

Analytical Study of Integrated Value Chain Management in Mountain Regions of India

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Abstract: The majority of the people of the Himalayas depend on subsistence agriculture and natural resources for their livelihood. The great diversity afforded by high mountain conditions gives these areas a comparative advantage in the production of a variety of niche products for their own and lowland consumption. The value chains in mountains are different from those in plains areas and require a different interpretation. The mountain value chains are influenced by a set of mountain specificities which provide comparative advantages, but at the same time present challenges in reaping the higher returns. The disregard of mountain specificities makes value chain interventions less successful and can expose mountain communities to even more vulnerability. Hence, there is a pressing need to adapt the generic value chain approach to the mountain specific context. The integrated value chain approach has the potential to highlight pathways for inclusive economic growth by identifying leverage points along the chain, be it upstream or downstream, which if addressed, yield the highest positive outcome for small producers, traders and processors. The present paper looks at the analytical and strategic framework for value chain development in the mountains and provides an opportunity to better comprehend and reflect upon the specificities of mountain value chains.

Keywords: Analytical Study, Economic Growth, Integrated Approach, Value Chain

I. INTRODUCTION

The mountains of the Himalayan region are endowed with an extensive variety of high value, low volume products, such as non-timber forest products, medicinal and aromatic plants, and honeybee products, and are suitable for cultivating temperate and off-season crops. However, the primary producers and collectors of these products generally receive a relatively low share of the returns due to insufficient knowledge of market chains, lack of processing facilities, inadequate quality control, and similar factors. The same holds true for mountain tourism which despite its enormous potential within the Himalayan region, not only remains largely under-developed but also rarely benefits the local population in the form of sustainable and non-exploitive employment and supply of services and local products. The opportunities and challenges of mountain production have to be analyzed in the given mountain context. The mountain areas are characterized by a high degree of fragility, marginality, limited accessibility, diversity, and specific niche resources, as well as human adaptations to these conditions, which both generate opportunities and impose constraints. These conditions are not exclusive to mountain regions, neither are they uniform across all mountain areas, however, in combination and due to their high degree and crucial operational implications, they can be considered specific to mountains and are referred to as mountain specificities. The continuously changing global socio-economic and environmental dimensions call for better ways for mountain

people to engage with markets and react to the changing context. Among others, the lack of clearly defined property rights, poor access to resources and markets, and the dearth of capacities and information prevent mountain people from increasing the benefits they receive. The markets are often secretive and disorganized, and small producers and service providers lack the capacity to actively interact and negotiate with more experienced downstream market actors. The value chain approach has some distinct advantages for addressing the above challenges and improving mountain production when compared to other sector or supply chain analysis tools. Although the approach was originally devised as a business tool to optimize production within an enterprise, in the last two decades it has been instrumentalised by the development sector to help understanding of why developing countries benefit so little from global value chains, compared to industrialized countries.

II. THE GENERIC VALUE CHAIN APPROACH

A value chain represents the full range of activities required to bring a product or service from conception, through the different phases of production and delivery, to the final consumer. The value chain approach is a heuristic, analytical, and strategic tool that provides a framework for identifying and examining a value chain's different actors, the dynamics of processing and value creation, reward and distribution, power relation structures, and knowledge transfer. The aim is to explore potential leverage points that will help in developing a systemic competitive value chain that enables inclusive and sustainable economic growth. The generic value chain approach urgently requires sensible adaptation to the imperatives of the mountain context. In most value chain development projects in mountains, the mountain perspective is missing, or there is a mismatch between the attributes of value chain strategies and the imperatives of specific mountain conditions. The generic value chain approach shows little understanding of the economic and political processes, contextual factors, and social relations of mountains systems which greatly shape the ways in which interventions function. The value chain is focused on the analysis of the vertical business dimensions of a chain.

The recent value chain concepts also integrate horizontal elements into chain analysis and development. This new stream of research reasoned that if the value chain approach was to serve a development purpose, the analysis of poverty, gender, and environmental dimensions within, and at the boundaries of, a chain is equally important. The value chains in mountains are different and therefore require a differentiated interpretation. There is substantial scope for generating more income locally by supporting mountain people to promote and harness unique and niche products and services. In fact, niche or comparative advantages remain largely dormant in mountain areas unless circumstances are created to harness them. The focused commercial and sustainable harnessing of high value products and services presents a significant opportunity for mountain communities to generate employment and income by using the natural resource endowment and comparative advantages of the Himalayan ecosystem. The accessibility of mountain systems is a crucial determinant of the performance of mountain value chains. The remoteness and isolation of mountain systems is directly related to the potential of unexplored niche and unique products. However, the high transportation and transaction costs, low mobility and accessibility, and often insufficient quality and quantity, means that most products and services available in mountain areas remain uncompetitive compared to those in more accessible areas. The provision of infrastructure and supportive institutions is a pre-requisite for the successful integration of mountain economies into modern markets. However, infrastructure development is beyond the scope of most value chain development projects, and other strategic means need to compensate as far as possible for the constraints of physical inaccessibility. For service value chains, such as tourism, this marginalization represents a major niche element in the form of a uniquely preserved traditional and subsistence-oriented way of life with vast cultural variety. Further, the depth of traditional knowledge for

livelihood and adaptation mechanisms is as yet little explored and is receiving increasing attention in relation to the discussion on climate change adaptation.

III. ANALYTICAL FRAMEWORK FOR MOUNTAIN VALUE CHAINS

A framework for sustainable, pro-poor value chain development in mountains gives the necessary conceptual frame of reference for understanding the context in which value chain development in mountains takes place. Once a value chain has been selected, the strategic focus needs to be chosen in accordance with the prevailing mountain specificities. The selection and prioritization of strategies strongly depends on these respective dimensions and the interrelationship between mountain specific opportunities and challenges. The core strategy for any mountain value chain development, regardless of which challenge prevails, is the focus on niche or unique products or services with local value addition potential and opportunities for pro-poor growth. The identification and development of unique and niche value chains lies at the centre of any value chain effort for mountain people. The comparative advantage of unique and niche products offer mountain producers a competitive edge over plains areas. Most importantly, local value addition offers the opportunity to generate off-farm income, which is particularly relevant for landless and land-poor mountain people. Hence, value addition is one of the core concepts in leveraging a value chain for development. Apart from material value addition, non-material or symbolic value addition merits particular attention within the context of the Himalayas. When inaccessibility is the most pronounced mountain challenge, the prime strategy is to concentrate on unique and niche mountain products and services that are high in value and low in volume. The sustainable management of natural resources in order to avoid over-extraction, which would eventually destroy the niche, must be a major concern for any product or service selection. It is a prime area for sensitive policy interventions in order to balance conservation and commercialization.

The mountain regions are more vulnerable to market integration as they have been historically under-invested in and have experienced the negative socio-economic efforts of external interventions. The mountain integration requires the steady, but careful, improvement of mountain economies and communities. A critical volume can be achieved for economies of both scope and scale through horizontal integration of mountain producers into self help groups, producer groups, cooperatives, or facilitation centers, with additional gains in negotiation power and increased visibility. A main objective is to improve knowledge and skills on local value addition and product diversification; the sustainable extraction, management, and harvesting of natural resources; relevant policy frameworks; and basic entrepreneurship and marketing. The private sector plays a pivotal role in any value chain, and for mountain value chains in particular as they are on the fringe of public services and downstream market networks. Using the value chain approach, key downstream private sector value chain actors can be involved in the rapid diagnosis of key bottlenecks within the value chain that are mutual constraints for both upstream and downstream players. This will facilitate ownership and agreement on subsequent key interventions and reforms. The value chain approach is a platform for exchange and coordination on common constraints and potential solutions.

IV. THE MOUNTAIN ECOSYSTEM AND GREEN ECONOMY

The framework conditions for sustainable development have changed significantly with climate change, globalization, increasing urbanization, institutional evolution, and other changing conditions. The demand for goods and services from mountains is growing steadily. Although current global challenges have been affecting mountain regions and their inhabitants disproportionately, the ingenuity of mountain communities and their knowledge, experience, and capacity for managing

fragile environments offer significant opportunities for addressing the problems. The green economy recognizes the value of the ecosystems in the production of goods and services for downstream economies and for securing overall human wellbeing at local, national, regional, and global scales. The recognition provides an opening for mountain people to be duly compensated and rewarded for stewardship of mountain ecosystems and their services. By linking natural resource based livelihoods to production of ecosystem services, the green economy can help reduce poverty and enhance environmental sustainability. There is ample scope for investments in scaling up green practices in water and watershed management. The market for mountain agriculture is largely organic and is therefore likely to grow, providing opportunities for mountain regions to diversify their agricultural sector. Achieving and maintaining a low-carbon economy requires substantial changes in policies, priorities, and strategies, the increased application of market-based instruments for conservation and development, and the use of new technologies. A systematic research and capacity building for generation of mountain-specific knowledge and collection of disaggregated data are necessary to improve economic and scientific analysis to inform policy and guide action for sustainable mountain development and green economy.

V. CONCLUSION

The value chain development in mountain regions can be detrimental to the participation of the poor if a generic approach is taken to developing competitiveness in the chain and to value chain promotional activities focusing only on downstream actors. The people in less favored regions such as mountains need a specific focus and interventions designed to address their specific issues, which cannot be achieved through the ‘trickle down’ affect. In addition, value chains can exclude the poor and increase their vulnerability. They can also promote environmental degradation due to excessive market pressure and overharvesting, and cause social inequity and gender imbalances. A collaborative interface is needed between upstream producers and downstream traders or other actors in order to deal with conflicting interests. Such an interface may reveal conflicts and power imbalances in order to progress in the desired direction. There is a need to resolve potential conflicts at the planning stage. The synergy and regular dialogue between local communities and trading and enterprise sectors should be promoted to ensure that commercial priorities for cultivation and quality improvement are taken into account. There is a need to develop a consensus and win-win attitude between the stronger and weaker actors in the chain.

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REFERENCES

- [1] Chambers, R; Conway, GR (1992) Sustainable rural livelihoods – practical concepts for the 21st Century, IDS Discussion Paper No. 296. Brighton: Institute of Development Studies (IDS).
- [2] Dorward, A; Kydd, J; Morrison, J; Poulton, C (2003) Institutions, markets and pro-poor agricultural growth. Wye: Imperial College London.
- [3] Bolwig, S; Ponte, S; Du Toit, A; Riisgaard L; Halberg, N (2008) Integrating poverty, gender and environmental concerns into value chain analysis, a conceptual framework and lessons for action research, DIIS Working Paper 2008/16. Copenhagen: Danish Institute for International studies (DIIS).
- [4] Lodha, NS (1990) A framework for integrated mountain development, MFS Discussion Paper No. 1. Kathmandu: ICIMOD.
Karki, MB (2000) ‘Commercialisation of natural resources for sustainable livelihoods: case of forest products.’ In Banskota, M; Papola, TS; Jurgen, R (eds) Growth, poverty alleviation, and sustainable resource management in the mountain areas of south Asia, pp 293-320. Feldafing (Germany): German Foundation for International Development (DSE-ZEL).