

*Rural Household Livelihood Strategies, Forest Dependence and  
the Political Economy of Development in Upper Svaneti, Georgia*

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by Robin J. Kemkes, Ph.D. candidate

University of Massachusetts – Amherst, Department of Economics

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The Title VIII Combined Research and Language Training Program allowed me to spend six months in the Republic of Georgia conducting fieldwork that will lead to the completion of my dissertation and a Ph.D. in economics at the University of Massachusetts-Amherst. In addition, upon completion of my dissertation, I will aim to publish my findings so as to foster a greater understanding of rural development trends in the Caucasus region. The language training provided by the program and the proximity to my field site were essential for gathering the quantitative and qualitative data necessary for my research. It also enabled me to foster a network of professional relationships with other researchers, government officials, civil society members and locals that will be invaluable as I move forward in my career. In this report, I will summarize my research topic and hypotheses, outline the activities undertaken in the field and present expected results along with their implications for U.S. policy in the region.

## **Introduction**

In December of 2011, I concluded a six month field visit to Georgia during which I conducted a quantitative survey in the municipality of Upper Svaneti to measure rural livelihood strategies and a mixed-methods institutional analysis to assess the potential for community-based forest management (CBFM) in the region. The results of the quantitative study will reveal the level of livelihood dependence on natural resources and the response of local villagers to their changing natural, social and economic environment along with the expected impact of these changes on their livelihoods and subjective well-being. The institutional analysis will report the local capacity and support for decentralized decision-making and management of forests along with existing governance structures and the legal feasibility of such an approach.

Svans have lived in the northwestern region of Georgia for thousands of years – their history and culture and the natural beauty of the area is considered by many to be the heart and soul of the

country. Presently, there are two major developments initiated at the State level that will alter the natural resource base and rural livelihoods in Upper Svaneti. The first is the creation of a large-scale tourist district in the municipal capital of Mestia which brings a multitude of changes to the area with mixed opportunity and impact. The second is the revision of the State Forest Code which will modify access, use and ownership rights to forests for local communities by extending the duration of forest concessions and allowing for privatization of the State Forest Fund.

How will the livelihood strategies of households in the region change in response to these developments? To what extent will their incomes and well-being be affected? And what types of policies and programs will help sustain rural living in the region? The results of this research will provide a foundation for analyzing the trade-offs associated with rural development paths in Georgia. It will also provide a basis for political forces outside and inside the country to propose and support alternative approaches that address important issues for Georgia such as sustainable management of natural resources, avoiding migration and conflict, and democratic participation – and for the global community, including management of forests for climate change mitigation and reducing rural poverty.

### **Research topic**

The United Nations Food and Agricultural Organization (FAO, 2011) has pronounced 2011 *The International Year of Forests* and in its biennial issue of *State of the World's Forests* it voices a new commitment to the community-forest relationship and acknowledges the contribution of forests to sustainable livelihoods and the alleviation of poverty. Researchers in forestry and rural development began to consider the link between sustainable livelihoods and dependence on the environment over twenty years ago. But only recently has it begun to capture a broader research agenda. In November of this year, the Poverty Environment Network (PEN) at the Center for International Forestry Research (CIFOR) will release the results of a six-year global study showing that income from forests and other

natural resources make up a significant proportion of the livelihoods of millions of people in developing countries (CIFOR, 2011).

The livelihoods approach and its related framework for analyzing development paths measures stocks of assets that yield flows of food and income that buffer the poor against chance events, provide current consumption and opportunities to accumulate capital. The approach allows us to ask “Who gains and who loses from development decisions?” Although the net social benefits of a project may appear high in an overall cost-benefit analysis, the impact on rural livelihoods may be negative (Chambers, 1987). When analyzing whether development paths can achieve goals such as reducing rural poverty and improving the sustainable use of natural resources, we need to consider that decision-making occurs amongst competing individuals, groups and classes (Boyce, 2002). As globalization and development advance, the concentration of wealth in urban areas and the increasing peripherality of rural regions creates a power imbalance and the viewing of rural areas and their environments as a resource to be exploited which puts pressure on poor communities (Fairhead 2001; Marsden, 2009). Furthermore, when policies are inadequately designed and exclude local decision-making, markets and states can crowd out communities when, in fact, they are complements, not substitutes (Bowles and Gintis, 2002).

The framework focuses primarily on assessing the availability of five types of assets – physical, financial, natural, social and human – and subsequently how households choose to employ combinations of these assets as diversified strategies to attain a livelihood. Strategies often include agricultural extensification or intensification, a combination of subsistence activities and external employment or migration if living conditions are no longer suitable. The framework also places these assets and strategies into context by identifying the policy setting, politics, history, agro ecology and socio-economic conditions surrounding household decision-making. Thereafter, it is possible to measure outcomes such as total income, production, well-being as defined by Chambers (1997) and

capabilities as described by Sen (1993) (Bebbington, 1999; Scoones, 1998).

Many of the natural assets that rural households depend upon, such as forests, can be classified as open access resources which are prone to overexploitation if they are not managed properly (Hardin, 1968). Forests are an immense resource for rural households. They harvest raw materials such as fuelwood and timber and benefit from public goods such as erosion control, climate stability and clean drinking water. Contrary to common belief, research shows that demand for fuel is rarely the primary source of forest cover removal. Large-scale projects such as clearing for agriculture and commercial development account for a higher proportion of clearing (Arnold et al., 2006). Strategies that build natural assets in the hands of the rural communities who are most dependent on them could help alleviate poverty and prevent deforestation (Boyce & Shelley, 2003). Additionally, if forest environmental income is to serve as a catalyst to lift people out of poverty, it is important that contextual factors such as effective property rights regimes exist to facilitate that process (de Sherbinin et al., 2008).

Institutions, both formal and informal, shape the ability of a household or community to capture the benefits of natural assets. Through this process open access resources can be sustainably managed as common resources through property rights regimes (Bromley, 1992). Community-based forest management is a property rights regime that enables rural communities to directly benefit from forests and that can lead to greater participation, reduced poverty, increased productivity and diversity of vegetation and the protection of forest species (FAO, 2011; Larson & Soto, 2008).

In contrast, an increasing reliance on the governance of forests through concessions is driven by global demand for logs and timber and by the need for revenues by governments in developing countries (Agrawal *et al*, 2008). Many governments have extended the duration of contracts citing theory that predicts that greater tenure security for private companies will induce a lower discount rate and provide an incentive for better management, however this has not proven to be the case empirically

(Boscolo & Vincent, 2000; Vincent, 1990). High discount rates and the preference for harvesting timber now rather than investing in future profits and sustainable management typically reflect factors such as political instability and exchange rate risk (Niesten & Rice, 2004).

In summary, the literature tells us that rural livelihoods in many parts of the world are highly dependent on forests and other natural resources and furthermore, that global market pressures to develop these areas commercially and to privatize forests for timber production may cause the degradation of these resources and limit access and use rights for locals. Commercial development may bring desirable changes to a rural region such as increased employment opportunity and improved infrastructure, and privatization of forests may attract foreign investment. However, the overall balance of costs and benefits and the net impact on rural communities is often unknown or ignored by decision-makers at high levels of government.

### **Field site**

Conducting this research in Georgia will not only provide the necessary foundation for analyzing development paths in the country, it will also contribute to the overall knowledge base and body of literature in the fields of sustainable livelihoods and management of common property resources. To date there has not been a livelihood analysis of a high mountainous community nor one positioned in the post-Soviet context. Because post-Soviet countries are yet undergoing political, social and economic transformations, they provide a rich research environment to explore the impact of changing market and institutional structures on remote communities which, until very recently, have not been exposed to the capitalist development that has characterized the often rough post-Soviet period. Throughout the transformation period there has been a marked decline in income and a rise in income inequality in the Caucasus region (Agyeman *et al.*, 2009). Those who support liberalization policies in the region tout the ability of free markets to address these issues and promote deregulation

in order to attract foreign direct investment. An emphasis on markets to resolve social problems combined with the impacts of globalization put increased pressure on forests and other natural resources (Synyakavych *et al.*, 2009).

Forest management and rural poverty are poignant issues in Georgia. The forests make up part of the Conservation International Caucasus biodiversity hotspot and the World Wildlife Fund (WWF) has established an Ecoregional Conservation Plan to address threats to forests and biodiversity in the country (Conservation International, 2011; World Wildlife Fund, 2010). The 2008 National Human Development Report identifies long term forest concessions as a controversial approach to forest management and limited local access to resources as a concern (UNDP, 2008). Additionally, despite significant strides in overall economic growth, rural poverty is still a pervasive problem in Georgia (CARE, 2010; World Bank, 2009). Since the Rose Revolution in 2003, the inequalities between those living in the countryside and those living in urban areas have increased (De Waal, 2011).

Understanding and addressing the impacts of rural development decisions is an important next step for Georgia in terms of advancing progressive institutional reforms that will help the country integrate with important political and economic partners. Furthermore, assessing the potential for CBFM and the institutional support required for its implementation provides an opportunity to strengthen democratic decision-making at the local level.

### **Hypotheses and methods**

With the aim of contributing to the literature on rural livelihood strategies and community-based management of common property resources, my research in Georgia addresses the following hypotheses:

- A. Rural livelihoods in Upper Svaneti are dependent on forests and other natural resources.
- B. Forest income has an equalizing effect on total income across households in Upper Svaneti.

C. Households will alter their livelihood strategies in response to current developments and changes in policy that will decrease their total income and subjective well-being.

D. Household characteristics influence the ability of a family to benefit from tourism development and changes to the Forest Code.

E. The communities of Latali and Becho in Upper Svaneti exhibit a functioning institutional basis and capacity for community-based forest management (CBFM).

While in Georgia from June through December of 2011, I collected quantitative and qualitative data which I will analyze during the writing period of my dissertation project in order to test these hypotheses. In June I embarked on a two-week long exploratory trip to my field site in the municipality of Upper Svaneti where I visited several villages and observed how households were operating and supporting themselves. Upon returning to Tbilisi, I incorporated this context-specific information into the draft survey instrument I created based on those conducted by PEN for its global study and outlined in its related field manual (Angilson *et al.*, 2011). I also partnered with two researchers at the Caucasus Research Resource Centers program (CRRC) in Tbilisi – a resource, research and training center with the goal of strengthening social science research and public policy analysis in the South Caucasus – to design the sample size and selection process based on proven methods using official population estimates and electoral precinct locations. Once the final draft of the survey instrument was complete, I again visited my field site where I stayed with a family in a small village for two weeks, worked with a Georgian research assistant to translate the survey into Georgian and conducted pilot surveys with nearby villagers in order to test and improve the survey instrument.

When I returned to Tbilisi, I trained an experienced team of Georgian interviewers from CRRC on how to execute the survey and how to proceed with the sample selection process in the field. At the end of August, the interview team completed 250 household surveys of a representative sample of the population of the Upper Svaneti region. The survey includes questions about household demographics,

monetary income, land use and ownership, animal husbandry, harvesting of crops and fodder, forest use and expected changes to livelihood strategies in response to current and upcoming developments. It also includes questions about well-being and income that mirror questions in recent national surveys so comparisons can be made between the Upper Svaneti population and the total population of Georgia.

The target population was the entire population of the region and the sample frame included nine of the 16 villages in the district which were purposely selected in an effort to obtain variability in the sample. 250 households were randomly selected from the sample frame so that 12 to 14 percent of households in each village were sampled. Within the villages the households were systematically sampled through a random walk procedure. It was not possible to select households randomly from voter precinct roles because addresses are often inaccurate and many houses are abandoned. The sample selection size and procedure will allow me to generalize the results of the survey to the population of the region and reported with a 95 percent confidence level and a confidence interval of six. The sample selection proportion is comparable to other livelihood studies that have been conducted in other parts of the world (Narain *et al.*, 2008; Kamanga *et al.*, 2009).

There are a few limitations associated with the survey that are worthy of attention. First, due to budget and time constraints, the sample size is approximately 10 percent of the population of interest. Neumann (1991) suggests that the sample size for a target population under 10,000 should be about 30 percent. However, the underlying population is homogenous which offsets the requirement for a larger sample size and the sample was selected to provide maximum variability. Choosing an interview team of Georgians who are not native to the region could have created a bias in the responses due to apprehension and distrust, but it is my belief that this possible effect is much smaller than the potential bias of revealing information to a fellow local. Respondents may have been hesitant to be entirely forthcoming about financial income or activities such as harvesting of fuelwood. In order to create an atmosphere of trust, each interviewer read a script ensuring the confidentiality of answers in

accordance with the protocol of the Institutional Review Board (IRB) at the University of Massachusetts-Amherst. Finally, the limitations of valuation of non-market goods and services will be fully acknowledged in the final assessment.

I employed a mixed-methods approach in gathering data for the institutional analysis and assessment of the potential for CBFM. I met with project leaders at international and local non-governmental organizations to discuss CBFM efforts in other regions and the ongoing changes to the Forest Code. These contacts also supplied me with important documents such as policy reports, translations of legal codes, access to information from the Department of Forestry such as the number of concessions held in the Upper Svaneti region along with maps of forests and protected areas. On September 15, I attended a preliminary consultation between the Ministry of Energy and Natural Resources of Georgia and representatives of diplomatic missions, non-governmental and international organizations to discuss the drafts of the Forest Code and the Long-term Lease Agreement. I also attended the subsequent public hearing on the draft of the Forest Code on October 13. In addition, I translated, with the help of a language instructor, historical texts describing the history of land management and property rights in Upper Svaneti.

I selected two villages in the region as case studies – Latali and Becho. These villages share different histories of local governance and are in varying proximity to forest resources (Charkviani, 1967). The social, cultural, political and ecological characteristics of these villages will be analyzed according to indicators of successful community-based forest management regimes as outlined by a recent meta study and by community and contextual attributes that facilitate collective action as described by Nobel Prize-winning political economist, Elinor Ostrom (Pagdee *et al.*, 2006; Ostrom, 2010). Successful CBFM regimes are those that attain a desirable level of ecological sustainability, equity and efficiency in management for meeting local needs.

In November I stayed in the Upper Svaneti municipal capital of Mestia for ten days. From there

I traveled to nearby Latali and Becho where I conducted semi-structured interviews with key informants. I interviewed residents about the level of collective action in their villages, the characteristics of the surrounding forests, changes to the forests and forest management. I also interviewed two forest specialists who work in the region about topics such as the quality of the forests and changes in use patterns. I interviewed village officials about their interest in CBFM and the local capacity for participation in such a program. In Mestia, I interviewed the *gameoba*, the head administrator of the region. Upon returning to Tbilisi, I interviewed the chairman of the Forest Management Department under the Ministry of Energy and Natural Resources about the impact of the changes in the Forest Code on local communities and the level of interest and support for CBFM at the State level.

### **Analysis and expected results**

During the writing phase of my dissertation work, I will enter and analyze the data collected using the livelihoods survey instrument to test the hypotheses of forest dependence and changes in livelihood strategies and well-being. I will also synthesize the relevant quantitative data from the survey with the information collected from policy and legal documents along with the semi-structured interviews to address the hypothesis regarding the potential for CBFM in the region.

Total incomes will be calculated as the sum of annual cash and subsistence activities. Subsistence activities and non-market assets will be valued by assigning comparable market values to quantities of assets reported by the households. Once total income is calculated, the proportion of forest income to total income will be determined. I will also consider broader measurements of livelihood and well-being to include those assets that cannot be assigned a dollar value such as measures of social capital and forest ecosystem services. In order to determine if forest income has an equalizing effect on income across the region, I will calculate and compare Gini coefficients that include and exclude forest

income. Next I will report descriptive statistics of responses to questions concerning changes to livelihood strategies and well-being. I will also perform a regression analysis to determine which household characteristics influence the ability to benefit from current developments. Independent variables will include household demographics, access to markets and resources, wealth and political connections while dependent variables will include answers to questions about entrepreneurial and employment plans, perceptions of changes to well-being, migration, and perceptions of the ability to benefit from changes. I will also assess the political economy of development in Upper Svaneti by documenting market and political forces at multiple scales.

Based on my observations and preliminary analysis of the data, I expect to find that households in Upper Svaneti are significantly dependent on forests and other natural resources. Many respondents reported relying on firewood as their primary source of fuel for heating and cooking. Furthermore, many villagers I spoke with consider the surrounding forests to serve integral functions in securing other aspects of their livelihoods including preventing natural disasters, providing climate control and nutrient cycling and contributing to the spiritual and cultural aspects of life in the region. If these conclusions hold in the final analysis, they will provide a strong argument for managing forests sustainably not only for the public good, but also for supporting livelihoods in the region. Limiting access to forests would have a significant negative impact on the income and well-being of households. If the Ministry of Energy and Natural Resources intends to allow private companies to manage and harvest forests in the region, special attention should be paid to maintaining access to forests by locals along with building the capacity to monitor and enforce concession agreements so that forests maintain their functions in support of local livelihoods.

My preliminary institutional analysis for the potential of CBFM reveals a high level of social capital within the villages and a history of collective action for property management and resolving conflicts. There also exists a history of informal norms for forest management in both case studies.

Furthermore, the villages are in close proximity to the forests that they use and there is congruence between the physical boundaries of the forests and the boundaries established by the villages. According to forest specialists in the area, the quality of the forests is high and forest cover has been increasing since the 1990s when conflict and poor living conditions drove deforestation in the area. I also found a strong willingness on the part of locals to cooperate with forest specialists and to participate in joint management decisions with regional and State-level officials. They viewed the potential for participation in monitoring and management of forests in addition to the reestablishment of small-scale sawmills as much-needed employment opportunities. These characteristics are all consistent with the indicators for successful CBFM in other parts of the world.

Several non-governmental organizations and international institutions are supportive of CBFM as an approach to sustainable forest management. There is a reluctance, however, on the part of regional and State-level authorities to implement CBFM. In my final analysis, I will outline ways in which these actors could coordinate their resources and knowledge and work toward the formation of CBFM in the region. The benefits of CBFM should be clearly identified and communicated to all parties. Thereafter, financial and human resource support would need to be secured for implementation of such a program and clear procedures for exercising local control and legal or informal recognition of local property rights would need to be established.

### **Policy relevance**

This research fits the goals of the Title VIII program by addressing topics that are germane to relations between the United States and Georgia. The results of this study are relevant to many aspects of the U.S.-Georgia Charter on Strategic Partnership signed in January 2009 (United States Department of State, 2009). They address the goal of expanding citizen access to government deliberation by identifying ways in which community involvement can contribute to sustainable forest management

decisions; the goal of increasing political pluralism and strengthening civil society to advocate on behalf of citizen interests by providing more complete information about the impact of development decisions on rural populations; and the goal of increasing cultural exchange and stressing the necessity of dynamism and innovation by introducing a trans disciplinary approach to rural development.

It also provides results that can be used to advise decision-makers in Georgia on how to progress toward meeting development objectives. In 2000, Georgia committed to fulfilling the eight Millennium Development Goals (MDGs), however a national MDG strategy has not yet been developed (UNDP.org, 2011). In reference to the first and seventh Millennium Development Goals – eradicating extreme poverty and hunger and ensuring environmental sustainability, respectively – Georgia has not made significant strides. The 2008 National Human Development Report found that broad economic reforms aimed at reducing poverty still have not impacted on the lives of enough of Georgia's society. There has not been a transference of strong GDP figures into higher overall levels of wealth, which the report identifies as one of the crucial priorities for the next phase of institutional reforms. Bringing to light the importance of forests and other natural resources for rural livelihoods, this research will reveal concrete ways in which Georgia can invest in natural assets and rural communities to help alleviate poverty and move toward greater environmental sustainability. This, in turn, would mitigate migration and unemployment and establish greater political and economic stability within the country.

The methods employed will serve as an example of how to assess costs and benefits using a more holistic, non-market approach. Furthermore, the recommendations resulting from this analysis will provide an alternative to the strongly market-oriented policies that have been undertaken by Georgia thus far. U.S. foreign aid is a major source of income for the Georgian government and the allocation of that aid toward sustainable development and relieving rural poverty are of great importance not only for Georgia but also for the global community.

## List of selected talks and meetings

### Talks

Lecture by invitation from Ilia State University and the German Academic Exchange Service (DAAD)  
*Summer school for South Caucasus – Culture, Politics, and Society*  
in Abastumani, Georgia on September 9, 2011

### Meetings

Association GREEN ALTERNATIVE  
27/29, Paliashvili St., II floor, 0179 Tbilisi, Georgia  
[www.greenalt.org](http://www.greenalt.org)

World Wildlife Fund – Caucasus Programme Office  
11 Aleksidze Street  
0193 Tbilisi, Georgia

International Union for the Conservation of Nature (IUCN)  
Nature House  
Didi Digomi, Mirian Mefe str. 8  
0131 Tbilisi, Georgia  
<http://www.iucn.org/caucasus>

USAID Economic Prosperity Initiative (EPI)  
6, Samgebros St,  
Tbilisi 0105, Georgia

Eurasia Partnership Foundation  
29/31/33 Chavchavadze Avenue, Tbilisi, Georgia 0179  
Tel: (995.32) 225.27.78 (Fax: x112)  
[www.epfound.org](http://www.epfound.org)

Centre for Training and Consultancy (CTC)  
34 AL. Kazbegi Ave.  
plot #3, Tbilisi, Georgia

Caucasus Research Resource Centers (CRRC), Georgia Office  
16 Zandukeli Street, ISET building  
0108 Tbilisi, Georgia

International School of Economics at Tbilisi State University (ISET)  
16, Zandukeli St.  
Tbilisi 0108, Georgia  
[www.iset.ge](http://www.iset.ge)

## Bibliography

- Angelsen, A., Larsen, H.O., Lund, J.F., Smith-Hall, C. and Wunder, S. Eds. (2011). *Measuring Livelihoods and Environmental Dependence: Methods for Research and Fieldwork*. Routledge.
- Agrawal, A., Chhatre, A., Hardin, R. (2008). *Changing Governance of the World's Forests*. *Science*, 320: 1460.
- Agyeman, J., Ogye-Himmelberger, Y., Campbell, C. with additional research by Prange, J. (2009). *Introduction in Environmental Justice and Sustainability in the Former Soviet Union*. Eds. Julian Agyeman, Yelena Ogye-Himmelberger. MIT.
- Arnold, J.E.M., Kohlin, G., Persson, R., (2006). Woodfuels, livelihoods, and policy interventions: Changing perspectives. *World Dev.* 34: 596–611.
- Bebbington, A. (1999). Capitals and Capabilities: A Framework for Analyzing Peasant Viability, Rural Livelihoods and Poverty. *World Development*, 27: 12: 2021-2044.
- Boscolo, M. and Vincent, J.R. (2000). Promoting Better Logging Practices in Tropical Forests: A Simulation Analysis of Alternative Regulations. *Land Economics*, Vol. 76, No.1.
- Bowles, Samuel and Herb Gintis (2002). 'Social Capital and Community Governance,' *Economic Journal* 112: F419-F436.
- Boyce, James K. (2002) *The Political Economy of the Environment*. Cheltenham: Edward Elgar.
- Boyce, James K. and Barry G. Shelley, eds. (2003) *Natural Assets: Democratizing Environmental Ownership*. Washington, D.C., Island Press.
- Bromley, D.W. (1992). The commons, common property, and environmental policy. *Environmental and Resource Economics*, Vol. 2, No. 1: 1-17.
- CARE International in the Caucasus. (2010). *Pathways out of Poverty: Annual Report 2010*. Retrieved from [www.care-caucasus.org.ge](http://www.care-caucasus.org.ge).
- Center for International Forestry Research. (2011, June 15). *New global study shows high reliance on forests among rural poor*. Poverty and Environment Network. London. Press Release.
- Chambers, R. (1987). Sustainable livelihoods, environment and development: putting poor people first. IDS discussion paper, no. 240.
- Chambers, R. (1997). Editorial: Responsible Well-Being - A Personal Agenda for Development. *World Development*, Vol. 25, No. 11, pp. 1743-1754.
- Charkviani, A. (1967). Svaneti. Metzniereba, Tbilisi.
- Conservation International. (November 2011) *Caucasus Biodiversity Hotspot*. Retrieved from <http://www.conservation.org>.
- De Waal, T. (2011). *Georgia's Choices: Charting a Future in Uncertain Times*. Carnegie Endowment for International Peace. Washington, D.C.
- Fairhead, James (2001). International Dimensions of Conflict over Natural and Environmental Resources in Michael Watts and Nancy Peluso, eds., *Violent Environments*. Ithaca, Cornell University Press.
- Food and Agricultural Organization. (2011). *State of the World's Forests 2011* (9<sup>th</sup> ed.). United Nations Forestry Division. Rome, Italy.
- de Sherbinin, A., Leah K. VanWey, Kendra McSweeney, Rimjhim Aggarwal, Alisson Barbieri, Sabine Henry, Lori M. Hunter, Wayne Twine, Robert Walker. (2008). Rural household demographics, livelihoods and the environment. *Global Environmental Change*, 18: 38–53.
- Hardin, G. (1968). The Tragedy of the Commons. *Science*, 162:1243-1248.
- Kamanga, P., Vedeld, P., Sjaasatd, E. (2009). Forest incomes and rural livelihoods in Chiradzulu District, Malawi. *Ecological Economics*, 68: 613-624.

- Larson, A.M., Soto, F. (2008). Decentralization of Natural Resource Governance Regimes. *Annual Review of Environment and Resources*, 33:213-39.
- Marsden, T. (2009). Mobilities, Vulnerabilities and Sustainabilities: Exploring Pathways from Denial to Sustainable Rural Development. *Sociologia Ruralis*, 49: 2.
- Narain, U., Gupta, S., van't Veld, K. (2008). Poverty and resource dependence in rural India. *Ecological Economics*, 66: 161-176.
- Neumann, W.L. (1991). *Social Research Methods, Qualitative and Quantitative Approaches*, Allyn and Bacon, Boston, MA.
- Nielsen, E. and Rice, R. (2004). Sustainable forest management and conservation incentive agreements. *International Forestry Review*, Vol. 6:1.
- Ostrom, E. (2010). Beyond Markets and States: Polycentric Governance of Complex Economic Systems. *American Economic Review* 100 (June 2010): 641–672.
- Pagdee, A. Kim, Y., Daugherty, P.J. (2006). What Makes Community Forest Management Successful: A Meta-Study From Community Forests Throughout the World. *Society & Natural Resources*, 19:1, 33-52.
- Scoones, I. (1998). *Sustainable Rural Livelihoods: A Framework for Analysis*. Working Paper 72, Institute for Development Studies, Brighton, UK.
- Sen, A., 1993. Capability and well-being. In: Nussbaum, M., Sen, Amartya K. (Eds.), *The Quality of Life*. Clarendon Press, Oxford, pp. 30–53.
- Synyakavych, I., Soloviy, I. Deyneka, A. (2009). Forest sector of Ukraine in the 21st century: state of art, scenarios, and policy for sustainable development in *Ecological Economics and Sustainable Forest Management: Developing a Transdisciplinary Approach for the Carpathian Mountains*. Edited by I.P. Soloviy and W.S. Keeton. Ukrainian National Forestry University Press, Lviv. pp. 127.
- United Nations Development Program (UNDP). (June 2008). *National Human Development Report 2008: The Reforms and Beyond*. Authors George Welton, Tinatin Zurabishvili and Natalia Nozadze. Retrieved from [http://undp.org.ge/index.php?lang\\_id=ENG&sec\\_id=24&info\\_id=278](http://undp.org.ge/index.php?lang_id=ENG&sec_id=24&info_id=278) on September 30, 2011.
- United States Department of State. (January 9, 2009). *United States-Georgia Charter on Strategic Partnership*.
- Vincent, J.R. (1990). Rent Capture and the Feasibility of Tropical Forest Management. *Land Economics*, Vol. 66, No. 2, pp. 212-223.
- World Bank. (2009). *Georgia Poverty Assessment Report*. Human Development Sector Unit South Caucasus Country Unit Europe and Central Asia Region. Retrieved from <http://web.worldbank.org>.
- World Wildlife Fund. (May 27, 2010). *Revised Edition of Ecoregional Conservation Plan for the Caucasus*. Retrieved from <http://wwf.panda.org> on November 10, 2011.