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Extended Abstract

VEGETABLE CULTIVATION IN THE HILL SLOPES: CONTEXT OF VULNERABILITY AND COPING STRATEGIES OF SMALL HOLDERS IN TALAWAKELLE.

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Talawakelle is an Urban Council area within the Nuwara-Eliya district. Based on UNDP data the Nuwara-Eliya district reported the highest incidence of poverty among the seventeen districts covered by the 1995/96 consumer Finances Survey (30.545) as measured in terms of Human Poverty index. It is this high incidence of human poverty that makes vulnerability and coping strategies of people in the district of Nuwara Eliya in general and the vegetable cultivators at Talawakelle Urban Council area become significant for those who study poverty issues in the country. Incidentally the growth of economic opportunities in the tea sector in the past decade seemed to have failed to absorb the unemployed and underemployed in the area; some of them have resorted to depend heavily on the bio mass economy by cultivating vegetables in the fragile hill slopes and watersheds that are otherwise kept as watershed reserves. According to survey data of the researchers the majority of the vegetable cultivators were within the lower brackets of human poverty¹.

Interestingly during the past six years the vegetable economy of the area has undergone substantial changes reflecting the complicated nature of vulnerability of vegetable farming. These changes at best can be described as coping strategies of the poor. The responses of the poor as observed by this study accompany a rare mix of coping strategies, which would be dealt with in subsequent sections. In short they includes highly labour intensive farming of small plots with a mixed of cash crops having different income and yield patterns. Nevertheless these strategies over the years have failed to make much headway in the face of over exploitation of fragile lands and intensive degradation of land quality².

It was observed that the process of land degradation was triggered off when the natural vegetation cover was damaged and the topsoils were exposed to sunshine, rain and run off. Once this process was activated in the steep hill slopes and the riverbeds it created ratchet effects leading to fall of land fertility, drop of productivity and the need to use expensive chemical inputs to arrest further drop of land productivity. However, as the price of such inputs increased at a faster rate than the agricultural output the vegetable cultivators encountered the problems of scissors crisis, i.e., costs of input increasing at a faster rates than the incomes accrued thereof.

This study examines how vegetable cultivation, which is organized as a commercial operation at Talawakelle area, has been responding to Social, Economic and Environmental challenges during the past six years. Their vulnerability context arises from the absence of property rights to holdings they cultivate; erosion of topsoils and degradation of land quality, vagaries of weather; crop failures arising from pests and attacks of wild bore and more importantly variations of farm gate prices of their produce not withstanding the price increases of agricultural inputs such as fertilizer, seeds and agrochemicals³. This paper therefore uses two surveys conducted by the authors in 1995/96 and 2000/01 to trace the vulnerabilities and coping strategies of vegetable cultivators in the area. It discusses findings in relation to past mistakes, present status, and future directions available to these farmers in particular, and agricultural planners in general.

In our first encounter with these cultivators in 1995 it was observed that they employed a complex mix of coping strategies that helped them to overcome the problems associated vulnerability that are of physical and socio economic nature. For instance, systematic adjustments have been introduced to address problems of shortage of land and water and fluctuations in crop yields, price levels, and consequently income levels. A mix of techniques, methods and operations, which are unique to vegetable cultivators in this area, had emerged as a result of these adjustments. For example, change of cropping mix has been introduced where more than one crop is grown in different strips of fields within the holding to suit lead times of crops, changing climatic conditions and variations in demand for different crops. Within this framework an emphasis has been made to cultivate up market crops such as Capsicum, Leaks, carrot

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and Potato. The cultivation of a wide mix of crops enables them to spread risks arising from pests and other damages to yields. Furthermore direct trading links with the Colombo wholesalers have helped them to ensure better farm gate price for their produce. As result most of the farmers interviewed in 1995 showed substantive surpluses and their strategies almost was referred to as a successful model⁴. In a majority of cases, the cultivators use the small plots for a highly intensive form of cash crop production.

However, the situation in 2001 was very much different. Land in the urban area has become increasingly scarce and hence land rent in real terms has jacked up. Although road, water, tourism infrastructure, education etc have shown some improvements in the past few decades many of these developments have not percolated into the lower levels of the community causing the status of vulnerability more acute. The hydropower project that was planned has created additional uncertainty preventing cultivators from introducing soil conservation practices of permanent nature to upgrade land use patterns. For those cultivators who were engaging in vegetable growing it was a story of extracting as much yield as possible within a shortest possible time. The cultivation was not as promising as it was and the output has shown signs of diminishing returns. The low productivity and low yields have adversely affected their marketing linkages with transportation agents and consequently the price levels have become relatively low in comparison with Kotagala and Nuwara-Eliya. The long years of over-exploitation of fragile hilly slopes and the absence of dependable conservation methods appear to have caused high production costs, low returns, thus reducing profitability.

The extent of vulnerability is partly reflected in the variability of cash incomes of farmers, which ranges from Rs. 1000 per month to Rs. 12000 per month. It was also found that both yield levels, cash incomes and producer margins have substantially dropped during the past six year period. The size of holdings of these farms which ranged from five (5) to hundred perches (100) though have not any remarkable change the importance attached to vegetable cultivation by them have considerably changed.

Discussion of findings

This study uses two surveys conducted by the authors in to 1995/96 and 2000/01 to trace the vulnerabilities and coping strategies of vegetable cultivators in the area. It discusses findings in relation to past mistakes, present status, and future directions available to these farmers in particular, and agricultural planners in general.

The study on the whole underscored the role of weak endowments base and of the impact of different types of shocks and stresses that make life difficult for the poor in the area. The majority of the vegetable cultivators were asset less and asset poor people living in the hill slopes. For them variability and unpredictability of weather patterns and market prices of inputs and outputs make livelihood difficult and unsustainable. This has lead to a situation of derived poverty syndrome (Sen, 1981). Although vegetable cultivators did not want to discontinue their activities, they were not very happy about the continuously falling yields and producer margins. Their assessment never showed and expansion of capabilities' in terms of material growth or non-material achievements (Sen, 1999).

The second important discussion point was whether vegetable cultivation has in fact aggravated the ecological poverty of the poor. When pressure on natural resources becomes so acute it is the poor who are pushed further down to exploit those environmentally fragile areas like hill slopes. However, while the land extent available for such operations have been constant the demand for land continues to increase because of increasing unemployment and under employment among people. Also the demand for and supply of land for vegetable cultivation has never been a direct relationship. It involved a long chains of actors and agents in which the poor cultivator becomes an operator and or a risk bearer.

Thirdly the on site effects of land degradation in particular which includes lowering land quality leading to reduced agricultural productivity⁵. Studies on soil erosion in the Nuwara-Eliya District in particular has shown that its incidence to be quite pervasive⁶. One of the natural outcomes of land degradation is the increased dependence of framers on the use of agrochemicals. These inputs are highly sensitive to exchange rate variations and therefore the cost of rehabilitation of fertility levels has always been