

Poverty Alleviation and Sustainable Development: The Role of Social Capital

Ali Asadi, Morteza Akbari, Hossain Shabanali Fami, Hoshang Iravani,
Farahnaz Rostami and Abolhasan Sadati

Department of Agricultural Extension and Education,
College of Agricultural Economics and Development, the University of Tehran, Karaj Iran

Abstract: Developing countries are facing dilemmas such as un-sustainability, and poverty, (especially rural poverty). Poor people are often seen as compelled to exploit their surrounding for short-term survival and are assumed to be the ones most exposed to natural resources degradation. In order that at the first; we review the extensive theoretical literature on social capital, poverty and sustainability and demonstrate the nuanced treatment these concepts have received in this literature. **Problem Statement:** Current research and observations indicate that (these dilemmas) un-sustainability and rural poverty are linked. The only feasible way out of current crisis is to integrate resources. The linkage among environment/agriculture, poverty and social capital are complex and in many cases, poorly understood. The developing countries have been criticized for their inability to reduce poverty and contribute to sustainable agricultural development. **Approach:** there is a need for improving of social capital to integrate environment and people to alleviate poverty and receive to sustainable development. Social capital has come to be defined in a variety of ways, all of which have been linked to collective norms, values and relationships reflecting the involvement of human individuals in a common life based on family and community. **Results:** This study argue that social capital as a concept has over the last decade or more been gaining significance in relation to a number of linked fields of analyses, including the identification of factors influencing educational attainment, explanations of differing levels of participation, rural development and poverty alleviation. **Conclusions/Recommendations:** social capital enhancement appears to have direct links with farmer education in that community development is generally defined as a social learning process which serves to empower people and to involve them as citizens in collective activities aimed at socio-economic development, poverty alleviation and sustainable development. At the last, base on World Bank experience we offer these strategies such as promoting opportunity; facilitating empowerment and enhancing security to reduce poverty and to achieve sustainable development.

Key words: Social capital, poverty alleviation and sustainable development

INTRODUCTION

Poverty is a major cause and effect of global environmental problems stated the influential Brundtland Commission^[17] in a sentence that captures widely held beliefs: Poor people are often seen as compelled to exploit their surrounding for short-term survival and are assumed to be the ones most exposed to natural resources degradation. Despite these intuitively plausible statements, the debate on the characteristics of poverty-environment interaction has been likened to a puzzle^[110], where we possess several pieces, have identified some crucial links and features, but still lack the entire picture. Putnam^[87] describe social capital as the norms and networks and

community level that create trust particularly in the rural sectors with escalating economic and social decline especially common poverty problem in rural in resent times, the need to develop networks and trust at local levels is viewed as essential to regenerate and revitalize.

The present study in this regard is a humble attempt to quantify the magnitude of both poverty and environmental degradation and verify empirically the link between them and the effect of social capitals in poverty reduction and sustainability. To achieve these we first review the extensive theoretical literature on social capital, poverty and sustainability and demonstrate the nuanced treatment these concepts have received in this literature. Then we examine the

Corresponding Author: Ali Asadi, Department of Agricultural Extension and Education, College of Agricultural Economics and Development, the University of Tehran, Karaj Iran

empirical literature on programs that seek simultaneously to alleviate poverty and conserve sustainability.

MATERIAL AND METHOD

The main purpose of this study was to investigate the role of social capital in poverty reduction and sustainable development. This research employed descriptive research design due to the application of the literature review. Literature review and content analysis were used to conduct the research.

RESULTS AND DISCUSSION

Three capitals: The list of different types of capital is growing fast; to natural, physical and financial capitals are added organizational, intellectual, environmental and many others. Many of these overlap or duplicate each other. Some are used pragmatically, others purely metaphorically. There is room for a full scale mapping exercise of the spectrum of capitals, here; however, we concentrate on just three, human, cultural and social capital.

First, some definitions Human capital is defined by the knowledge, skills and competences and other attributes embodied in individuals that are relevant to economic activity.” This is a fairly tight definition. Even so, it is not easy to measure. Duration of schooling and levels of qualification are the standard measures used, but the OECD itself acknowledges that these are far from capturing the extent of human capital. For example-though this is not an example the OECD uses-child-rearing develops many skills which are rarely recognized in conventional calculations of the nation's human capital.

Human capital focuses on the economic behavior of individuals, especially on the way their accumulation of knowledge and skills enable them to increase their productivity and their earnings-and in so doing to increase the productivity and wealth of the societies they live in. The underlying implication of a human capital perspective is that investment in knowledge and skills brings economic returns, individually and therefore collectively.

Cultural capital has been used in two contrasting directions. It is used to explain the reproduction of social hierarchy, as elite families endow their children with the cultural capital which enables them to succeed in maintaining their elite position. But it is also used to explain how some manage to use education to move from non-elite positions into elite positions. Cultural capital focuses on the way power structures are

reproduced. It offers no necessary judgment on the effects of this reproduction, its function as a theory is an explanatory one. It is notable that Bourdieu makes little if any reference to human capital and although he was one of the first theorists to use the term social capital, his discussion of it is quite sketchy^[14,8].

The key empirical difference between human and social capital is that social capital inheres in relations between individuals and groups, not in individual persons.

Towards an understanding of social capital: The definition of social capital is itself problematic. It owes its prominence mainly to the work of Robert Putnam in political science^[87, 88], James Coleman in educational sociology^[22] and Francis Fukuyama in economic history and sociology^[40], as well as to the active patronage of the World Bank^[74]. There are many possible approaches to defining social capital much to the exasperation of anyone trying to research it. However there is some consensus within the social sciences towards a definition that emphasizes the role of networks and civic norms^[53].

Putnam^[89] argues that social capital has forceful, even quantifiable effects on many different aspects of our lives and it is more than warm, cuddly feelings or frissons of community pride. These quantifiable effects include lower crime rates^[50,89], better health^[105], improved longevity^[89] better educational achievement^[22], greater levels of income equality^[60,105], improved child welfare and lower rates of child Abuse^[24] and more effective government^[86] and enhanced economic achievement through increased trust and lower transaction costs^[39].

The OECD defines social capital as networks together with shared norms, values and understandings that facilitate co-operation within or among groups^[24].

The most common definition of social capital regards it as features of social organization, such as networks, norms and social trust that facilitate coordination and cooperation for mutual benefit^[86]. Although there are many different descriptions of social capital, the major three central elements are social network, norm and trust^[85]. Another fundamental distinction is often made between the components of its concept, which include the bonding, bridging and linking social capital^[108]. Some authors^[106] provided a point of consensus among various perspectives by emphasizing on a concept of networks of quality relations which operate as a resource to collective action on different scales (individual, communities and nations).

However Coleman^[22, 23] takes rational action as a starting point and suggests that Social capital is defined by its function, it is not a single entity, but a variety of different entities having characteristics in common, they all consist of some aspects of a social structure and they facilitate certain actions of individuals who are within the structure^[23]. According to Coleman, social capital can take on different forms, firstly obligations and expectations which depend on the trustworthiness of the social environment, secondly the capacity of information to flow through the social structure in order to provide a basis for action and thirdly the presence of norms accompanied by effective sanctions.

In general terms, social capital (socio-cultural capital, cultural capital) refers to a society's capability to deal with social, economic and environmental problems and be active in shaping the development of the overall system^[13]. It consists of socio-cultural values and norms, learned preferences, human capital and labor force, local knowledge of the environment, social competence and institutions, human health and life expectancy, as well as cultural and social integrity and social cohesion.

Social capital is multifunctional. It embraces essential factors of economic production, provides a basis for collective action within society and is in itself an essential input factor of social capital accumulation, including health care. Moreover, social capital is a valuable asset as such. In particular, human health, literacy and life expectancy, cultural and social integrity and social cohesion are components of human well-being^[6,100].

Following a review state^[11] social capital was used as a meso level concept to understand the changes in livelihoods, resource use, environmental quality and social power relations. Accordingly, for the purposes of this article social capital refers to social networks and associations, through which social actors exercise to enhance livelihoods and to alleviate poverty, manage resources, articulate subjectivity, conserve environment and attempt to affect change within specific political economic/ecological and social structural contexts.

A review^[50] illustrates that social capital has been shown to have a significantly positive association with economic growth. Nations with high social capital, as measured by trust between strangers in the World Values Survey, tend to be wealthier nations (as measured by GDP per capita). He suggests that social capital reduces transaction costs and that trust, reputation and informal sanctions take the place of contracts, the legal system and formal sanctions. A review^[41] note that, it is cheaper to have informal

bonds and that the economic function of social capital is to reduce transaction costs.

Also prosperity is linked to social capital and education. It is claimed that social capital enables people collectively to participate in effective local decision making, better monitor government agencies, lobby for improved services and where these fail, to secure informal insurance from friends, neighbors and the community^[73, 74,107,113]. Significant to mainstream ideas are the complementary roles of bonding, bridging and linking social capital^[108].

Some researchers recognized that social capital has been located at the level of the individual, the informal social group, the formal organization, the community, the ethnic group and even the nation^[22,86]. There are different views in the literature; some authors posit social capital at the individual level, some the community level and others have a more dynamic view. A researcher^[86] state that social capitals sources lied in the social structure within which the actor is located. Thus, social capital can be thought of as having an individual and an aggregate component that is, social capital belongs to the group and can be used by the group or individuals within the group. Another researcher^[22] stated that social capital exists within levels or scales as one feels belonging to family, community, profession, country, etc, simultaneously. Adler and Kwon^[2] stated that although social capital was originally conceived as a community-wide concept, it should be observable at the individual level. Bourdieu identified it at the individual level and that Putnam since at the community level. The general consensus in the literature is that social capital is identifiable from the individual level to the level of the nation however it is clear that social capital is evident at any level where there is identification and belonging.

Poverty and environmental sustainability: It is estimated; 1.2 billion people lived in absolute poverty in 1998, depending on an income of less than US\$1 per day^[111]. An additional 1.6 billion lived on less than \$2 per day. The number of people in the former category has remained constant in the last decade, while there are now an additional 250 millions living on less than \$2 per day. Around two-thirds of the worlds poor live in the rural areas of the developing world; they can constitute as much as 50-90% of the population^[112]. It is estimated that in the late 1980s there was a total of nearly one billion poor rural people in 114 developing countries. While there is a broad consensus that agricultural development cannot by itself overcome the state of deprivation of so many people, there is also little doubt that without the long-term and significant

growth of the agricultural sector, there would be fewer opportunities for significantly reducing rural poverty. One reason is that in the year 2000 almost 60% of the total population of the developing countries lived in rural areas^[35].

Poverty is multi-dimensional (The message of the Wolof saying is simple: Poverty has dimensions of social, political and cultural disempowerment that we cannot afford to ignore). Its causes are diverse, its manifestations and definitions are contextual and it is not only a state of deprivation but also a set of processes^[18, 91]. Several Studies have examined the attitudes to the causes of poverty from a cross-cultural perspective^[19, 43, 71, 72]. These studies have reported mixed results for the causal attribution of poverty^[1].

Rural people, their goals and the livelihood strategies they adopt to achieve them, are very diverse^[5, 18, 9]. Their livelihood strategies are aimed at increasing income, reducing vulnerability, improving well-being and ensuring food security. Access to land is a major determinant of the livelihood strategies of rural households^[69]. The highly uneven distribution of land is a major reason for rural poverty in many countries of Asia and Latin America, while, according to a paper published by the International Monetary Fund, in sub-Saharan Africa, the poor quality of land and the erosion of customary land rights have become the major obstacles to agricultural growth and alleviation of poverty^[61]. In sub-Saharan Africa and Asia, one-third of smallholders subsist on plots too small to support their families^[79]. In the more agriculturally favored parts of Nepal, 40% of landless or almost landless households are poor. In Mexico, access to land is the most important determinant of total rural household income^[29]. Human capital assets are another major determinant of the livelihood strategies of rural people. In Mexico, the number of years of education of the adult members of the households has a strong positive effect on total income^[29]. However, this study also concludes that access to education has a higher pay off in the non-agricultural rural labor markets and in fact has a negative effect on agricultural income because educated household members seek employment in other sectors of the economy.

The assumption of relationship between poverty and environmental degradation in developing countries has long prevailed in the debate on poverty-environment linkages^[68]. The assumptions were first launched in the report of the World Commission on Environment and Development (WCED, the so-called Brundtland report) and have later been echoed by a wide range of organizations^[33,101]. Due to lack of resources and their struggle just to ensure day-to-day

survival, poor farmers are believed to offset concerns with the long-term sustainability of their resource management and to degrade already fragile resources, such as steeply sloping, erosion-prone hillsides. This resource degradation, in turn, aggravates their poverty even more. Thus, poor people are seen both as victims and agents of environmental degradation.

The linkages between poverty and environmental issues are affected by how poverty is defined, by the type of environmental problem in question and by which groups among the poor are affected. Research and policy has tended to focus on the relationship between poverty and environmental degradation in terms of pointing out that the poor are both victims and agents of environmental degradation: victims in that they are more likely to live in ecologically vulnerable areas, agents in that they may have no option but deplete environmental resources thus contributing to environmental degradation^[66,101]. However, it is also acknowledged that the poor often have practices that conserve the environment. Great physical and spatial variability in natural resource endowments also seem to complicate the picture. Harrington^[52] believed that unsustainability causes are complex and vague and are poverty, population growth, ownership/possession of national resources and national policies. A researcher^[94] said that population affected poverty and environment that impressible with Malthus theory.

Jalal^[56], the Asian Development Banks chief of the environment department says, it is generally accepted that environmental degradation, rapid population growth and stagnant production are closely linked with the fast spread of acute poverty in many countries of Asia.

A major work was undertaken to study the relationship among population, poverty and environmental degradation in China in 1997^[94]. The authors examined the impact that each had on the China's land, water, forest and pasture resources. They found the government policy to be ineffective in controlling rural resource degradation primarily because of its limited resource and poorly trained personnel.

Barros^[10] indicated that Brazilian poverty did affected demand for environmental conservation in the Carajás region. Income concentration and difficulties in the access to education affect deforestation rates in Brazil, at least indirectly through their effects upon willingness to pay for conservation. They suggest that an increment of individual welfare, particularly in education, will have a positive effect upon demand for environmental quality. It seems that Grossman and Krueger^[49] and Boyce and Torras^[15] are correct in

believing that citizens demand and vigilance and advocacy are critical in inducing policies and technological changes with reduce degradation and pollution.

Dasgupta^[27] found a positive relationship between rural poverty, fertility and environmental resource base degradation and concludes his study by stating that it was not only poverty but also institutional failures that were the root causes of environmental degradation. Jeganathan^[55] and Jodha^[57] both disagree with Dasgupta's conclusion and assert that the poor do not: 1) have the resources to degrade the environment and 2) have the short time preference which propels them to destroy a resource which they regard as safety buffers during time of destitution. However, they do agree with Dasgupta on the role institutional and market failure plays in providing incentives to: 1) the poor to have short time preferences and 2) the rich to exploit the resource base at unsustainable rates.

But the result of Ransburg^[91] does not support the hypothesis that poverty is a major cause of environmental degradation. He believed that Due to the limited access of poor farmers to productive resources such as land, forest and forest resources, agrochemicals and irrigation, the environmental impact of their resource management is limited in comparison with that of the non poor. He mentioned that the environmental degradation taking place is more compellingly explained by the social and political relations that shape access to natural resources and the norms for their management. Although some researchers failed to identify the magnitudes of the various contributing factors towards environmental degradation, the majority of the studies highlighted the predominant role other factors such as institutional and market failure played both as a catalyst as well as a direct factor causing environmental degradation and indigenous poverty^[28, 46, 55, 99, 20]. This finding by itself is an important result.

Fig 1 illustrates this orthodox approach. It assumes that (a) there is an aggregate population or community which interacts with an aggregate environment, (b) peoples livelihoods are based more or less exclusively on the use and management of environmental resources, (c) poverty and environmental change have a direct causal relationship and can feed each other in some kind of cumulative causation process and that (d) poverty is the principal or only cause of environmental change and vice versa. This mutual relationship therefore leads to a downward spiral of poverty and environmental degradation^[38].

The above discussion on the various studies conducted worldwide reveal that there is a two-way

linkage between poverty and environmental degradation. Degradation of environment caused either by the poor or the rich has both direct and indirect impacts not only on the cost of production but also on the productivity of crops and thus on the income of the people. Poor get more affected than the rich and become poorer due to environmental degradation manifested through destruction of forest for fuel wood, degradation of land water through the use of chemical fertilizer, pesticide, etc in modern farming and pollution of air due to consumption of biomass fuel. Thus a vicious link is established between poverty and environmental degradation. Each becomes the cause and effect of the other^[75].

Based on Fig. 2 increasing in poverty resulted in, less access in resources, lack use of appropriate technology and use of poor lands^[68]. Temporary, these factors integrate with short goals of poor farmers in conditions that environment conservation less important

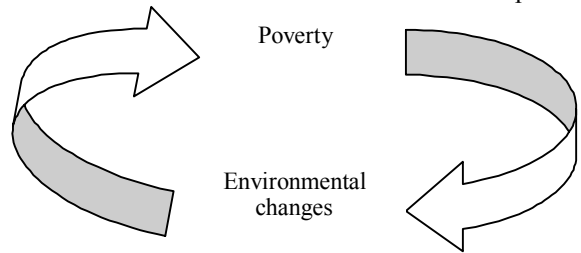


Fig. 1: The orthodox relationship of poverty and environment

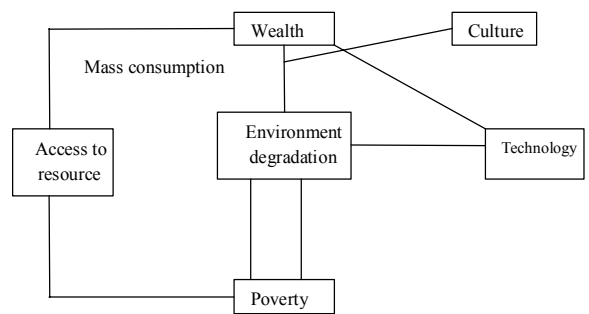


Fig. 2: Poverty and land degradation, Adopted Lele, 1991

In socio-cultural aspects, redounded unsustainable environment. These conditions led to less food safety^[59].

In general terms, the underlying causes of both poverty and environmental degradation are structured by uneven processes of development operating via technologies, incentives, institutions and regulations

which favor some social groups and some geographical areas over others^[67]. The broadening of general poverty debates to include other measurements and dimensions of poverty (in addition to income/consumption based flows) such as entitlements and vulnerability is evident in the literature looking at poverty-environment interactions. A recent development is the understanding that linkages between poverty and environmental change are determined by environmental entitlements as well as changes in resource availability.

At the micro-level (individual, household, village), environmental entitlements are determined by a range of factors including natural resource tenure arrangements, labor mobilization arrangements, social relations (including gender), capital endowments and technology. At the macro-level (sub-national, national, global), wider processes operate via decisions on technologies, incentives, institutions and regulations (land rights) to favor some social groups and some geographical areas. These processes include demographic changes, environmental processes, macroeconomic policies, markets and prices, donor and development agency approaches to poverty and environment, agricultural research, governance and political conflict^[67]. Vulnerability is another environmentally relevant dimension of poverty. It is a measure of the robustness/resilience and variability in income or livelihood sources in the face of shocks and stresses and thus peoples capacity to cope with and respond to them.

Social capital and sustainable development: There are numerous definitions of sustainable development and much debate about what constitutes environmentally sustainable development. In the broadest sense, sustainability refers to the capacity of socio-ecological systems to persist unimpaired into the future^[90].

A widely accepted definition of sustainable development put forward by the World Commission on Environment and Development (WCED) is as follows: Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs^[17,117]. While the first part of this definition relates to conventional economic and social objectives of development, the second part incorporates a long-term view, including consideration of environmental issues. It has become common to isolate four factors that determine sustainable development: natural capital, physical or produced capital, human capital and more recently, social capital^[110]. Sustainability, or the capability of future generations to meet their needs, is

ensured when the total stock of these assets remains constant or is increased in the production process. Natural capital and social capital have generally been undervalued because both are public goods or club goods (i.e., goods that are indivisible but exclude nonmembers), respectively^[82].

Environmental sustainability refers to the maintenance of the ecosystem and the natural resource base. Environmental degradation signifies failure in this regard. It takes three forms: Depletion of resources, pollution, or overuse of the waste-absorbing capacity of the environment and reduction in biodiversity—a loss of some types of resources. Social sustainability is the term used to refer to the social conditions necessary to support environmental sustainability^[51]. This stresses the fact that natural resources are used within a social context and that it is the rules and values associated with this context that determine the distribution of resources within the present generation and the next.

Development theory has commonly acknowledged that economic and social development is interrelated. Economic growth is desirable because it makes poverty alleviation easier^[58]. Growth is a key in providing the means to meet basic needs, to ease poverty and to generate employment. It nearly always reduces absolute poverty, but it can have varied impact on inequality and not everybody benefits from it^[36]. Economic sustainability in terms of sustained macroeconomic growth is thus a necessary, but not a sufficient, condition for sustainable development in developing countries. An even distribution of growth and of access to resources is equally important. If, on the contrary, there are strong economic inequalities, growth without development as well as social and political unrest are likely to occur, signifying unsustainable development.

Furthermore, social development, apart from being an end in itself, is also a means to promote economic growth. Dreze and Sen^[31] have argued that the expansion of social opportunity is a key to development. Extension of basic education, better health care, more effective land reforms and greater access to provisions of social security would enable the marginalized sections of society to lead a less restricted life and, also, to make better use of markets. The expansion of social opportunity calls for public action, both from the state and the civil society. But, lack of economic growth and fiscal crisis often affect the political will of governments to invest in social services such education and health^[104]. NGOs and community organizations have limited resources and reach for replacing crucial state services. What are needed for sustainable development, therefore, are both an active state enhancing social opportunity and a strong economic basis.

Recently, the importance of social capital, including trust, norms of reciprocity and networks of civic engagement, has been stressed for the success of sustainable development ^[110]. As a result, social sustainability has received new meaning, building on previous attention to socially negative consequences of development and of environmental conservation. Now, social sustainability includes the strengthening of community-based collective action for achieving the goal of sustainable development. For example, in an environmental context, there is already evidence of local user groups playing a key role in regard to sustainable water and forest management ^[110].

The main contribution of the sustainable-development debate has been to draw attention to environmental factors and consequences of development. Some authors have also stressed the intrinsic value of nature ^[96].

Environmental sustainability includes the upkeep or improvement of essential ecological processes, biological diversity and the natural resource base. Environmental sustainability is important for development because we humans are, through our bodies, part of nature. Thus, the environment is important for our survival, health and social life ^[102]. Human life relies on natural capital for food production, drinking water, energy, etc. Air and water quality have a significant impact on human health. In developing countries the connections between health and environment are particularly strong because growing agro-industrial pollution and risks added to the environmental health problems rooted in underdevelopment ^[97].

In order to become sustainable, economic and social development should therefore retain or improve the ecological and resource potential to support future generations and development of one group should have no irrevocable, non compensable adverse (environmental) effects on contemporaries.

A plethora of research has linked social capital to indicators of wellbeing. In terms of satisfying basic needs, high social capital has been associated with reduced early mortality and greater perceived health ^[70]. It has also been correlated with the satisfaction of more complex needs such as higher educational achievement, increased prospects for employment and elevated economic productivity. Social capital manifests in formal bodies such as the core judicial, democratic and governance institutions, to disseminate and reinforce social values and expectations. It is also embodied in the less formal institutions of sports, religion and fashion. The partial or complete destruction of social networks and their associated norms significantly

undermines the capacity of communities to meet short term basic and complex needs, while the associated loss of culture and identity disrupts the ability of future generations to satisfy their own needs. Social capital is, therefore, a central component of sustainable development.

There is some, but limited literature linking social capital theory and natural resource management. Enhanced social capital can improve environmental outcomes through decreased costs of collective action, increase in knowledge and information flows, increased cooperation, less resource degradation and depletion, more investment in common lands and water systems, improved monitoring and enforcement ^[4,25,26,63]. There is a growing interest in social capital and its potential impact for affecting collective action in sustainable renewable natural resource institutions ^[95, 98,103].

Pretty and Ward ^[84] identified that where social capital is well-developed, local groups with locally developed rules and sanctions are able to make more of existing resources than individuals working alone or in competition. Social capital indicates a communities potential for cooperative action to address local problems ^[42, 80, 93]. As it lowers the costs of working together, social capital facilitates cooperation and voluntary compliance with rules ^[54,84]. The norm of generalized reciprocity assists in the solution of problems of collective action. Adler and Kwon ^[2] identified that it transforms individuals from self-seeking and egocentric agents with little sense of obligation to others into members of a community with shared interests, a common identity and a commitment to the common good. Brewer ^[16] believed that denser networks increase the likelihood that people will engage in collective action. There is also evidence linking social capital to greater innovation and flexibility in policy making ^[62].

In the field of development it offers the potential for more participatory, sustainable and empowering approaches in theory and practice ^[21, 34,109]. Recent years have seen an extraordinary expansion in collective management programs throughout the world, described variously by such terms as community management, participatory management, joint management, decentralized management, indigenous management, user-participation and co-management. These advances in social capital creation have been centered on participatory and deliberative learning processes leading to local group formation in different sectors such as: watershed/catchment management, irrigation management, forest management, IPM and wildlife management ^[81].

It has been estimated that in the past decade over 400,000 new groups have arisen in these sectors-mostly in developing countries. Most have evolved to be of small rather than large size (as predicted by ^[76]), typically with 20-30 active members. This puts the total involvement at some 8.2-14.3 million people. Most groups show the collective effort and inclusive characteristics that Flora and Flora ^[37] identify as vital for improving community well-being and leading to sustainable outcomes. In these groups, social capital is both operational and effective.

Krishna and Uphoff ^[64] found that an index of social capital variables is positively and consistently correlated with superior development outcomes. Social and human capital, embedded in participatory groups within rural communities has been central to equitable and sustainable solutions to local development problems ^[83, 84].

Grootaert and Van Bastelaer ^[47] stated that social capital has a profound impact in many different areas of human life and development: it affects the provision of services, in both urban and rural areas, transforms the prospects for agricultural development, influences the expansion of private enterprises, improves the management of common resources, helps improve education, can contribute to recovery from conflict and can help compensate for a deficient state. Social capital is critical for poverty alleviation and sustainable human and economic development ^[30, 48]. It represents a potential link between policy level thinking and community level action ^[84]. Social capital reduces the costs associated with working together thereby facilitating collective action ^[77, 78].

The essence of Jodhas ^[57] argument is that, in many traditional cases of rural resource management, farm and village families had a strong community stake in the resource base on which they have long been so heavily dependent, over which they had effective local control of their integrated management system and of which they have had close functional knowledge of the subtleties of sustainable management (including coping with climatic variability). He argues that it is not poverty per se that leads to actions and decisions leading to resource degradation but rather externally generated changes to the managerial environment of the community. His positive spin on this is to use these insights to point to remedial approaches to contemporary resource degradation interventions.

CONCLUSION AND RECOMENDATIONS

The concept of social science has gained prominence world- wide as a way of empowering local

communities in the face of globalization. The building of trust and mutuality at local levels is important to overcome alienation, increasing poverty and social disadvantage. The devolution of social welfare programs is one straggle designed to create enhanced social capital at community level. Yet, the way social capital is strategies to make networks local especially between poor people to increasing their abilities. This power points its all of all.

Last fifty years has seen a number of issues raised to the level of global problems. Two such issues are poverty alleviation and environmental degradation. While there is more or less a consensus that solutions to these problems should be approached at a global level, there is great disagreement on the priority that should be placed on solving each issue ^[65].

Among the poor households, 70% of them are involved in the agricultural sector. This confirms a strong linkage between agricultural sector and poverty in the rural areas. There are also a lot of family farms in rural areas that farm their own or rented land often largely for self consumption. Thus, consumption by poor households depends largely on self-production.

In general, poverty has the most direct effect on the environment via cropping where poverty influences the households technology and investment path in intensification of cropping, where there is a land constraint (pressure from population). A high rate of population growth and population density in poor areas can exacerbate the poverty problem ^[7].

The linkages between population, poverty and environmental quality have long been the subject of debate and concern. The relationship could hardly be direct since, as some have argued, low living standards in the rural areas contribute to increased pressure on natural resources, which in turn aggravates poverty ^[17]. However, some argue that environmental degradation and rapid population growth are both consequence of poverty. The increasingly complex issues in environmental degradation intertwined with issues in population change, poverty and food security need to be better understood, where these linkages are understudied.

In sum, the concept of sustainable development suggests a potentially positive relationship between socio-economic development and environmental sustainability. Indeed, the discourse of the 1980s and 1990s has been about how development and environment can be reconciled and how sustainable development can be achieved ^[68]. This stands in contrast to environmentalists of the 1960s and 1970s who drew attention to contradictions between development and environmental protection and to deep

ecology that fundamentally rejects the compatibility of the modernistic project of development with environmental preservation^[96].

As an alternative, the consensus emerging from the United Nations Conference on Environment and Development in Rio in 1992 recommended a community-based strategy^[67]. Sustainable environmental management can only occur where active local-level support and participation exist. Particularly in less developed countries, community participation is believed to be the most effective strategy because people depend directly on their local physical environment and thus have a genuine interest in protecting it^[44]. Research on indigenous technical knowledge suggests that local communities are keys to finding solutions for environmental problems. Often, local communities developed technologies that are well adapted to local socio-economic and environmental conditions^[45]. Such an approach tries to make better use of (renewable) human and social capital than the regulatory and market-based instruments.

As Fukuyama notes that social capital refers to the ability of people to work with each other in groups. This is a broad stroke and the additional problems of asset identification and of resource management at all layers of society combine to influence the potential outcome of every attempt to change any groups' relative position. Knowledge obtained in the process of acquiring these data makes for a better understanding of the involved local dynamics, or of a direct comparison to groups in other regions or nations. This in turn leads to better methods to reduce poverty, to inform participants through effective educational programs and to narrow discrepancies among groups.

At last some implications need:

- Unsustainable use of natural resources inevitably causes poverty. To solve the problem, policy must be focused on environmental policies and not poverty alleviation policies^[32]. In addition, Environmental degradation can be caused by poverty. However, to resolve the problem, the first objective is to first identify if it is indigenous or exogenous poverty. If it is indigenous poverty, then policies must be focused on environmental policies. However, if it is exogenous poverty, then poverty alleviation policies need to be formulated and implemented^[32]
- Pay attentions to Poverty is multi-dimensional and causes are diverse, Country-specific analyses must determine whether poverty reduction objectives are best achieved through general increases in rural productivity, by supporting small-scale family

farming, or by direct targeting of agricultural and non-agricultural services to the poor in marginal areas^[12]

- A poverty agenda will often require extension and education services to focus initial emphasis on empowerment of the rural poor, building capacity at individual and institutional levels and building demand for services where there has been little in the past. Equity in access to services requires proactive efforts to reach out to the poor and to women and minority groups. Extension programs must recognize that the poor have very limited capacity to invest in new technologies and that risk is a question of survival. Poverty-focused extension services will have to address social and organizational constraints to innovation, such as facilitating rural financial services, obtaining secure land tenure and improving management of community resources. A poverty focus might also require attention to social issues formerly considered outside the ambit of extension (i.e., education, facilitating access to health, education and social programs). Recognizing poverty reduction as an extension goal requires new procedures for priority setting and allocation of scarce public resources, designing programs to meet different client needs and evaluating programs recognizing the different cost implications and impact indicators implicit in poverty-targeted programs^[3]

In addition, the World Bank^[113] proposes three-pronged strategies to reduce (not alleviate) poverty:

- **Promoting opportunity:** This entails securing jobs, credit, roads, electricity, markets for their produce and the schools, water, sanitation and health services that underpin the health and skills essential for work. This requires action by the state to support the buildup of human, land and infrastructure assets that poor people own or to which they have access
- **Facilitating empowerment:** This calls for the development of sound and responsive institutions that will remove the social and institutional barriers that result from distinctions of gender, ethnicity and social status. It recognizes that achieving access, responsibility and accountability is intrinsically political and requires active collaboration among poor people, the middle class and other groups in society
- **Enhancing security:** This call for reducing the vulnerability caused by economic shocks, natural disasters, ill health, disability and personal violence

and requires effective national action to manage the risk of countrywide shocks and effective mechanisms to reduce the risks faced by poor people

- Further to alleviate poverty reduction and attain sustainable development should be identify that social capital located at which levels. Identifying level which is located could be help in decision making and to identify the first step and group that must be focused them
- It is now widely accepted that social capital can be increased in the short term however there is a lack of understanding of the processes and how they operate to build or improve social capital structure. Although there has been very little work directly on social capital, sustainable development and natural resource management there are studies that can be applied to the area. Much work is required to understand the interaction of social capital and sustainable development and poverty reduction

REFERENCE

1. Abouchedid, K. and R. Nasser, 2001. Poverty attitudes and their determinants in Lebanon s plural society. *J. Econ. Psychol.*, 22, 271-282.
2. Adler, P.S. and S.W. Kwon, 2002. Social capital: Prospects for a new concept. *Academy of management. Acad. Manage. Rev.*, 27: 17-40.
3. Alex, G., W. Zijp, and D. Byerlee, 2002. Rural Extension and Advisory Services: New Directions. Rural Development Strategy, Doc Cat press number 1, Report Number: 25045
4. Anderson, C.L., L. Locker and R. Nugent, 2002. Microcredit, social capital and common pool resources. *World Dev.*, 30: 95-105.
5. Ashley, C. and D. Carney, 1999. Sustainable Livelihoods: Lessons from Early Experience. London:the 1th edition. DFID press. Available at <http://www.livelihoods.org/info/docs/nrcadc.pdf>
6. Atkinson, G., R. Dubourg, K. Hamilton, M. Munasinghe, D. Pearce and C. Young, 1997. Measuring Sustainable Development: Macroeconomics and the Environment, the *Economic Journal*, Vol. 109, No. 456, Features (Jun., 1999), pp. F527-F529
7. Bardhanm, P. and C. Udry, 1999. Development Micro economics. The first edition. Oxford University Press, Somerset.
8. Baron, S., J. Field and T. Schuller, 2000. Social Capital: Critical Perspectives, Oxford, Oxford University Press, London.
9. Barrett, C.B., M .Bezunch, D.C. Clay and T. Reardon, 2000 Heterogeneous constraints, incentives and income diversification strategies in rural Africa. Available at SSRN: <http://ssrn.com/abstract=258371> or DOI: 10.2139/ssrn.10.2139/ssrn.258371
10. Barros, F.G., A.F. Mendonça and J.M. Nogueira, 2002. Poverty and Environmental Degradation: the Kuznets Environmental Curve for the Brazilian Case. University of Brasilia, Available at <http://www.unb.br/face/eco/cpe/TD/267Dez02JNogueira.pdf>
11. Bebbington, A., 1997. Bebbington, Social capital and rural intensification: Local organizations and islands of sustainability in the rural Andes. *Geograph. J.*, 163: 189-197.
12. Berdugue, J. and G. Escobar, 2001. Agricultural Knowledge and Information Systems and Poverty Reduction: AKIS/ART Discussion Paper. World Bank, Washington, DC.
13. Berkes, F. and C. Folke, 1994. Investing in cultural capital for sustainable use of natural capital. In: *Investing in Natural Capital: The Ecological Economics Approach to Sustainability*, Jansson, A.M., M. Hammer, C. Folke and R. Costanza (Eds.). Island Press, Washington, DC, Covelo, CA, pp: 128-149.
14. Bourdieu, P., 1985. The Forms of Capital. In: *Handbook of Theory of Research for the Sociology of Education*, Richardson, J.E. (Ed.). Greenwood Press, American Sociological Association Publishers. pp: 241-258.
15. Boyce, J., K. and M. Torras, 2002. Rethinking the environmental Kuznets curve. in Boyce. J.K. 2002. *The Political Economy of the Environment. (The Political Economy of the Environment*. Cheltenham: Edward Elgar. pp: 47-66.
16. Brewer, G.A. 2003. Building social capital: Civic attitudes and behavior of public servants. *J. Public Administrate. Res. Theory*, 13: 5-26.
17. Brundtland, G.H., 1987. Our Common Future, World Commission on Environment and Development. The first edition, Oxford University Press, Oxford. Available at <http://alcor.concordia.ca/~raojw/crd/reference/reference001377.html>
18. Carney, D., 1999. Holistic approaches to poverty reduction: where does agricultural research fit in? in *Assessing the impact of agricultural research on poverty alleviation: Some issues and priorities*. Food Policy 25 (2000) 379-388. Available at http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VCB-40VTOR0-1&_user=1400009&_rdoc=1&_fmt=&_orig=search&_sort=d&view=c&_version=1&_urlVersion=0&_userid=1400009&md5=ca43c55e72c764846aeb31b6d97860da#bbib6

19. Carr, S., and M. Maclachlan, 1998. Actors, observers and attributions for Third World poverty: Contrasting perspectives from Malawi and Australia. *J. Social. Psychol.*, 138: 189-202.
20. Chengappa, R., 1995. Paradise. India Today. August 15th. In Anantha Duraiappah, Poverty and Environmental Degradation: a Literature Review and Analysis, CREED Working Paper Series No 8. International Institute for Environment and Development, London. Available at <http://www.iied.org/pubs/pdfs/8127IIED.pdf>
21. Chhibber, A., 1999. Social Capital, the State and Development outcomes. In: *Social Capital: A Multifaceted Perspective*, Ismail Serageldin, (Ed.). Washington, DC: World Bank, pp: 296-310.
22. Coleman, J., 1988. Social capital in the creation of human capital. *Am. J. Social.*, 94: S95-120.
23. Coleman, J., 1990. *Foundations of Social Theory*. The first edition. The Belknap Press Harvard University Cambridge.
24. Cote, S. and T. Healy, 2001. The well-being of nations. The role of human and social capital. Organization for Economic Co-operation and Development, Paris.
25. Daniere, Amrita, Lois M Takahashi and Anchana NaRanong, 2002. Social Capital and Environmental Management: Culture, Perceptions and Action among Slum Dwellers in Bangkok. In: *Social Capital and Economic Development: Well-being in Developing Countries*, Sunder Ramaswamy (Ed.). Cheltenham, UK. pp228.
26. Daniere, A., Lois M. Takahashi and Anchana NaRanong. 2002. Social capital, networks and community environments in Bangkok, Thailand. *Growth and Change*, 33: 453-484.
27. Dasgupta, P., C. Folke and K.G. Maler, 1994. The Environmental Resource Base and Human Welfare. In: *Population, economic development, and the environment*, edited by Kerstin Lindahl-Kiessling and Hans Landberg. New York, New York, Oxford University Press, 1994. :25-50.
28. Davidson, J. Myers, Dorothy; Chakraborty, Manab, 1992. No Time to Waste: Poverty and the Global Environment. Oxford, England, Oxfam, 1992. [4], 217 p. POPLINE Document Number: 148213.
29. De Janvry, A. and E. Sadoulet, 2000. Rural poverty determinants in Latin America. Determinants and exit paths. *Food Policy*, 25: 389-409.
30. Dolfisma, Wilfred and Charlie Dannreuther, 2003. Subjects and boundaries: Contesting social capital-based policies. *J. Econ.*, 37: 405-413.
31. Drèze, J. and a. Sen, 1997. *Indian Development: Selected Regional Perspectives*. A study prepared for the World Institute for Development Economics Research of the United Nations University (UNU/WIDER), the first edition. Oxford University Press, Delhi.
32. Duraiappah, A., 1996. *Poverty and Environmental Degradation: A Literature Review and Analysis*. 8127IIED, By International Institute for Environment & Development, Anantha K. Duraiappah Published by IIED, 1996. International institute for environmental and development, London, instate for environmental studies, Amsterdam
33. Durning, A.B., 1989. *Poverty and the environment: Reversing the downward spiral*. Washington, D.C., World watch Institute press, 1989 Nov. 86 p. (World watch Paper 92). POPLINE Document Number: 074851.
34. Evans, P., 1996. Government action, social capital and development: Reviewing the evidence on synergy. *World Dev.*, 24: 1119-1132.
35. FAO (Food and Agriculture Organization), 2000. FAO Static Database. In Julio A. Berdegue and German Escobar, 2001. *Agricultural Knowledge and Information Systems AND Poverty Reduction*. BANK Reports N1. Available at http://www-wds.worldbank.org/servlet/main?menuPK=64187510&pagePK=64193027&piPK=64187937&theSitePK=523679&entityID=000094946_0106150417535
36. Fields, G.S., 1999. *Distribution and development: A summary of the evidence for the developing world*. Background World Development Report (DECWD), Vol 1. Pp48.
37. Flora, C.B. and J.L. Flora, 1993. Entrepreneurial social infrastructure: A necessary ingredient. *Ann. Am. Acad. Political Soc. Sci.*, 529: 48-55.
38. Forsyth, T. (1998) "The politics of environmental health: suspected industrial poisoning in Thailand", pp210-226 in Hirsch, P. and Warren, C. (Eds) *The politics of environment in Southeast Asia: resources and resistance*, Rout ledge, London
39. Fukuyama, F., 1995. Social capital and the global economy. A Redrawn Map of the World. in Halpern, D. (1999) *Social capital: the new golden goose*. Faculty of Social and Political Sciences, Cambridge University. Unpublished review.
40. Fukuyama, F., 1996. *Trust: The Social Virtues and the Creation of Prosperity*, Free Press, New York, NY.
41. Fukuyama, F., 2000. *Social Capital and Civil Society*. IMF Working Papers 00/74, Paper provided by International Monetary Fund. In: Mathews, John A., 2002. "The origins and dynamics of Taiwan's R&D consortia," *Research Policy*, Elsevier, vol. 31(4), pages 633-651, May.

42. Fukuyama, F., 2001. Social capital, civil society and development. *Third World Q.*, 22: 7-20.
43. Furnham, A., 1993. Just world beliefs and attitudes towards the poor. *J. Soc. Psychol.*, 23, 265-269.
44. Ghai, D. and J.M. Vivian, 1992. *Grassroots Environmental Action: Peoples Participation in Sustainable Development*. The first edition. Routledge, London. Pp 384.
45. Gibbon, D., A. Lake and M. Stocking, 1995. Sustainable Development. In: *People and Environment*, Morse, S., D. Gibbon, (Eds.). UCL Press: London, pp: 31-68.
46. Goodland, R., 1989. Tropical Deforestation Solutions, Ethics and Religions, Environmental Working Paper 43, in Kant, Sh. And Berry, R. A. 2005. *Institutions, Sustainability, and Natural Resources*, Published by Springer, available at http://books.google.com/books?id=jLNJg9SSVdAC&pg=PT98&lpg=PT98&dq=Tropical+Deforestation+Solutions,+Ethics+and+Religions&source=web&ots=ft6mVt4pw-&sig=4dFLQFQ5fTjd7 YsRYCtYtr9rIQs&hl=en&sa=X&oi=book_result&resnum=5&ct=result#PPT6,M1
47. Grootaert, C. and T. Van Bastelaer, 2002a. Conclusion: Measuring Impact and Drawing Policy Implications. In: *The Role of Social Capital in Development*, Thierry Van Bastelaer, (Ed.). Cambridge University Press, Melbourne, pp: 341-350
48. Grootaert, C. and Thierry Van Bastelaer, 2002c. *The Role of Social Capital in Development: An Empirical Assessment*. The first edition, Cambridge University Press, New York. Pp, 351.
49. Grossman, G.M. and A.B. Krueger, 1991. "Environmental Impacts of a North American Free Trade Agreement," *Papers* 158, Princeton, Woodrow Wilson School - Public and International Affairs.
50. Halpern, D., 1999. Social Capital: The New Golden goose. Un published review, Faculty of Social and Political Sciences, Cambridge University.in *Generating Social Capital?* Mel Evans and Stephen Syrett *European Urban and Regional Studies*, Vol. 14, No. 1, 55-74 (2007)
51. Hardoy, J., D. Mitlin and D. Satterthwaite, 1991, Sustainable development and cities. In: *Environmental Problems in Third World Cities, A global issue ignored?* *Journal of Public Administration and Development*, Volume 11 Issue 4, Pages 341 - 361
52. Harrington, L., 1995. Sustainability in perspective: Strengths and limitations of farming systems research in contributing to a sustainable agriculture. *J. Sustainable Agric: Innovat. Long-Term Lasting Maintenance Enhancement Agric. Resour., Prod. Environ. Qual.*, 5: 1/2. pp 41 – 59.
53. Healy, T., 2001. Health Promotion and Social Capital, International Evidence for the impact of Social Capital on Well Being, National University of Ireland, Galway.
54. Isham, J. and Satu K., 2002. How do Participation and Social Capital Affect Community-Based Water Projects? Evidence from Central Java, Indonesia. In: *The Role of Social Capital in Development*, Thierry Van Bastelaer (Ed.). Cambridge University Press, Melbourne, pp: 155, 175-187.
55. Jaganathan, N.V., 1989. Poverty, Public Policies and the Environment, The World Bank. Policy Planning and Research Staff. Washington, EE.UU. US. No:24. Pag.34 p.
56. Jalal, K.F., 1993. Sustainable Development, Environment and Poverty Nexus. Occasional Asian Development Bank, Economics and Development Resource Center, Manila Philippines.
57. Jodha, N.S., 1998. Poverty and environmental resource degradation: An alternative explanation and possible solutions. *Economic and Political Weekly* Sept. 5-12, pp: 2384-2390.
58. Joshi, V., 1996. Indias Transition: Progress, Problems and Prospects. In: *Economic Reforms and Poverty Alleviation in India*, Rao, C.H.H. and H. Linnemann (Eds.), New Delhi: Sage, pp: 119-125.
59. Karami, E. and D. Hayati, 2005. Rural poverty and sustainability: The case of groundwater depletion in Iran. *Asian J. Water, Environ. Pollut.*, 2: 51-61.
60. Kawachi, I., B. Kennedy, K. Lochner and D. Prothrow-Stith, 1997. Social capital. *Income Inequal. Mortality Am. J. Public Health*, 87: 1491-1498.
61. Khan, M.H., 2000. Rural poverty in developing countries: issues and policies. IMF Working Paper. Working Paper No. 00/78. Washington, DC: cited by Osinubi, Tokunbo Simbowale & Gafaar, Oluwatoyin Alade S, 2005. "Macroeconomic Policies and Pro-Poor Growth in Nigeria," *Proceedings of the German Development Economics Conference, Kiel 2005 24*, Verein für Socialpolitik, Research Committee Development Economics.

62. Knack, S., 2002. Social capital and the quality of government: Evidence from the states. *Am. J. Political Sci.*, 46: 772-785.
63. Koka, B.R and E.P. John 2002. Strategic alliances as social capital: A multidimensional view. *Strategic Manage. J.*, 23: 795-816.
64. Krishna, A. and U. Norman 2002. Mapping and Measuring Social Capital through Assessment of Collective Action to Conserve and Develop Watersheds in Rajasthan, India. In: *The Role of Social Capital in Development*, Thierry Van Bastelaer (Ed.). Cambridge University Press, Melbourne, pp: 85-88, 115-124.
65. Krishnan, R., 2008. Poverty alleviation and environmental degradation: Global aspirations and outcomes. Paper presented at the annual meeting of the ISA's 49th ANNUAL CONVENTION, BRIDGING MULTIPLE DIVIDES, Hilton San Francisco, SAN FRANCISCO, CA, USA, Mar 26, 2008 Online <APPLICATION/PDF>. 2008-08-19 <http://www.allacademic.com/meta/p253059_index.html>
66. Leach, M. and R. Mearns, 1999. Environmental Entitlements: Dynamics and Institutions in Community-Based natural Resource Management. *World Development*. Vol. 27, No. 2, pp. 225-247.
67. Leach, M., R. Mearns and I. Scoones, 1997. Challenges to community-based sustainable development: dynamics, entitlements institutions. *IDS Bull.*, 28: 4-14.
68. Lele, S.M., 1991. Sustainable development: A critical review. *World Dev.* 19: 607-621.
69. Lipton, M., 1985. Land assets and rural poverty, world bank press, Washington DC: World Bank. Staff working paper; no. SWP 744. Pp85.
70. Lisakka, L., 2006. Social Capital in Finland: Statistical Review, Living Conditions, Statistics Finland. Helsinki – Helsingfors. Elinolot 2006, Levnadsförhållanden, Living Conditions
71. McFadyen, R., 1998. Attitudes towards the unemployed. *Human Real.*, 51: 179-199.
72. Morcol, G., 1997. Lay explanations for poverty in Turkey and their determinants. *J. Soc. Psychol.*, 6: 728-738.
73. Narayan, 2002. In: D. Narayan, Editor, Empowerment and poverty reduction: A sourcebook, World Bank, Washington DC. PREM, World Bank, May 1, 2002
74. Narayan, D. and L. Pritchett, 1997. Cents and Sociability: Household Income and Social Capital in R Putnam, R., Leonardi, R. and Nanetti, R. 1993. *Making Democracy Work: Civic Traditions in Modern Italy* Published in/by Princeton University Press. pp 280.
75. Nayak, P., 2004. Poverty and environmental degradation in rural India: A Nexus. Paper was Presented in the Annual Conference of NEEA held at Dibrugarh, Assam in February 2004. pp 1-11.
76. Olson, M., 1982. *The Rise and Decline of Nations: Economic Growth, Stagflation and Social Rigidities*. Yale University Press, New Haven CT. *Journal of Policy Analysis and Management*, Vol. 3, No. 1 (Autumn, 1983), pp. 148-148
77. Ostrom, E., 1994. Constituting social capital and collective action. *J. Theor. Politics*, 6: 527-562.
78. Ostrom, E., 1999. Social Capital: A Fad or a Fundamental Concept? In: *Social Capital: A Multifaceted Perspective*, Ismail Sera Geld (Ed.). Washington, World Bank, pp: 172-215.
79. Oxfam International, 1995. the dominance republic, Growth with equity: an agenda for poverty reduction.. Report No. 13619-DO. Available at http://www-wds.worldbank.org/servlet/WDSContentServer/WDS/IB/1995/05/15/000009265_3961019100012/Rendered/PDF/multi0page.pdf
80. Pilkington, P., 2002. Social capital and health: measuring and understanding social capital at a local level could help to tackle health inequalities more effectively. *J. Public Health Med.* 24: 156-159.
81. Pretty, J. 2003. Social capital and connectedness: Issues and implications for agriculture, rural development and natural resource management in ACP countries. CTA Working Document. The ACP-EU Technical Centre for Agricultural and Rural Cooperation (CTA) press.
82. Pretty, J., 1998. The Living Land: Agriculture, Food and Community Regeneration in Rural Europe. *Earth Scan, Journal of Rural Studies* Volume 17, Issue 1, January 2001, Pages 133-134 London.
83. Pretty, J.N. 2002. *Agri Culture: Reconnecting People, Land and Nature*. London: Earthscan.
84. Pretty, J. and H. Ward, 2001. Social capital and the environment. *World Dev.*, 29: 209-227.
85. Productivity Commission, 2003. Social capital: Reviewing the concept and its policy implications. Research paper, Canberra. Available at http://www.pc.gov.au/_data/assets/pdf_file/0018/8244/socialcapital.pdf
86. Putnam, R., 1995. Bowling alone: Americas declining social capital. *J. Democracy*, 6: 65-78.
87. Putnam, R., 1993. *The Prosperous Community: Social Capital and Public Life*. "The American Prospect no. 13 (Spring, 1993). Available at (<http://epn.org/prospect/13/13putn.html>).
88. Putnam, R. 1996. 'Who Killed Civic America', *Prospect*, March, pp. 66-72.

89. Putnam, R., 2000. *Bowling Alone-the Collapse and Revival of American Community*. Simon and Schuster, 6th Printing, Simon and Schuster, Riverside, New Jersey, U.S.A. press, New York.
90. Raskin P, Chadwick M, Jackson T, Leach G. 1996. *The Sustainability Transition: Beyond Conventional Development*, Stockholm, Sweden: Stockholm Environment Institute, Stockholm press.
91. Ravnborg, H.M., 2003. Poverty and environmental degradation in the Nicaraguan hillsides. *World Dev.*, 31: 1933-1946.
92. Ravnborg H. M., and Sano H.O., 1994. The poverty objective in development assistance. CDR Briefing. Centre for Development Research. Copenhagen.
93. Ritchie, M., 2000. Social capacity, sustainable development and older people: Lessons from community -based care in Southeast Asia. *Dev. Practice*, 10: 638-651.
94. Rozelle, S. *et al.*, 1997. Poverty, population and environmental degradation in China. *Food Policy*, 22: 229-251.
95. Rudd, Murray A., 2000. Live long and prosper: collective action, social capital and social vision. *Ecol. Econ.*, 34: 131-144.
96. Sessions, G. (1995). *Deep Ecology for the 21st Century. Readings on the Philosophy and Practice of the New Environmentalism*. Boston: Shambhala. Oxford University Press.
97. Smith, K.R., 1997. Development, Health and the Environmental Risk Transition. In: *International Perspectives on Environment, Development and Health*, Shahi, G.S. *et al.*, (Eds.), Springer, New York, and pp: 51-62.
98. Sobels, J., A. Curtis and S. Lockie, 2001. The role of Landcare group networks in rural Australia: Exploring the contribution of social capital. *J. Rural Stud.*, 17: 265-276.
99. Southgate, D., J. Sander and S. Ehui, 1991. Resource Degradation in Africa and Latin America: Population Pressure, Policies and Property Arrangements. *American Journal of Agricultural Economics*, Vol. 72, No. 5, Proceedings Issue, pp. 1259-1263.
100. UNDP (United Nations Development Program), 1990. *Concept and Measurement of Human Development*, Human Development Report 1990, United Nations Development Program, Oxford University Press.
101. UNEP Tognetti, S. (UNEP), 1995. *Poverty and the environment: Reconciling short-term needs with long-term sustainability goals*. Nairobi, Kenya: United Nations Environment Program, UNEP press. Pages: 156pp.
102. Véron, R., 1999. Real Markets and Environmental Change in Kerala, India: A New Understanding of the Impact of Crop Markets on Sustainable Development. *American Journal of Agricultural Economics*, Volume 83, Number 2, May 2001, pp. 478-485(8)
103. Walters, W., 2002. Social capital and political sociology: Re-imagining politics? *Sociol. J. Br. Sociol. Assoc.*, 36: 377-397.
104. Weiner, M., 1999. The Regionalization of Indian Politics and its Implication for Economic Reform. In: *India in the Era of Economic Reforms*, Sachs, J.D. *et al.* (Eds.), Oxford University Press, Oxford, and pp: 261-295.
105. Wilkinson, R. 1996. *Unhealthy Societies: The Afflictions of Inequality.*, The first edition, Routledge, London.
106. Winter, I, 2000. *Family Life and Social Capital: towards a theorized understanding*, Working Paper No. 21, Australian Institute of Family Studies, Melbourne. <http://aifs32/institute/pubs/winter4.html>
107. Woolcock, M., 1998. Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory Soc.*, 27: 151-208.
108. Woolcock, M., 2001. The place of social capital in understanding social and economic outcomes. *ISUMA Can. J. Policy Res.*, 2: 11-17.
109. Woolcock, M. and N. Deepa, 2000 Social capital: Implications for development theory, research and policy. *World Bank Res. Observer*, 15: 225-249.
110. World Bank. 1997. *Expanding the measure of wealth: Indicators for environmentally sustainable development*. (Environmentally Sustainable Development Studies and Monographs Series, No. 17) (Paperback) Washington, DC: World Bank Publications.
111. World Bank. 1999a. *Trends in Poverty*, Internet: Washington, DC: World Bank. <http://www.worldbank.org/poverty/data/trends/income.htm>
112. World Bank. 2000b. *poverty*, World Development Report 2000, Consultation Draft, Newsletter No. 5, January 2000 - Update on WDR 2000/01 Washington, DC: World Bank.
113. World Bank. 2001. *The state in a changing world*, World Development report. New York: Oxford University Press.