

Women as Milieu Managers in Integrated Watershed Management: Perspectives from the Hilly Areas of Uttarakhand

Dr Shyam Bahadur Singh[†]

Abstract

Integrated watershed management provides a viable mechanism for managing land, water and biomass of a region, especially in the rain-fed areas of India. It foresees a sustainable conservation of available natural resources and embarks upon collective action irrespective of gender bias. In the marginal hilly areas of the country, the burden of livelihood directly falls upon the womenfolk. This is because due to lack of off-farm activities the hills of India see a lot of male outmigration in search of better employment activities. The degradation in the ecosystem/natural resources thus has a direct bearing upon the women of the region, as they are the ultimate stakeholders of the natural endowments. Integrated watershed management provides a ray of hope amidst the swarm of faulty and borrowed developmental plans, especially for the womenfolk of the marginal hilly areas of the country. The present paper assesses the role the women play in managing their immediate surroundings and argues that the level of participation of women remains paramount in integrated watershed management in the hilly areas of Uttarakhand.

Key words: Integrated watershed management, marginal hilly areas, women as managers, environmental degradation, Uttarakhand, India

[†] Project Fellow, Department of Geography, Banaras Hindu University, Varanasi, Email: drshyam2013@gmail.com
©2015 Singh. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/2.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Introduction

Soil, water and natural vegetation (biomass) form the trio of survival for human beings in any region around the world, but the importance of this trio is more in the marginal hilly areas as it forms the backbone of the hill economy. The central Himalayan region of India exemplifies a degraded ecosystem, whereupon it is pertinent to note that this degradation is not solely due to the anthropogenic activities but the major player being the faulty developmental plans conceived and implemented in the region (Singh et al., 2004, 2005). Undue pressure on the land and water resources, faulty schemes and methods, the ever-ignorant institutional setup, each has left its mark upon the fragile Himalayan ecosystem (Rao, 2005).

Development in the region has not proceeded the way it was conceived, the basic reason being the lack of peoples' participation and the unawareness of the physio-sociological setting of the area. The ultimate truth is that the concept of sustainable development is vague in nature can be experienced in the central Himalayan region. This is where watershed management technique has proved time and again that it is the only methodology of attaining sustainability in the region (Singh, 2012). It is important to note here that it is basically due to the womenfolk of the region who have championed the cause of managing their natural resources. Vandana Shiva, the famous ecofeminist, one of the active participants of the *Chipko* movement of the 1970s, launched in the *Garhwal* Himalayas of Uttarakhand, and an advocate of indigenous knowledge continue to argue that mountain women, like their counterparts elsewhere, are the milieu managers in dealing with their local environment in a holistic and a sustainable way (Shiva, 1988; 2013a, b; Singh, 2014). These mountain women have proved repeatedly that proper development can be achieved with the application of integrated watershed management (IWM) techniques in the region, provided the people, who are the ultimate stakeholders, are involved in the process of

decision-making and manage natural resources at the watershed level. "IWM is the process of managing human activities and natural resources on a watershed basis. This approach allows us to protect important water resources, while at the same time address[es] critical issues such as the current and future impacts of rapid growth and climate change."¹ In a similar context, a growing body of literature on IWM signals that IWM approach remains an efficacious mechanism for addressing the multi-dimensional problems of development and thereby, achieve positive growth (Bulkley; 2011; Qi and Altinakar, 2011; Shi et al., 2012; Shiferaw et al., 2008 ; Wani et al., 2008). Seemingly, this article is an attempt to discuss the role the women of the hilly regions of Uttarakhand play in managing their immediate surroundings. The discussion highlights that these mountain women are the 'gatekeepers', the 'invisible' managers of the rural economy and key 'players' of household security. Hence, it is argued that their level of participation remains hugely important in IWM.

Women, as economic providers, caregivers, and household managers, are responsible for ensuring that their families have basic resources for daily lives. They are often the managers of community natural resources, and have learned to protect these resources in order to preserve them for future generations (managers of sustainability). Although, women play a pivotal role in agriculture development, more than 55 per cent of female agricultural workers are considered as labourers rather than being the owners themselves even when their family owns land (Singh, 2014). Participation of women and resource poor are of paramount importance for the effective implementation of watershed programs, to become effective vehicles for integrated development of communities and sustainable impacts.

¹ Integrated Watershed Management, *Conservation Ontario*, retrieved from, <http://www.conservation-ontario.on.ca/what-we-do/what-is-watershed-management/integrated-watershed-management> (accessed 01-02-2015)

Backdrop

The IWM development program with participatory approach was emphasised during the mid-1980s and in the early 1990s. This approach had focused on raising crop productivity and livelihood improvement in the watersheds (Shiferaw et al., 2008 ; Wani et al. 2008) along with soil and water conservation measures. The Government of India (GOI) appointed a committee in 1994 under the chairmanship of Prof. CH Hanumantha Rao. The committee thoroughly reviewed existing strategies of watershed programme and strongly felt a need for moving away from the conventional approach of the government department to the bureaucratic planning without involving local communities (Wani et al. 2008). The new guideline was recommended in year 1995, which emphasised on collective action and community participation, including participation of primary stakeholders through community-based organisations, non-governmental organisations (NGO) and Panchayati Raj Institutions (PRI). Watershed development guidelines were again revised in the year 2001 (renaming it as *Hariyali* guidelines) to make further simplification and involvement of the PRIs in a more meaningful way in planning, implementation, evaluation and vis-à-vis community empowerment (Raju et al. 2008; Wani et al. 2008). For this, guidelines were issued in the year 2003. Subsequently, in 2005, Neeranchal Committee evaluated the entire government-sponsored, NGO and donor-implemented watershed development programmes in India and suggested a shift in focus completely from engineering and structural perspectives to the everyday issues of livelihood (Raju et al., 2008; Wani et al. 2008). Major objectives of the watershed management program are: 1) conservation, up-gradation and utilisation of natural endowments such as land, water, plant, animal and human resources in a harmonious and integrated manner with low-cost, simple, effective and replicable technology; 2) generation of massive employment; 3) reduction of inequalities between irrigated and

rain-fed areas and poverty alleviation (Gol, 1980, 1991, 1994, 2000a, 2000b).

IWM in India was basically adopted to check land degradation and increase the agricultural productivity. So, the very notion of involving women was never thought off as agricultural pursuits are largely done by men in the country (Shiva, 1988; 2013a, b; Singh, 2014). This was a mistake as the hilly tracts of the country have always seen women at the helm of the agricultural pursuits. Nevertheless, in the plains of the country too, women are involved in agriculture (Bhattacharyya et al, 2010; 2011; Bhattacharyya and Vauquiline, 2013). The Census of India has also been partial in this regard, as it treats these women involved in agriculture as 'marginal workers' (Shiva, 1988; 2013a, b; Singh, 2014; Sarma, 2009; see also Momsen, 1991). However, this might have relevance in certain pockets of the country, but in the marginal hilly regions where the "gender" of the workforce itself is missing (due to massive male outmigration), the entire burden of agriculture falls upon the shoulders of the womenfolk, starting from ploughing to harvesting (Singh, 2014). One may ask whether it actually matters whether people are left out, given the many other national and state government schemes, as well as non-governmental organisation initiatives that are intended to enhance the livelihoods of the poor. I argue here emphatically that it does matter, because women play a central role in agricultural development and the management of natural resources, and they have a right to an equal say in the way those resources are developed, managed and used. In addition, land-based activities usually generate more income, and carry less risk, than the non-land-based activities that women are often encouraged in taking up.

Women and IWM: Reality and Rhetoric

The principal victims of environmental degradation are the under-privileged people, and the majority of these are women (Bhattacharyya and Vauquiline, 2013; Bhattacharyya et al., 2010; 2011). Their problems and those of the environment are

very much interrelated. Both are marginalised by existing development policies, and because of the complex cycles of 'multidimensional levels' of extreme poverty,² inappropriate development, and environmental degradation, poor people have been forced into ways of living which induce further destruction. Third world women have no choice but to exploit natural resources in order to survive, even though they may have the knowledge to promote sustainability. Empowered and self-confident women are likely to be able to articulate their needs and plan their livelihood strategies, encompassing all aspects of their lives, not just the agrarian-type activities. Women's involvement is not just needed at the village level but at the district, state and national level if lasting change is to occur. If the way the watershed programme that is currently viewed could be changed and looked into as 'rural livelihoods' rather than as a land development programmes, women and the poorer marginal farming households will benefit, given their dependence on many non-land-based activities. Finally, there is a need to ensure that women do not become overwhelmed by the schemes and programmes focused on them. They need to be able to make informed choices about where to invest their time.

Like other parts of India, in the central Himalayan region too, marriage is an important

indicator of the socio-cultural setup of an area. Daughters are married off in regions wherein they have *ghass-lakadi ka sukh* (abundance of fodder and fuelwood) (Singh, 2014: 58). As it a well-known fact that the male members have to leave the villages in search of better employment or rather income generation for sustaining the families, women (young and old) of the Garhwal and Kumaoun Himalayas have to travel at least 5-6 hours every day in search of fuelwood and fodder (Dyson, 2008; 2014; Singh, 2014) and that too via the harsh mountainous landscapes. Agricultural pursuits and cattle rearing are also their responsibilities. The figures 1, 2, 3, 4, 5 and 6 are typical illustrations of the different drudgery activities performed by women of the *Kul Gad* watershed of the Kumaoun Himalayan region. Thus, any degradation in the natural resources or the imbalance of grassland-fodderland-cropland matrix has a direct bearing upon them.

The Watershed Guidelines issued by the GOI, 1994 encourage the greater participation of women and marginal groups. However, their implementation continues to be hindered by beliefs that watershed development is land development for landowners. Women are often not recognised as members of the watershed community in their own right, but are viewed as being there to fill the quota as outlined by the guidelines. The guidelines do not specify any mechanism or institutional arrangement for ensuring and sustaining true involvement of the poor, including women. Efforts are being made to change the status quo by capitalising, for example, on the strength of existing women's groups by drawing their membership into other government programmes, including watershed development.

Women are often not recognised as members of the 'watershed' community as farmers and resource decision-makers, but are largely viewed as 'quota women'. This becomes more

² In 2010, the definition of extreme forms of poverty has been re-defined by the Oxford Poverty & Human Development Initiative and the United Nations Development Programme, which is based on three dimension of Human Development Index: health (child mortality and nutrition), education (years of schooling and children enrolled), and standard of living (access to cooking fuels, toilets, clean water, electricity, floor and assets) (Alkire et al, 2015; Alkire and Sumner, 2013; Bhattacharyya and Vauquiline, 2013). In the new Ranganrajan Committee, that estimates ₹ 1408.12 per capita per month as the urban and ₹ 1014.95 as rural poverty lines in Uttarakhand. On that basis, 13% of the rural and 30% of the urban population are found to be poor, accounting a figure of 1.84 million (out of a total population of 10 million) bogged down poverty in Uttarakhand (Report of the Expert Group to Review the Methodology for Measurement of Poverty Government of India Planning Commission, June, 2014).

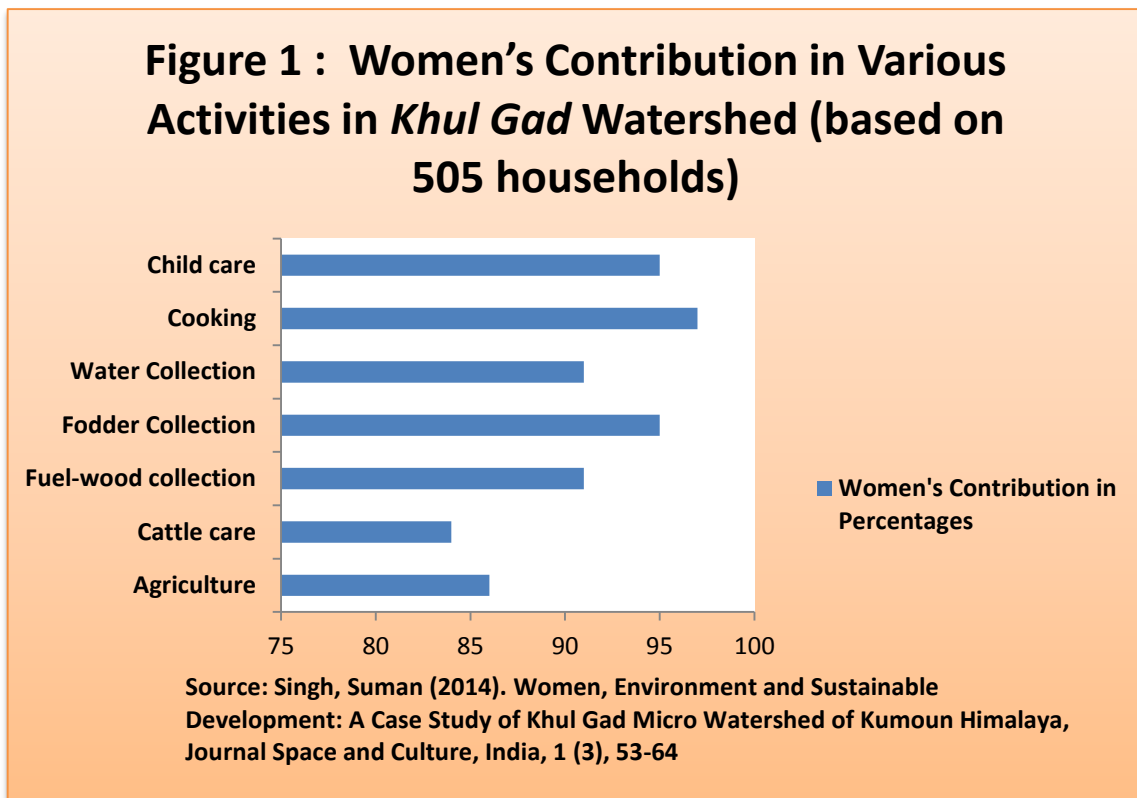


Figure2: Women Filling Their Water Buckets
(Source: Courtesy of the Author)



Figure 3: Women Returning Home With Firewood
(Source: Courtesy of the Author)

evident when the Census of India puts all these working women in the marginal workers category, even when a mere cursory glance at the agricultural pursuits of Uttarakhand clearly demonstrate that women do everything starting from ploughing the land to harvesting the crops (Singh, 2014). Even those women

involved in watershed committees and other village institutions are often not given a chance to voice their opinions, or some women themselves lack self-confidence. Besides, most rural mountain women like their counterparts elsewhere in India also lack access to information to participate in informed decision-

making (see, Bhattacharyya, 2009; also, 2013). Women's involvement with natural resource production and management is not confined to agriculture alone; gender roles typically tie poor rural women far more than men to direct and regular use and dependence on natural resources, particularly common lands, forests and water. The watershed programme has altered access to Common Property resources (land, water or biomass on panchayat lands accessible and owned by everyone within a village). This is because, the closure of common lands for tree plantations lead to the loss of access to grazing areas. This particularly affects the landless and the poor, single women eking out a living by raising a few goats, thereby, forcing the marginalised villagers to sell small livestock or change to a stall-fed system, which usually increases the workloads of women and children. This problem is particularly acute where there are limited areas of CPRs, and the areas where the community is highly stratified. Without planning processes giving focused attention to the resource use patterns of the poor and women, such CPR development often

curtails, rather than increases their resource access.

Despite the intentions of the guidelines, women's involvement in the planning and implementation of soil and water conservation and in managing newly created resources in the watershed is limited. In part, this is because the guidelines do not emphasise the importance of beginning the preparation of the watershed plans with an understanding and analysis of women and men's differing use and dependence on both private and common lands. Nor is the dependence for survival of landless and poor women on common land resources recognised. The increase in the workload of women, at least in the initial years of watershed activities, needs to be recognised as they walk everyday to collect fuel and fodder or even water from far off places while nearby resources are replenished through land development works. It is worth noting here that the impact of *Hariyalli* and *Neeranchal* Committee did not yield fruit in study areas of Uttarakhand.



Figure: 4 Woman Collecting Bricks from a Distant Place to Build her House (Note the sack full of bricks on the hilly land)
(Source: Courtesy of the Author)



Figure 5: Woman Working with the Fodder at the Top of her Roof
(Source: Courtesy of the Author)



Figure 6: Woman with a Dulux Container Filled With Water Collected from a Distant Place for her Home

(Source: Courtesy of the Author)

Conclusion

IWM is now a widely accepted technology for resource management in totality and coherently with people's participation in a holistic manner. Notwithstanding women's participation in IWM remains an important component of people's participation. Because women (young and old) are more reliant not only on common property forest resources for survival and income, but also they are more often responsible for fuelwood, fodder and water collection (Dyson, 2008; 2014; Singh, 2014). Degradation of watersheds negatively affects the health, income, and work burden of women and girls. Watershed management initiatives that exclude women as stakeholders ignore half the population, decreasing the efficiency and effectiveness of the actions promoted. The use of a gender-sensitive approach to watershed management remains paramount ensuring that women's and men's unique needs, priorities, and knowledge are incorporated into management plans and policies.

References

Alkire, S., Foster, J. E., Seth, S., Santos, M. E., Roche, J. M., and Ballon, P. (2015).

Multidimensional Poverty Measurement and Analysis, Oxford: Oxford University Press, ch. 2, retrieved from, http://www.ophi.org.uk/wp-content/uploads/OPHIWP083_Ch2.pdf (accessed 05-02-2015)

Alkire, S. and A. Sumner (2013). *Multidimensional Poverty and the Post-2015 MDGs*, Oxford Poverty & Human Development Initiative, retrieved from, <http://www.ophi.org.uk/wp-content/uploads/MPI-post-2015-MDGs-FINAL.pdf> (accessed 05-02-2015)

Bhattacharyya, R. (2013). *Are We Empowered? Stories of Young Indian Working Women*, Saarbrücken, Germany: Lap Lambert Academic Publishing, ISBN: 978-3-659-20580-4

Bhattacharyya, R. and Vauqueline, P. (2013). A Mirage or a Rural Life Line?: Analysing the Impact of Mahatma Gandhi Rural Employment Guarantee Act on Women Beneficiaries of Assam, *Space and Culture, India*, 1(1), 83-101

Bhattacharyya, R., Vauqueline, P. and Singh, S. (2011). Towards a Socially Sustainable India: An Analysis of National Rural Employment Guarantee Scheme, 2006. In S.K. Singh, Raj Kumar, H.P. Mathur, N.B. Singh and V.K. Kumar

- (eds). *Energy Resources, Alternative Search and Sustainable Development*, New Delhi: Shree Publishers, 73-88, ISBN: 978-81-8329-395-2
- Bhattacharyya, R., Vauqueline, P. and Singh, S. (2010). *Towards a Socially Sustainable India: An Analysis of National Rural Employment Guarantee Scheme, 2006*. Conference Proceedings, Strategic Management of Energy, Environment and Disaster for Sustainable Development organised by Global Strategic Management Inc, Saxon Drive, Beverly Hills, Michigan, USA in collaboration with Banaras Hindu University, Varanasi, India, 1, 62-74
- Bhattacharyya, R. (2009). Examining the Changing Status and Role of Middle Class Assamese Women: Lessons from the Lives of University Students, PhD thesis, Newcastle University, UK
- Bulkley, Jonathan, W. (2011). *Integrated Watershed Management: Past, Present, and Future*
- Dyson, Jane (2014). *Working Childhoods: Youth, Agency and the Environment in India*. Cambridge, United Kingdom: Cambridge University Press
- Dyson, Jane (2008). Harvesting Identities: Youth, Work, and Gender in the Indian Himalayas, *Annals of the Association of American Geographers*, 98:1, 160-179, DOI: 10.1080/00045600701734554
- Government of India (1980). Sixth Five Year Plan 1980-85. Planning Commission Gol, New Delhi.
- Government of India(1991). National Sample Survey, 38th Round. National Sample Survey Organisation, Ministry of Statistics and Programme Implementation, Gol, New Delhi.
- Government of India(1994). Guidelines for Watershed Development. Ministry of Rural Development, Government of India, New Delhi.
- Government of India (2000a). Report of the Inter-Ministerial Sub-Committee on Formulation of Common Approach/Principles for Watershed Development. Ministry of Agriculture, Government of India, New Delhi.
- Government of India (2000b). Annual Report 1999-2000. Ministry of Rural Development, Government of India, New Delhi.
- Momsen, Janet (1991). *Women and Development in the Third World*. London: Routledge
- Sarma, R. B. (2009). Feminist Political Economy. In Kitchin R, Thrift N (eds), *International Encyclopedia of Human Geography*, Oxford: Elsevier, 4, 79–86
- Shiferaw, B and Bantilan, M C S and Wani, S P (2008). Rethinking Policy and Institutional Imperatives for Integrated Watershed Management: Lessons and Experiences from Semi-arid India, *Journal of Food, Agriculture & Environment*, 6 (2). pp. 370-377. ISSN 1459-0263
- Shi, Z.H., Ai, L., Fang, N.F. and Zhu, H.D. (2012). Modeling the Impacts of Integrated Small Watershed Management on Soil Erosion and Sediment Delivery: A Case Study in the Three Gorges Area, China, *Journal of Hydrology*, 438-439, 156-167
- Shiva, Vandana (1988). *Staying Alive: Women, Ecology and Survival in India*, Zed Press, New Delhi, ISBN 0-86232-823-3
- Shiva, Vandana (2013a). Vandana Shiva Interview about Ecofeminism, retrieved from, <https://www.youtube.com/watch?v=fM8TLXjpWk4>
- Shiva, Vandana (2013b). *Making Peace With The Earth*, Pluto Press ISBN 978-0-7453-33762
- Singh, Suman (2014). Women, Environment and Sustainable Development: A Case Study of Khul Gad Micro Watershed of Kumoun Himalaya, *Journal Space and Culture, India*, 1 (3), 53-64
- Singh, S.B, Juyal R and Singh, Shyam B. (2004). Endangered Human Settlements of Pathari Rao Micro Watershed, Uttranchal, *National Geographer*, 39 (1&2), 87-95.
- Singh, S.B, Juyal. R and Singh Shyam B. (2005). Integrated Watershed Management in a Hill Area of Uttranchal, *Indian Journal of Landscape Systems and Ecological Studies*, ILEE, 28.

Qi, Honghai and Altinakar, Mustafa S. (2011). A Conceptual Framework of Agricultural Land Use Planning with BMP for Integrated Watershed Management, *Journal of Environmental Management*, 92 (1), 149-155

Raju KV, Aziz A, Sundaram MSS, Sekher M, Wani SP and Sreedevi TK. (2008). *Guidelines for Planning and Implementation of Watershed Development Program in India: A Review*, Global Theme on Agroecosystems Report 48. Andhra Pradesh, India: International Crops Research Institute for the Semi-Arid Tropics.

Rao, H, 2005, Introduction, in Iyer, G K and Roy, U.N, *Watershed Management and Sustainable Development*, Kanishgka Publishers/Distributors, New Delhi.

Singh, Shyam B. (2012). Impact of IWM in Sustaining Socio-Economics and Eco Development of Begampur and Rajpur Villages of Pathari Rao Micro Watershed, Haridwar, *National Geographical Journal of India*, 58(2).

Wani Suhas P, Joshi PK, Raju KV, Sreedevi TK, Wilson JM, Shah Amita, Diwakar PG, Palanisami K, Marimuthu S, Jha AK, Ramakrishna YS, Meenakshi Sundaram SS and D'Souza Marcella (2008). *Community Watershed as a Growth Engine for Development of Dryland Areas. A Comprehensive Assessment of Watershed Programs in India. Global Theme on Agroecosystems*, Report No 47. Patancheru 502324, Andhra Pradesh, India: International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Ministry of Agriculture and Ministry of Rural Development