.

FAO & ILO (2008). *The Livelihood Assessment Tool-kit: Analysing and responding to the impact of disasters on the livelihoods of people.* Food and Agriculture Organization of the United Nations. Retrieved November 4, 2009, from http://www.eldis.org/go/topics/dossiers/livelihoods-connect/tools&id=36991&type=Document.

International Centre for Integrated Mountain Development (2007). *Alternative Media: A Guide - How to improve the livelihoods of rural communities in the Himalayas through the use of alternative media*. International Centre for Integrated Mountain Development. Retrieved November 4, 2009, from http://www.eldis.org/go/topics/dossiers/livelihoods-connect/tools&id=36116&type=Document

Kindon, S., Pain, R., & Kesby, M. (2007). *Participatory Action Research Approaches and Methods: Connecting People, Participation and Place*. London; New York: Routledge.

LADDER (2001). *Methods Manual for Fieldwork*. ODG/UEA. Retrieved November 4, 2009, from www.uea.ac.uk/polopoly_fs/1.80216!wp2.pdf.

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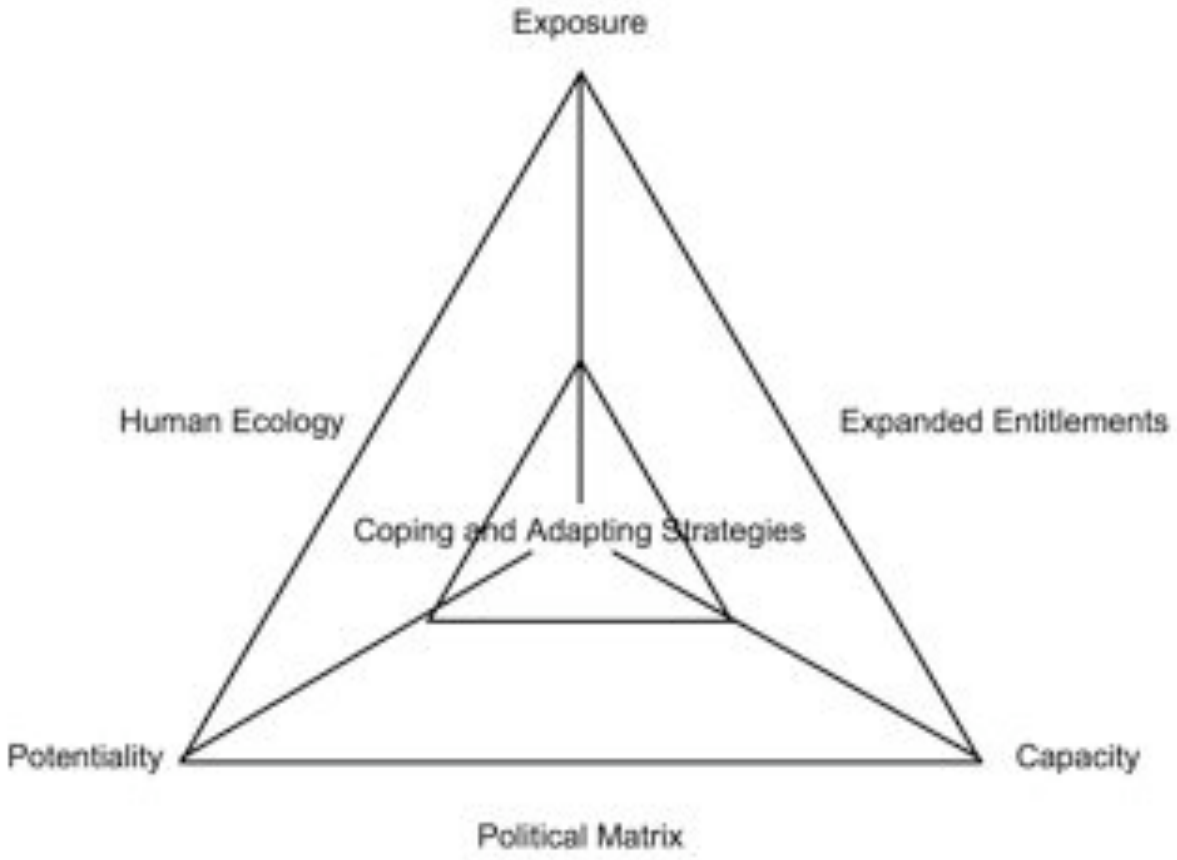
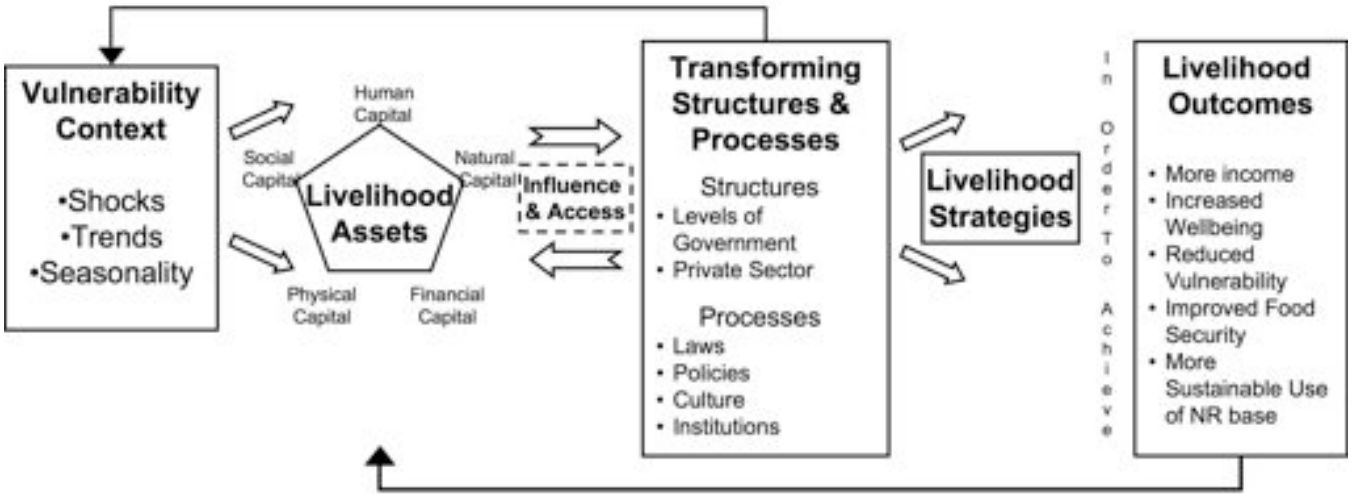
Appendices

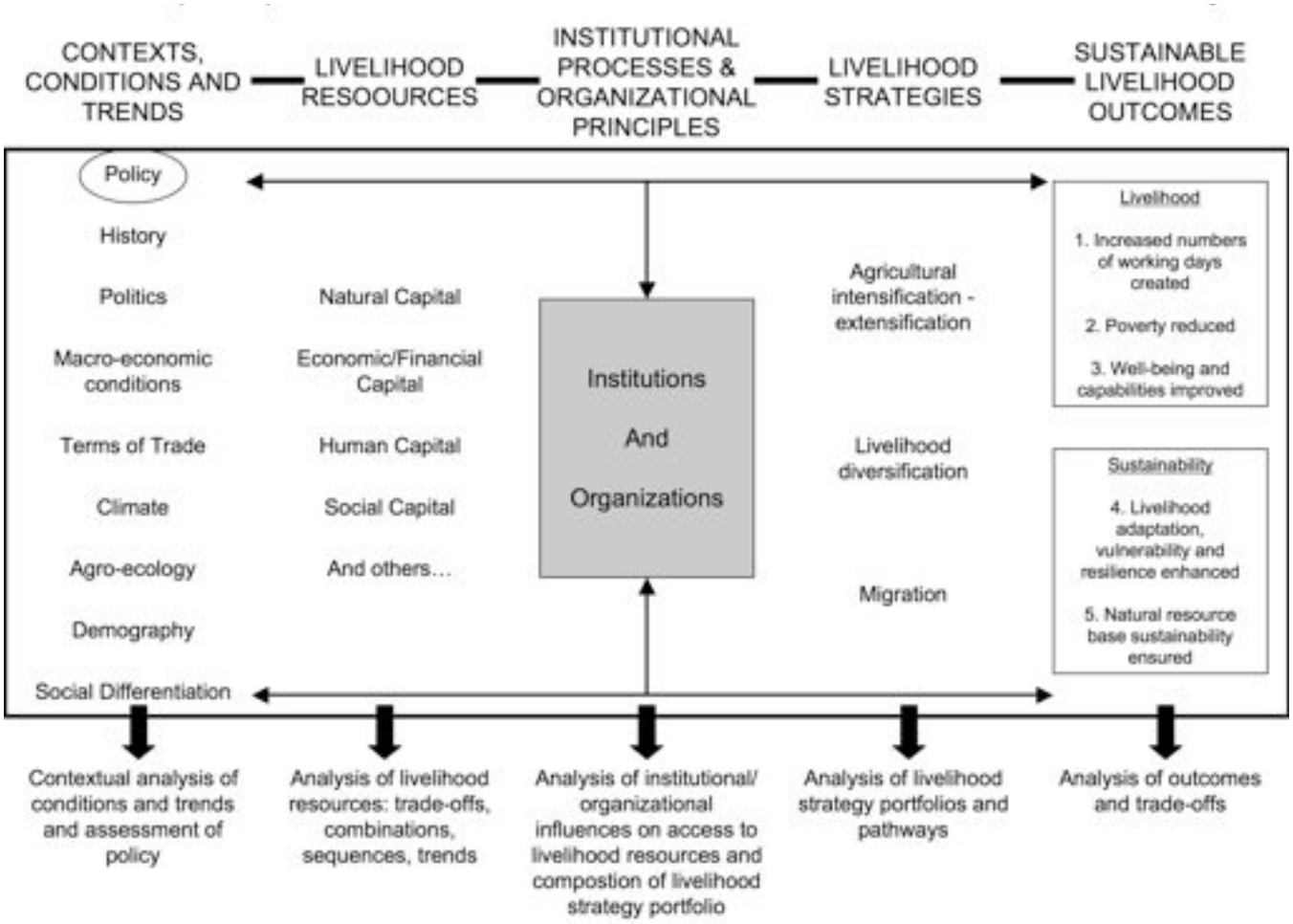
Appendix A –Analytical Framework for Sustainable Livelihoods (Hoon, Singh, & Wanmali, 1997)



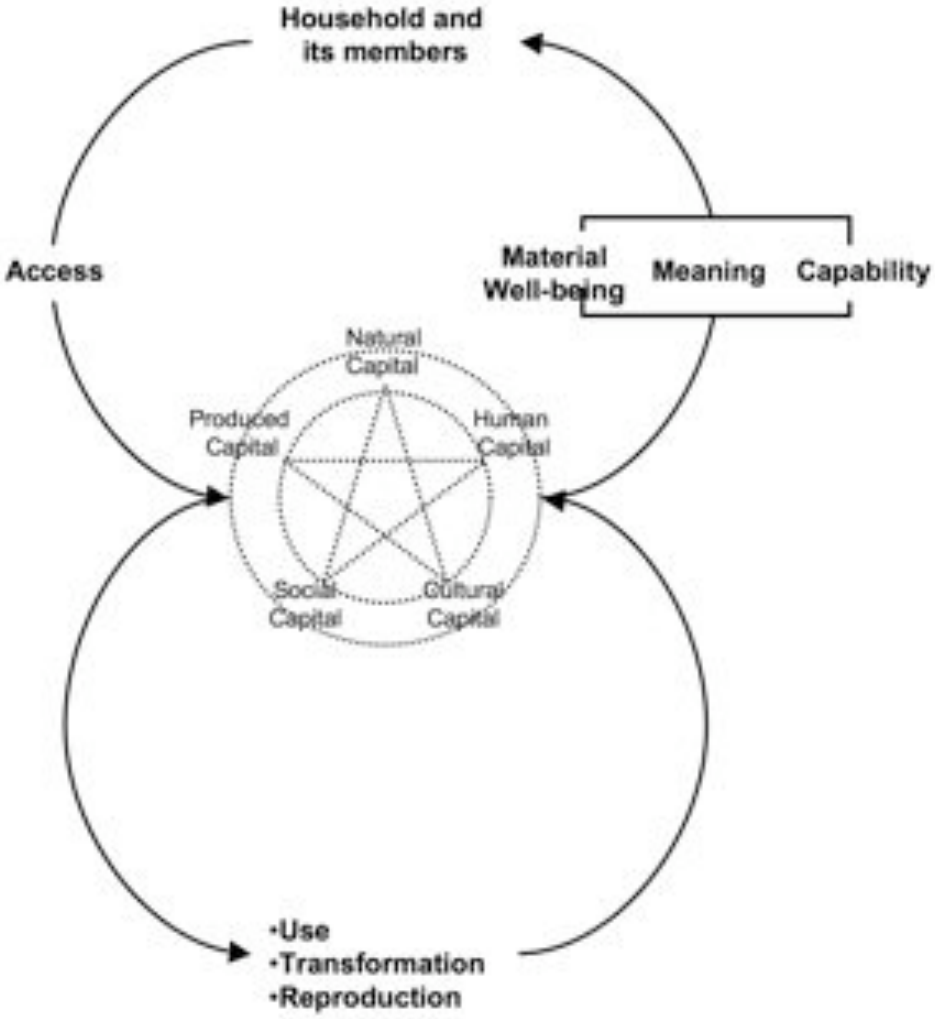
Appendix B – DFID's Sustainable Livelihoods Framework (Carney, 1998; DFID, 1999)



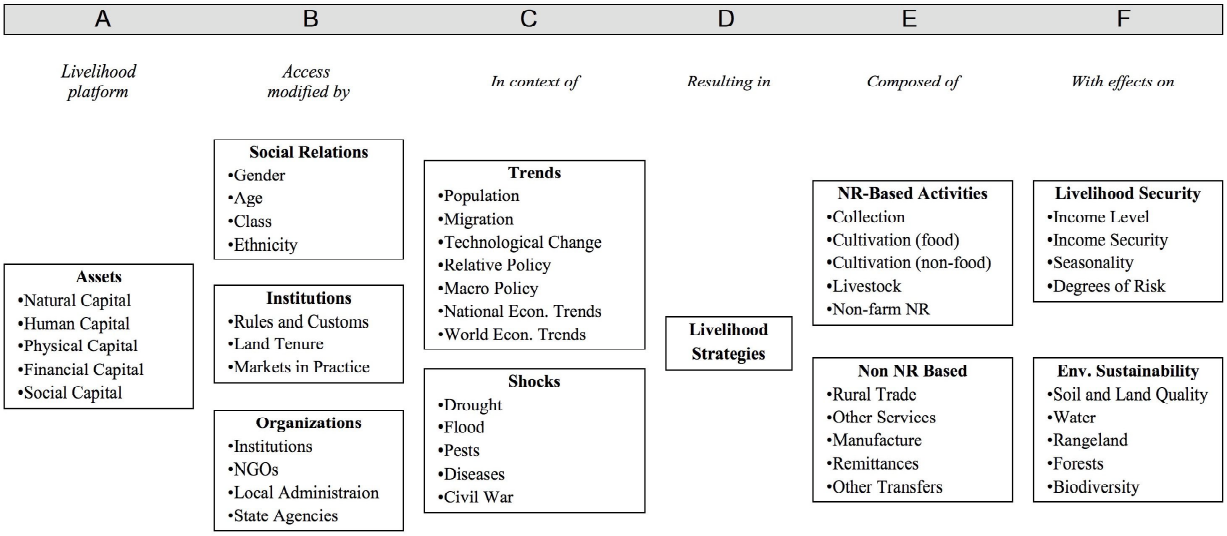
Appendix C – Sustainable rural livelihoods: A framework for analysis (Scoones, 1998)



Appendix D – Assets, livelihoods and poverty framework (adapted from Bebbington, 1999)



Appendix E - A framework for micro policy analysis of rural livelihoods (Ellis, 2000)



Appendix F – IISD Sustainable Livelihoods Approach (Rennie & Singh, 1995)