Graduate School of Development Studies

The position of the marginal and small farmers in the value chain of cut flower in alluvial West Bengal, India and scope for an upgrading policy

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List of Acronyms

APEDA	Agricultural & Processed Food Products Export Development Authority (under Ministry of Commerce & Industry, Government of India)
BCKV	Bidhan Chandra Krishi Viswavidyalaya (an Agriculture University in West Bengal, India)
CFVC	Cut Flower Value Chain
DC	Developed Country
FPI&H	Food Processing Industries and Horticulture Department, Government of West Bengal
Gerbera CC	Gerbera grown under covered condition
GoWB	Government of West Bengal
GVC	Global Value Chain
INR	Indian National Rupee
LDC	Less Developed Country
MGPB	Mullick Ghat Phool Bazar
MGPBPS	Mullick Ghat Phool Bazar Parichalan Samity
MSF	Marginal and small farmers
Rose CC	Rose grown under covered or semi covered condition
Rose OF	Rose grown under open field condition
Rs	Indian National Rupee
VC	Value Chain
VCA	Value Chain Analysis
WBSFPHDCL	West Bengal State Food Processing & Horticulture Development Corporation Limited

Abstract

This study focussed on value chain analysis of cut flower chain examining rent, governance, systemic efficiency, smallholder problem and upgrading, in alluvial West Bengal, India. The purpose was to analyse the position of the marginal and small farmers of cut flower in the chain and assessing scope of upgrading policy.

The physical area of focus was the central flower market of Mullick Ghat, the biggest in Eastern India, with three connected flower producing hubs. The areas were different in terms of having dominant auction, dominant spot market or without existence of any important physical market. Moreover, some beyond these four were under focus as part of chain. Semi-structured interview and observation were the main method of collection of field data.

The study revealed existence of endogenous and exogenous rents in the form of human resource, relational, bounty of nature or proximity to Agriculture University. Chain governance came out to be arm's length or 'market' in domestic local chain, between 'market' and 'relational' in long distance domestic and most of the exports and finally 'relational' in erstwhile export to The Netherlands.

Considering delicate nature of fresh flowers, the major constraints to increase the money flow in the chain were found to be lack of efficient marketing, occasion-specific skewed price, low demand of high quality flowers, small holders' problem providing little scope or opportunity, post-harvest and cool chain management among others. The dominance of arm's length relation pre-empts scope of buyers' support or opposition to upgrading and buyer-based substantial foreign or domestic investment. In upgrading policy, combined chain and cluster approach improving domestic and export market was highlighted with multi-pronged approach of local private investment, government support and inclusion in quasi-hierarchical global chain to raise income in dull season together with increasing market for high quality product.

Relevance to Development Studies

The study focuses the status, problems and prospects of the marginal and small farmers of cut flower in the value chain. Cultivation of fresh flower is practised mostly by marginal and small farmers in six alluvial districts out of eighteen in the state of West Bengal in India which is quite different in nature from commercial floriculture in African and Latin American countries or some other parts of India where big investors are controlling the whole chain. Though the producers are small they are not shackled by others and their product goes to almost half of a big country like India. Hence upholding this trade with proper policy support highlights role of value chain analysis in development of small holders having consequential effect on poverty alleviation which is mainstream discussion in developing world.

Keywords

Value chain analysis, Rent, Governance, Systemic competence, Smallholder Problem, Upgrading Policy, Cut flower, West Bengal, India.

1
Introduction

History of commercial cultivation of flowers in West Bengal goes back to pre-independence period. Different studies conducted by authors like Rahim, Roychowdhury, Goswami, Sarker, Chakravorty into the flower production and trading in West Bengal have shown relative profits of farmers and traders, relative profits of flower crop and other crops, marketing efficiency, sustainability etc. The study of Sarker & Chakravorty (2005) indicated that marketing efficiency drops as the number of market intermediaries grows in a marketing channel. They have also indicated that producers' margin is generally the lowest for most of the flowers. However, the study in floriculture in terms of marketing and farming is very limited (Sarker & Chakravorty 2005 and 2011) in spite of its' playing an important role in rural employment and empowerment (Roy 2004, Goswami as cited in Sarker & Chakravorty 2005). Reference is also in dearth on value chain analysis, role of power, barrier, upgrading etc. linked with commercial cultivation of flower in West Bengal, India. The present work delves into the VCA in cut flower produced in alluvial West Bengal, India.

1.1 Socio-Economic Perspective:

Use of flower as part of grooming and in all religious occasions is age-old. Later, use of flower in all festivities also became part of culture. Mesmerized by visit of Moghul garden of Kashmir in 1917, Lord and Lady Hardinge were led to create a similar garden in Viceroyal palace (presently President's House) in Delhi in 1929 (Bhat 2011). However, unlike Europe use of cut flower or high quality flowers, though growing at a rapid rate, is yet to take its roots. India is the second largest producer of flowers (Roy 2008: 15) and among Indian states West Bengal ranks first in terms of total production of cut-flowers (34.65% of all India production) and seventh in terms of loose flower production (5.7% all India production) (Kumar 2011). However, the Indian share among world flower export is minimal (0.38% in 2004) and export is almost stagnant since 2005-06 (DGCIS as cited in Export-Import Bank of India 2006: 27) (Figure 1.1). Both the area and production under floriculture are rising in the country and West Bengal as well (Table 1.1 and 1.2).

Table 1.1
Flower cultivation in India

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Area (000 ha) (Loose + Cut Flower)	129	144	161	167	183	191
Loose flower Production (000MT)	654	880	870	987	1021	1031
Cut flower Production (million numbers)	2920	3716	4342	4794	6667	6903

Source: (Kumar 2008: 12, Kumar 2011: 4)

Table 1.2
Flower Cultivation in West Bengal

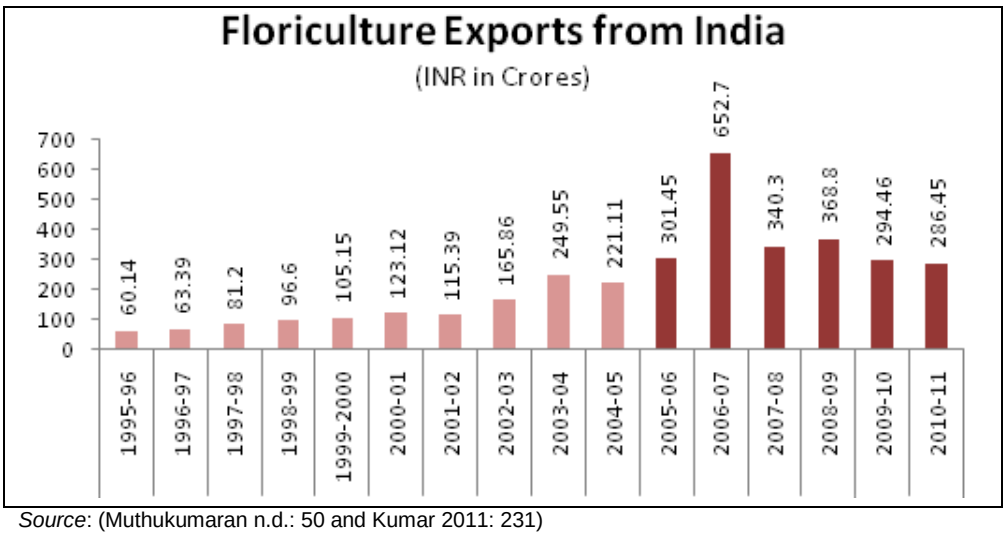
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Area (000 ha) (Loose + Cut Flower)	17.89	18.56	27.42	21.07	21.9	23.1
Loose flower (000MT)	42.29	43.68	48.45	52.01	55.2	59.2
Cut flower (million numbers)	935	1297	1968	2123	2217	2392

Source: (Kumar 2008: 12, Kumar 2011: 25)

While writing export as the largest motivator of flower industry in India, Exim Bank (n.d.: 143-4) reports growth in domestic market with modernisation, induction of western culture (observance of valentine's day, mother's day etc.) and spurt in use of flowers in festivities. From traditional road-side stalls, growth of flower boutiques, market shops especially in metros is being observed.

Majority of the floriculture units are located in the southern part of India and fresh cut flowers are mainly exported from the same region, with some near Delhi, whereas dried flowers are being exported mainly from Tamil Nadu and West Bengal. The high tech floriculture units are based in Bangalore and Pune belt of Southern India and are dependent on foreign collaboration or big Indian business houses are penetrating (Export-Import Bank of India n.d.: 152-4, Muthukumaran n.d.:50).

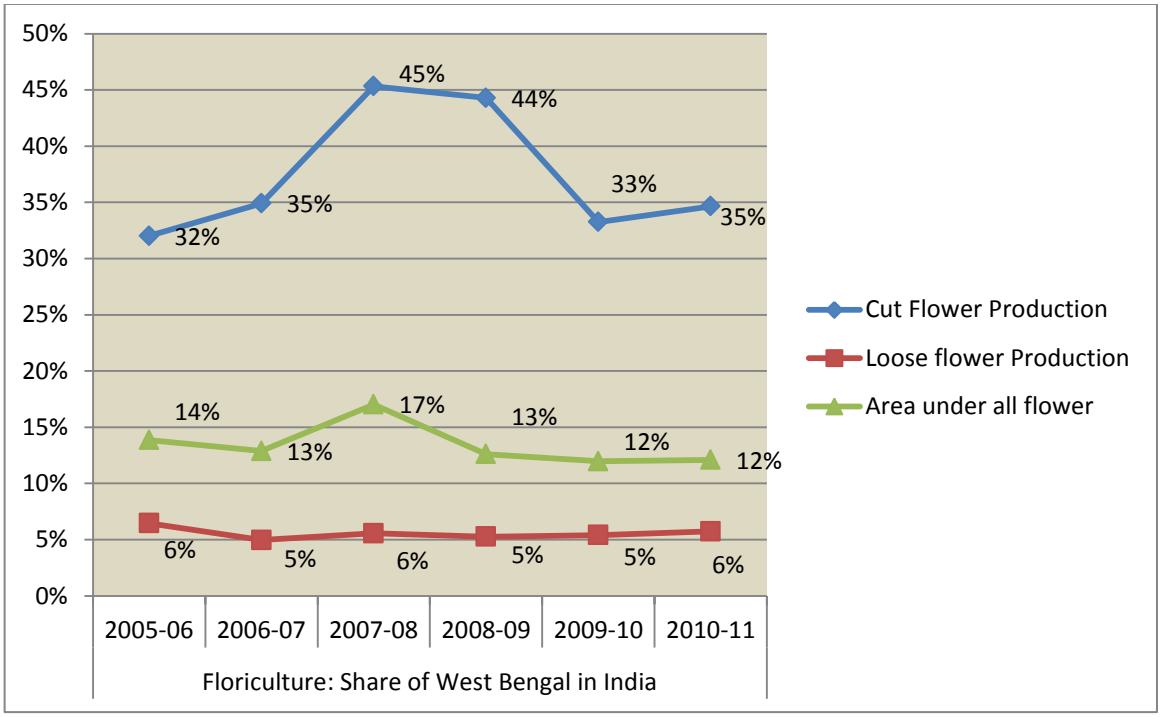
Figure 1.1
Floriculture Export from India



Source: (Muthukumaran n.d.: 50 and Kumar 2011: 231)

Focussing on figures of West Bengal vis-à-vis India (Figure 1.2 below and Table 5 in Appendices), we find that not only flower cultivation in West Bengal has grown in terms of area of production, it has almost a steady share in the country (I have not found data on area of cultivation separately for loose and cut flower). It may indicate rising domestic demand and comparative profit advantage in floriculture, especially in cut-flower production, than in other cultivation. Unlike the major other flower producers in Kenya, Ethiopia, Netherlands, Columbia, Ecuador and many others, the flower production in West Bengal is done mainly by the marginal small and farmers[1]. They even go for mixed cultivation of different flower crops or with cereal crops at the same time (Sarker and Chakravorty 2005). Comparative land holding picture helps to understand position of West Bengal vis-à-vis India (Table 6 in Appendices).

Figure 1.2
Floriculture: Share of West Bengal in India



Source: Recalculated figures from Kumar (2008 & 2011)

Aim of this paper is not to deal with big picture of India's position in the world or West Bengal's position in India but to narrow down to cut flower cultivation in alluvial West Bengal.

Though very little work is done in domestic floriculture market (Vepa as cited in Sarker and Chakraborty 2011: 3), Goswami (as cited in ibid.)

[1] 'Marginal Farmer' means a farmer cultivating (as owner or tenant or share cropper) agricultural land up to 1 hectare (2.5 acres).
'Small Farmer' means a farmer cultivating (as owner or tenant or share cropper) agricultural land of more than 1 hectare and up to 2 hectares (5 acres) (GOI n.d.).

emphasises the role of floriculture in employment generation among rural backward women. The study of Sarker and Chakraborty (2011) indicates very low share of the price to the producers of the flowers, variation of price between different markets of the region (of alluvial West Bengal), variation of price between female and male purchasers. Moreover, referring Hazell et al. (2007), Amanor (2009) and Dorward et al. (2005), Bitzer et al. (2011: 222) note that in spite of higher efficiency and dominance of smallholder farmers in developing countries, they are unable to access market opportunity due to multitude of constraints. Notwithstanding these the cut-flower production in West Bengal was increasing in a rapid rate and the small and marginal farmers of Bengal are important producers.

I shall therefore **like to focus on the value chain in floriculture in West Bengal, to map it and analyse it to understand the positioning of the small and marginal farmers in the chain, their strength and weakness in terms of power, control, barriers, overall efficiency etc.**

Finally, I shall try to find out scope of policy intervention that may help to upgrade the positioning of the small and marginal farmers and also the systemic efficiency that makes the flower production comparatively attractive in the state.

1.2 Research Question with Justification

The rise in area and production in cut flower in West Bengal in recent years is expected to help in raising the income of the growers who are mostly small and marginal farmers. But different other factors may come in. On the negative side, heavy fragmentation of cultivable land in West Bengal has its toll on economy of scale of flower farmers here, unlike the leading flower producers in India or abroad. The general open field cultivation with low investment compounded with smallness of land-holding make the farmers vulnerable to other problems like scarcity of credit, technology, infrastructure, scale etc. (Melese and Helmsing 2010). The role of big business bullying the small ones is itself another issue. Problems of post-harvest damage, tremendous price fluctuation, absence of organised market intervention etc. also affect the floriculture in West Bengal (Roy 2004). On the positive side, the relation of productivity and small land holding is debated (Verma and Bromley 1987, Mukherji and Mukhopadhyay 1995). Sometimes, specific asset of small holders also play a positive role (Kaplinsky 2000: 142). Moreover, the general level of literacy of the state is going up with time (Registrar General & Census Commissioner India. 2011). Government is also investing in infrastructure in terms of road, rail, market-place, cold store, electricity, telecommunication or fertiliser subsidy etc. However, there is claim that it is the large farmers who generally benefit over the small (Herr and Muzira 2009: 171).

Hence my research question is:

What is the position of marginal and small farmers, engaged in its cultivation, in the cut flower value chain?

1.2.1 *Sub-research question:*

The position in value chain and its improvement depends not only on the assets of the particular group but also on the specific market systems, supporting conditions, Rules & Regulations etc. When considered, it shows the systemic constraints and focus of intervention (Herr and Muzira 2009).

My sub-research question is:

How can policy support the initiative in improving the position?

1.3 Policy Relevance

Commercial floriculture in the highly fertile alluvial West Bengal is already spread over a good number of districts around the state capital Kolkata. A huge number of people are directly or indirectly linked in this trade. Hence any growth in production or area of cultivation associated with this trade should help to earn a decent and sustainable income. A majority of the actors in the chain are marginal and small farmers and it is reported that these farmers are getting the least share of profit. So the question of growth with equity and decent income becomes pertinent. This calls for knowledge on the working of chain that will tell us about the barriers or rents, governance, systemic efficiency and scope of upgrading.

1.4 Methodology:

The present research has the basic task of understanding the nature and working of the value chain and its individual links and the position of the actors. The second task is utilising this understanding to find an upgrading policy.

1.4.1 *Literature Survey*

The primary work is to carry out literature survey to identify the key elements of the VCA and how these elements work together to make the analysis an analytical one. The second function to identify the field work style to get information about the key elements.

1.4.2 *Fieldwork*

The second part was gathering data in field by observation in actual work situation, conducting one to one interview and group interview of those who are linked along the chain and also those external agents who may have influence or may be capable to have influence on the chain or its working. I took both the 'systematic' and 'strategic' approach (O'Leary 2010: 161). In systematic approach one important aspect was to select sample from every tier from whom I may get answer and in strategic approach task was to locate and interview with key informants. The reach of this market being big the task was not easy. However, movement to far off places, contact with people and sometimes luck helped me to find the persons who knew the stories. But as

noted by O'Leary (ibid: 169) holders of key positions sometimes proved to have no value for me as their answers were "politically correct". I interviewed various other actors or stakeholders as far as possible in the actual work situation or in other place I could meet them. In cases I went for group interview. The interview was in semi-structure interview style (Cousin 2009: 71-92). I studied the chain at different parts and collated the picture.

I started my work started with attempt to trace the chain. Initiating from *Mullick Ghat Phool Bazar*, the biggest flower market in Eastern India located in Kolkata, capital city of the state of West Bengal in India, I followed the chain.

My next destination, *Deulia Bazar* area, is the oldest flower-hub in alluvial West Bengal and well connected by road and rail to South, Western and Central India. This area has an *auction-based* market; a number of other markets are also located in proximity; farmers in the surrounding zone cultivate a *variety of flowers* in different seasons. The markets of *Ranaghat area* studied here are the biggest ones in the locality and are *negotiation-based*. A *range of flowers* are grown here too; the area has good connection with North and North-East India and also neighbouring countries like Nepal, Bhutan and Bangladesh. The *Rajarhat area* is without any important market and trade mostly through MGPB. This on the other hand is mostly *focussed on double-petal tuberose* and some marigold. The only *export to The Netherlands*, mecca of floriculture, was done from this place.

I have interviewed a few retailers in different Kolkata markets like Gariahat, Golpark and Lake Market.

1.5 Scope and Limitations

The scope of this paper was immense – to cover all the exhaustive varieties of cut flowers grown in alluvial Bengal and the value chain linking them. Moreover, interviewing majority of stakeholders was another scope. The major limitation was time and lack of scope to interview importers of Indian flowers or buyers of other states in India. The present author being a civil servant posted in the Food Processing Industries and Horticulture Department of Government of West Bengal, had the scope of easy penetration and at the same time had mandate to join service within this RP work; secondly, being in-house government person interviewees sometimes gave "politically correct" reply. The population of farmers, intermediaries, trader, decorator, retailer etc. being very large it was practically impossible to cover them. Moreover, the study-time being July-September only those flowers grown in this period could be covered; another aspect was fear of scratching wider than digging deeper. The present study tries to go as far detail as possible within the limitations.

1.6 Structure of the Paper

This paper is organised in the following way -

The Chapter 2 deals with Literature Review and Theoretical Framework. Here theoretical concepts, as analysed by leading authors in this field, like VCA and its key elements and importance, small holders' problems etc. were discussed along with the theoretical framework of this study.

Chapter 3 follows the value chain in cut flower in alluvial West Bengal and describe the essential details as found in field work that is 'data'. Here at first, links within three flower markets are described; thereafter the flow of knowledge and technology in the chain, role of infrastructure in the chain, flow of money along the chain and finally price fluctuation of flower was detailed.

Chapter 4 described the working of the value chain i.e. the analysis of data obtained from field. Starting with essential links of the value chain, rent, immiserising growth, governance, and systemic competence are discussed.

Chapter 5 discussed the upgrading policy. It also attempted to discuss future scope of upgrading and policy aspects posed in research question 2 and sub-research question.

The concluding chapter reflects on the findings in terms of theory.

The research paper ends with appendix and reference details prepared by www.refworks.com.

2

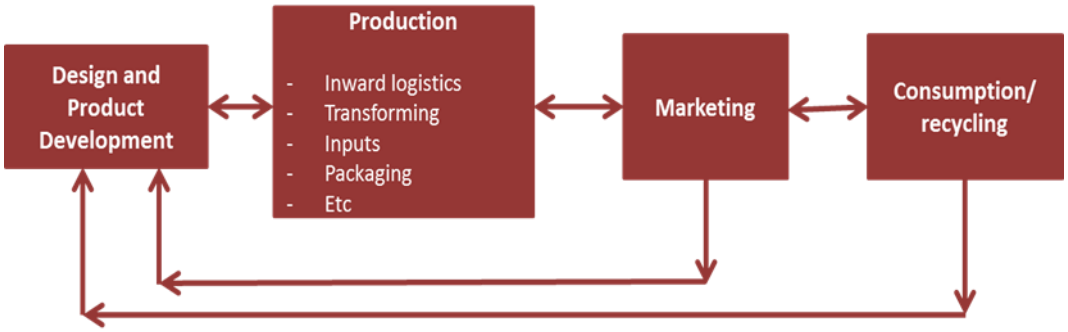
Pegging on the Pioneers – Preparing for the Chain

Concept of 'coordinated trade' and Global Value Chain analysis has developed in nineteen nineties from the traditional concept of 'market-based' producer-customer relation via the concept of 'intra-firm trade' of multinational corporations and their subsidiaries. This GVC concept shows operating in the GVCs opens up new opportunities but with 'limits and traps' (Schmitz 2006: 546-7). The present work desires to find the position of the marginal and small cut flower farmers through the value chain approach. As such the basic concepts and the interlinked concepts which prepare the basis of theoretical framework and require to be used time and again will be discussed. The work will not be tempted to wander into the controversies and will rather try simply focus in the target.

2.1 Value Chain & Importance of Value Chain Analysis

The **value or production chain** is 'a transactionally linked sequence of functions in which each stage adds value to the process of production of goods and services' (Dicken as cited in Melese and Helmsing 2010: 37). 'The value chain describes the full range of activities which are required to bring a product or service from conception, through the intermediary phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use' (Kaplinsky 2000: 121). Design, production, marketing and consumption/recycling are the four links of a chain; each link itself comprises of range of activities (Figure 2.1).

Figure 2.1
Four Links of a Simple Value Chain (with activity details in production link)



(*Source*: Kaplinsky and Morris 2001: 4)

2.1.1 *Importance of Value Chain Analysis*

VCA helps to broaden our vision by learning importance (Kaplinsky and Morris 2001) of overall ***systemic competence***, which tells that the production or activities in one part of the chain may be very fast and may not be

compatible with the other part of the functioning of the chain and thus causing bottlenecks, stack of inventory in one place etc.; fast production but incompatible marketing does not help to grow much; hence coordination of the whole system is important. ***Efficient production is only one of the factors*** for getting successful access to global markets; penetration in global markets is blocked by various other factors like trade barriers, strategic decision of the lead firms to locate its units, ethnic or other bias of the buyers/lead firms apart from production. Moreover, benefit of globalisation for poor countries appears to be debatable and it depends on 'how producers and countries insert themselves in global economy'. ***Understanding of the dynamic factors with the VC*** is required for making the best of globalisation; US fashion brands shifted the sewing base from Dominican Republic to neighbouring countries even after continuously lowering the labour cost when the latter devalued the same. Benefit in participating in global market may not last long. Even in case of **Immiserising Growth** the overall economic activity may rise but the return falls; e.g. when export price falls faster than export volume growth; or export increases only due to lowering of wage. Problem is acute for the countries entering GVC with low wage as the main tool to compete.

2.2 Value Chain – An Analytical Tool

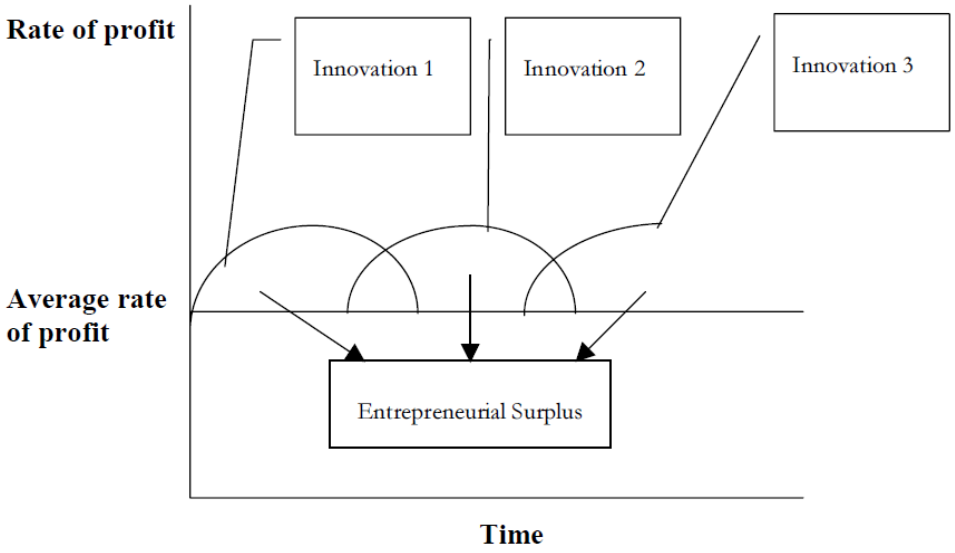
The rent and governance are the two pillars of VCA, on which this study is structured. Value chains are 'repositories of barriers to entry and rent', which is dynamic; these needs governance of some form for proper working; these together make value chain an analytical tool (Kaplinsky and Morris 2001).

2.2.1 *Barriers to entry and rent is dynamic*

In this fast changing world, protecting or insulating the strong points, whether it is design, production, marketing, coordination or recycling from competition or dilution is the strength or the economic rent. Rent may be in possession of scarce resources like diamond deposit or creating artificial scarcity of resources by erecting entry barriers (as described by Schumpeter). Rents may be endogenous to the chain (e.g. technology rent or human resource rent) or exogenous to the chain (as argued by Ricardo; e.g. diamond deposit). It may be sourced from intangible parts of the VC like copyright, brand name (Kaplinsky 2004: 88) or it may bear more static context like size, ownership of technology[2]. The significance of rent accrues from its' *dynamic nature*; for example a 'new combination' innovated by a firm provides *better return over the cost of innovation* but with time the *margin diffuses by substitution or imitation* by others; again the same or other entrepreneur may come with another 'new combination' to repeat the process as shown in figure 2.2 (Kaplinsky and Morris 2001: 25-6). Thus one time upgrading may push a firm a lot but in long run new innovations is almost mandatory to keep the edge.

[2] Concept of Bain; partly discussed in Demsetz (1982)

Figure 2.2
The generation and dissipation of entrepreneurial surplus



(*Source:* Kaplinsky and Morris 2001: 26)

2.2.2 *Governance: the issue of power*

Gereffi (as cited in Gibbon et al. 2008: 320) defined 'governance' as the 'authority and power relationships that determine how financial, material, and human resources are allocated and flow within a chain'. 'That is, there are key actors in the chain who take responsibility for the inter-firm division of labour, and for the capacities of particular participants to upgrade their activities' (Kaplinsky 2000:124). Thus **power asymmetry is central to the governance of value chain**. Power can be exercised to ensure the consequences along a value chain and for coordinating or managing the operations of links within the chain to confirm the consequences are met (Kaplinsky and Morris 2001). 'The concept of 'governance' is central to the GVC approach…. A chain without governance would be just a string of market relations' (Humphrey and Schmitz 2004b: 96). The authors elaborated the *purpose of governance in GVC*. To have competitive advantage, the companies adopt product differentiation strategy. For modular product architecture the standard product in arm's length market may be acceptable but for integral product architecture specific and time-bound supply is essential. When design changes have more backward implication, need for governance increases. This is especially true as less developed country suppliers are late-comers in industrialisation and the required rigidity in product specification and scheduling are not compatible with their domestic needs.

(Kaplinsky 2000: 124) defined legislative, judicial and executive governance depending upon who forms the rules, who checks compliance and who gives proactive support in chain governance respectively.

The concept of governance evolved with time; considering the use of different parameters, the concepts used by Humphrey & Schmitz (2000) and Gereffi et al. (2005) are mostly used in the study to analyse the chains.

Humphrey & Schmitz (2000) described four types of chain governance, viz. **Arm's length market relations** (product being standard, little collaboration among buyer and supplier), **network** (co-operation between more or less equals), **quasi-hierarchy** (high degree of control of buyer over supplier) and **hierarchy** (buyer takes direct ownership of developing country operations).

The five-fold classification(Figure 2.3) of Gary Gereffi, John Humphrey and Timothy Sturgeon (2005), grounded upon **three key determinants**, namely, degree of i) **complexity** of information and knowledge required in transaction, ii) **ability to codify** information and knowledge in transaction, iii) **capabilities of the suppliers** to transact (Table 2.1), are as follows:

- **Markets**: Here transactions are codified effortlessly; product specifications relatively simple; suppliers can produce with less input from buyer. Whatsoever, linkages need not be completely transient; repetitive transactions can persist; nevertheless, switching cost is little for either partner.
- **Modular value chain:** Suppliers produce as per buyers' specification, which are provided in more or less detail; they are able to codify complex products in modular[3] product architecture. Suppliers are competent to use generic manufacturing to supply full packages or modules thereby limit the buyer's requirement for monitoring.

Table 2.1
Key determinants of global value chain governance

Governance type	Complexity of trans actions	Ability to codify transactions	Capabilities in the supply-base	Degree of explicit coordination and power asymmetry
Market	Low	High	High	Low ↕ High
Modular	High	High	High	
Relational	High	Low	High	
Captive	High	High	Low	
Hierarchy	High	Low	Low	

Source: (Gereffi et al. 2005: 87)

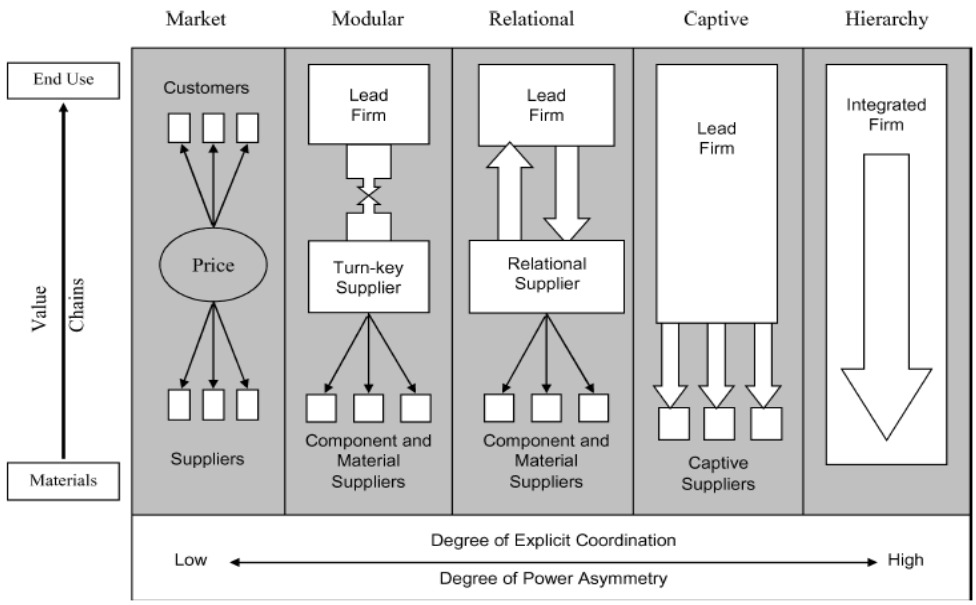
- **Relational value chain:** When specifications cannot be codified and capacity of suppliers is high, complex interaction with frequent communication between buyers and sellers takes place. They generally have mutual dependence on the basis of reputation, family or ethnic ties etc.
- **Captive value chain**: When suppliers' capability is low, specification is difficult to codify and switching cost is high, transactional dependence

[3]In 'modular product architecture' interfaces between different parts are few, leading to little interdependence; whereas in 'integral product architecture', interfaces are many and tightly connected, leading to have implication of change of one upon another (Novak as cited in Humphrey and Schmitz 2004b: 99).

increases, degree of monitoring by buyers increases; suppliers' relation with buyers becomes captive.

- **Hierarchy:** When product cannot be codified, specification is complex and competent supplier is not available, lead firm goes for in house production.

Figure 2.3
Five global value chain governance types



Source: (Gereffi et al. 2005: 89)

2.3 Upgrading – the Lifeline to Survive

Globalisation may be a bane or a boon. On one side globalisation is 'high road' that brings prosperity to many; between 1987 and 1998, 80 million Chinese came out of poverty. On the other side it may be the 'low road' by continuous cutting of rates leading to immiserising growth (Kaplinsky as cited in Kaplinsky and Morris 2001: 19). From the discussion of GVC it is understood that just participation in global market does not bring fortune; existence of skilled labour and good infrastructure alone is not sufficient to provide a source of better income. The necessity on the one hand is capacity to innovate at a competitive rate and at the same time protect it by some barrier and rent till next innovation comes (Fig.2.2). **Upgrading** is the process of **competitive innovation with existence of rent** (Kaplinsky and Morris 2001).

Kaplinsky and Morris (2001) identified four trajectories of upgrading, viz.:

- Process Upgrading: Increasing competitive efficiency in intra-link and inter-link internal processes.
- Product Upgrading: Improving old products or introducing new products in a competitive rate.
- Functional Upgrading: Moving activities from one link to other in a chain (e.g. manufacturing to marketing) or competitively increasing

value addition by outsourcing or by taking responsibility of earlier outsourced work.

- Chain Upgrading: Moving from one value chain to a new using the learning from the old chain.

2.3.1 ***Who Pays for Upgrading? Need to look into Governance***

In global buyer-driven value chain integrating developing country producers Gereffi (as cited in Humphrey and Schmitz 2004a: 350) narrated buyers-supported upgrading. Humphrey and Schmitz (2004a) referred different authors to enunciate high control in horticulture product by UK buyers, low control in garment sector in India or no intervention in agricultural trades by global traders. *The question that crops up is why the global buyers will exercise higher degree of control on governance or invest in upgrading which requires sumptuous investment?* The answer is mainly three fold: i) to avert supply failure; risk of failure is high in developing countries and low in developed countries due to difference in technology or domestic demand; ii) many developing countries are new entrants in the global trade and are not acquainted with specifications and schedules of developed countries and iii) when the suppliers are unable to design suitable product. The authors argued that the governance and intervention/investment for upgrading depend on the typologies of the value chain, which is as follows:

- Arm's Length Market Relations: Market based relations do not entail blockage; however, symmetrical relations within small, rather than asymmetrical relation with large customers expedite upgrading; e.g. process and product upgrading in symmetric relation of Ludhiana knitting products exporter to small foreign traders (Tewari as cited in ibid.); Taiwanese fashion shoe companies shown functional upgrading by shifting from produce-to-order to manufacture-on-own-design (Bazan and Navas-Aleman as cited in ibid.). But the surgical instrument sector in Pakistan shows no positive trend.
- Network: Competitiveness of producer and supplier is structurally linked; however, innovation network is rare in developing countries (surgical instrument sector in Pakistan is suffering from shortage of contacts with big hospitals) and found in developed countries (tile production in Italy, Spain); however, firms of developing country can help relationship based on network and it takes shape modular network.
- Modular Production Network: Lead firms are relatively negligent to outsourced material; suppliers grow themselves to meet higher demand (e.g. Sinos valley shoe making cluster of Brazil)
- Quasi-hierarchical Chains: Opposing opinion of different authors; Gereffi (as cited in ibid.) opined that buyers generally help (e.g.

upgrading from OEM to ODM to OBM[4] in East Asian garment chain); Gibbon (as cited in ibid.) has shown how foreign buyers pressurised Mauritian cloth manufacturers to upgrade themselves. Though the authors cited views that upgrading encroaches on buyers' core competence, reduces power and information asymmetry or demands investment, they, however, concluded with general positive opinion.

- Different Types of Chains: Taiwanese computer industry shown upgrading from OEM to ODM to OBM. In Brazilian shoe industry upgrading was seen by simultaneously operating in different chain; however, second tier, rather than top exporters, tied up with US buyers and upgraded most. Firms, successful in functional upgrading, learned from domestic market in the clusters where others were engaged in exports, i.e. by export orientation of cluster (Bazan and Navas-Aleman as cited in ibid.).

Rabellotti (as cited in ibid.) reported functional downgrading even in developed country; e.g. in Italy some best known firms became contract manufacturer leaving its own skill in designing; here the enterprises had some network relation with buyers and at least in short term it was financially rewarding.

Though the product and process upgrading are expected in all cases, the status and scope of functional upgrading are debated. Moreover, chain governance is not static and power being relational, even in quasi-hierarchical relation the captive firm upgrades by product or process upgrading, it may find different new avenues to break out of the relation when adequate funding is arranged (Humphrey and Schmitz 2004a). Melese and Helmsing (2010) also found that endogenisation requires the interest of the Foreign Direct Investors in LDC to adopt and accept local systems or extend own technology and the interest and ability of the local firms to use the opportunity and the support of the local government in creating beneficial institutions.

Rauch & Watson (2003) argued that developed country buyers who open new business with less developed country supplier start cautiously with small orders, simple products and no liability to try to understand the capability of the suppliers. These buyers are more interested in the management capacity and training-intake capacity of the suppliers rather than their having modern equipment or technology. However, the DC buyers invest this cost to enhance profit though they are interested in continuing with the existing LDC suppliers due the investment already done.

[4]OEM => original equipment manufacture; ODM => own-design manufacture; OBM => own-brand manufacture.

2.3.2 *Cluster, Value Chain and Upgrading*

The scope of functional upgrading in GVC lacks unanimity. While authors like Gereffi is in favour the study of Dolan and Humphrey tells of strong control in the chain (as cited in Humphrey and Schmitz 2004a). The study of Tewari in Indian garment sector tells us that support of global lead buyers is not essential (as cited in ibid.). Chain approach cannot give specific answer why local producers invest in functional upgrading in some cases but do not do the same in other cases in spite of existence of cogent environment (ibid.). Many authors however, rely on *cluster approach* which *has two basic advantages* in upgrading– incidental effects of cluster easily providing input suppliers and traders, skilled worker pool, spill-over knowledge, internal rivalry breeding competition etc.; and deliberate effect helping vertical and horizontal cooperation among firms and local government (ibid.). Though competition and cooperation, product and process specialization are strength of cluster approach, in many cases less joint action and more opportunistic behaviour is common (Halder 2004). Moreover upgrading is more incremental and less rapid and investment promoting upgrading is low. Therefore many authors agree that local cooperation need to be supported by external coordination. Humphrey and Schmitz (2004a: 371) concluded that 'combination of clusters and chain effects is powerful'.

The issue answer to upgrading issue therefore is not lying only on chain governance alone; globalization may lead to immiserising growth, downgrading, upgrading, modification of chain structure with time; the issues are also linked with cluster, industrial scenario or deliberate approach from the buyer and supplier's side.

2.4 Smallholders' Problem

Considering the prevalence marginal and small land holding of the farmers in the research area, small holders' problem gets the limelight. Though the relation of farm size and productivity is debatable and Verma and Bromley (1987) indicated absence of correlation between the two, Mukherji and Mukhopadhyay (1995: 2134) specified that constraint rather than size is cause of low farm productivity; the authors emphasized the role of institutional factors in raising production and productivity. Small farmers are in a disadvantaged position to their larger commercial counterparts and suffer from poorer bargaining power, less access to information, technology and capital (Devaux et al. 2009). Smallholders' problem is also ratified by Bitzer, Wijk, Helmsing and Linden (2011) who noted that in spite of higher efficiency and dominance of smallholder farmers in developing countries, they are unable to access market opportunity due to multitude of constraints, like **lack of knowledge and technology** required to update themselves with the demands of agro-food chains of recent years; poor information system and agricultural extension service aggravates the situation in developing countries. They have **limited access to capital** and loan which stops them to have modern technology or production methods; the loan, when available is only with very high rate of interest. **Markets** capable of absorbing surpluses are generally not available nearby production areas of smallholders; this affects the return also.

Besides, they are prejudiced by absence of institutional system of contract, trading practices, code of conduct etc. Finally, due to their smallness they suffer from economy of scale and have to incur high production and transaction cost; absence of **producer organisation** and lack collective bargain power caused by undercapitalization and dearth of management skills.

2.5 Theoretical Framework for My Analysis:

From the literature review it is understood that in value chain concept, production of an item or providing a service is done through a chain of activities where value is added up in each node of the chain to make it effective. Globalization has established that activities may be spread in different parts of the globe; some activities may be more lucrative or value additive to attract the policy makers to place the local enterprises in those positions; some actors may be more powerful than others; and finally the actors try to protect their strength through barriers or rent of which the VCs are the repositories (Kaplinsky 2000: 122). The chain metaphor, however, 'does not assume a unidirectional flow of materials, finance, or intellectual exchange, although a focus on buyer power does encourage researchers to be on the lookout for top-down governance and power asymmetries' (Sturgeon et al. 2008: 7).

In the present research I shall use the Value Chain concept to analyse the position of the marginal and small farmers in the Cut Flower Value Chain of alluvial West Bengal.

I shall try to map the chain from the biggest end-market in the study area backward and forward. While mapping I shall try to find out the basic elements of the value chains like value additions, flow of technology, position of infrastructure etc.

I shall thereafter analyse the status of governance, rent etc. in the chain. The concepts elucidated by Gereffi et al. (2005) in governance will be an important plank of my analysis. I shall try to relate the issue of governance with rent, *dynamicity* etc. to get a detailed picture.

The cultivators in question being marginal and small in nature, it can be presumed that they are deprived of the financial strength, technological knowhow, bargaining power or organizational strength. So their weakness can generally be apprehended. Only when they are properly positioned in the value chain, strategy of upgrading can be analysed. The question of upgrading is also linked with the issue of chain governance, cluster-benefit etc. From the concept of GVC it is clear that no upgrading is static, it is subject to continuous competition with others. *So innovation and upgrading is a continuous process*. If the actors in the chain fail to upgrade themselves they will face exclusion or the low road of globalization or immiserising growth. I shall also try to address the upgrading question and answer the policy issues using the theoretical and analytical frame of value chain.

3 Following the Value Chain

3.1 Cut Flower and Loose Flower

Classifying flowers in 'cut' and 'loose' is little bit complicated. Some flowers like marigold, jasmine, balsam are used without stem as 'loose flower' or in strings/garlands across the board. While others like gladiolus, double-petal tuberose, golden rod are almost universally used as 'cut flower' that is with stem. But the third group is used either with or without stems that is either as 'cut' or as 'loose' flowers. Single-petal tuberose, rose of *minuparle* or *madgod* variety, local gerbera (open field variety), small sunflower, chrysanthemum etc. are used in either way that is with or without stems and from here complications come. The Government of India reports consider rose, tuberose, chrysanthemum of any variety as cut flower. The chrysanthemum was reported as loose flower but in reports of recent years it is considered as 'cut' flower.

In this study tuberose and rose of all types, gerbera grown under covered condition (gerbera CC), gladiolus, chrysanthemum, cock' comb, heliconia, carnation, orchid etc. are treated as 'cut flower' following the Government of India reporting system.

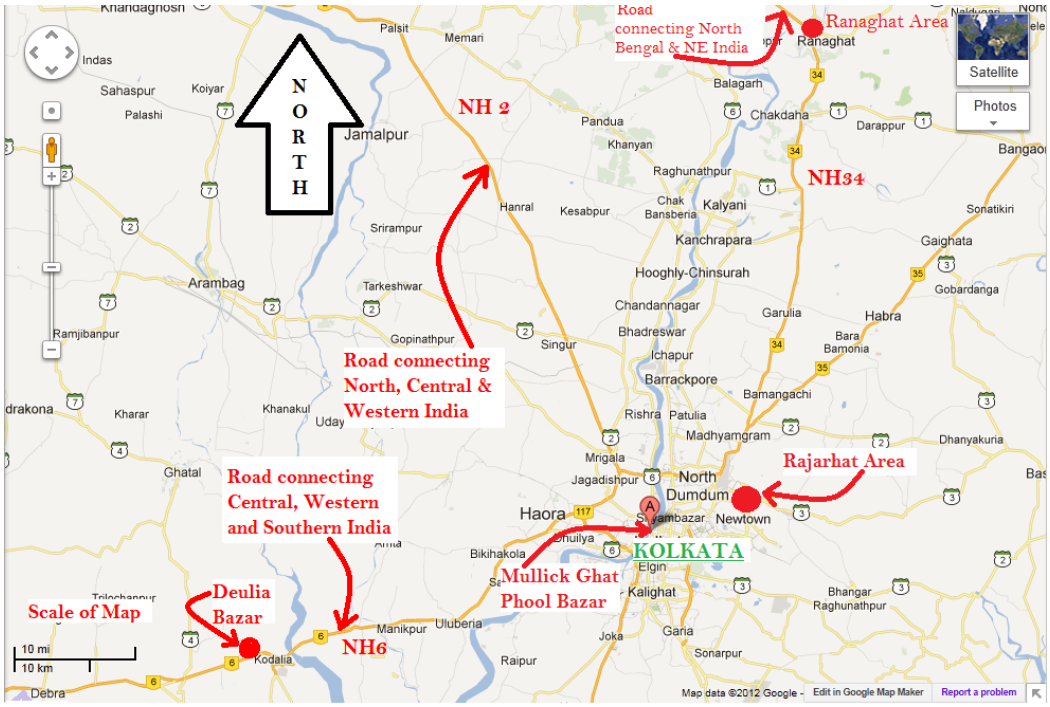
3.2 Depth and Spread of the Sample

The focus area comprises of Mullick Ghat Phool Bazar, the biggest eastern Indian flower market located in Kolkata, the state capital of West Bengal, Deulia Bazar and surrounding area of Purba Medinipur district, Ranaghat area of Nadia district (Dhantala and Nokari Market), Rajarhat area of North 24 Parganas district (Map 3.1 and 3.2) and retailers from three different markets of Kolkata, namely, Gariahat Market, Lake Market and Golpark area.

While following the chain, I continuously tried to understand the position of the particular stakeholders interviewed and the influence upon them from above or below or elsewhere or their capacity to influence others to find the systemic efficiency, rent and governance. I studied the chain at different parts and collated the picture. However, the buyers in other states or countries could not be interviewed. Interviews[5] were both individual one and group interview in nature; the latter sometimes took the shape of group discussion. Except a few in the beginning or on telephone, I have voice recording of all the interviewees (Table 7 in Appendices). Observation was the second method of field work.

[5]The interviewees include -suppliers of planting material and fertiliser, pesticide etc., marginal and small cut-flower cultivators, intermediaries of different levels, wholesalers, exporter, retailer, decorator, flower-market authority, persons in charge of cold stores/ice factory, shopkeeper, government officials and professor of BCKV connected with floriculture.

Map 3.1
Sketch of study area near Kolkata in West Bengal drawn on Google map



Map 3.2
India with West Bengal & Kolkata shown on map from www.mapsofindia.com

3.3 Physical Nature & Value links of the Market-places

3.3.1 *Mullick Ghat Phool Bazar*

Physical Nature: It is the biggest flower market in the Eastern Region of India is Kolkata running from a land of Kolkata Port Trust, on the eastern bank of river Hooghly (Map 3.1 and 3.2). The land is recently leased out to the state government, i.e. Government of West Bengal. The market is full of shanty or semi-permanent stalls and daily vendors operating from open spaces inside the market, contiguous roads or other public area. Some regular sellers also operate from open spaces. Both the stall owners and daily vendors pay a maintenance charge for water supply, sewerage etc. to the Mullick Ghat Phool Bazar Parichalan Samity, at a rate fixed by the GoWB. The MGPBPS is a body created by the FPI&H Department, GoWB from representatives of traders, vendors, growers, local Member of Legislative Assembly, police, officials from West Bengal State Food Processing & Horticulture Development Corporation Limited, under administrative control of FPI&H Department etc. Business in this market starts from early in the morning and continues till evening.

Value Links: MGPB is a wholesale market**.** Generally two classes of persons (Figure 3.1 and 3.2) bring flowers to MGPB – i) the farmers of nearby districts bring their harvest directly; and ii) the intermediaries bring flowers and value added items like garlands and strings from nearby markets and districts. Flowers from **Rajarhat** come to this market in the same way. High quality cut flowers like rose, gerbera, carnation etc. come from Bangalore, Pune of south or western India. Finally flowers like orchid, lotus are imported from Thailand, China etc.

Figure 3.1
Value Links at Mullick Ghat Phool Bazar

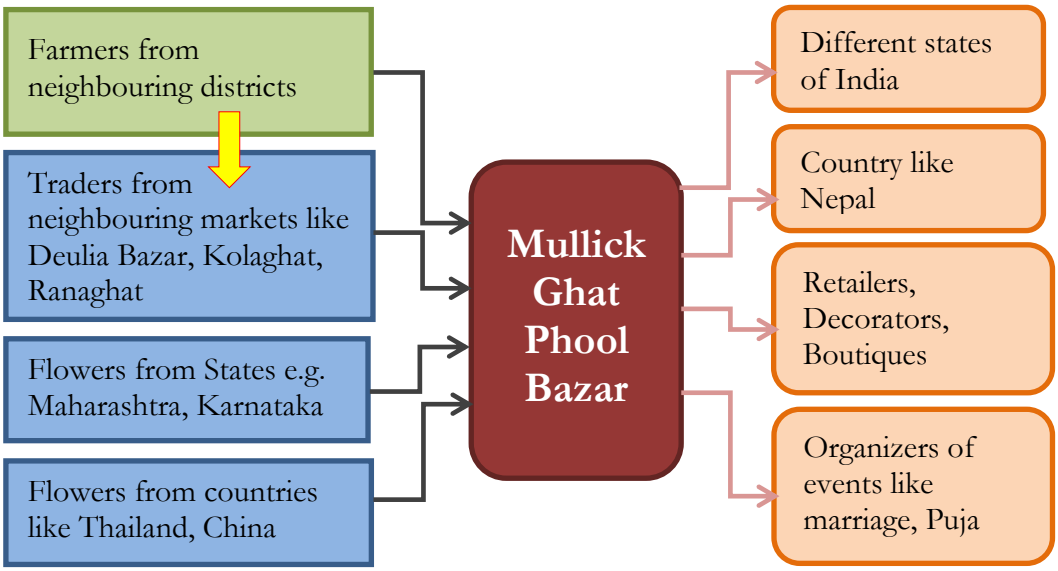
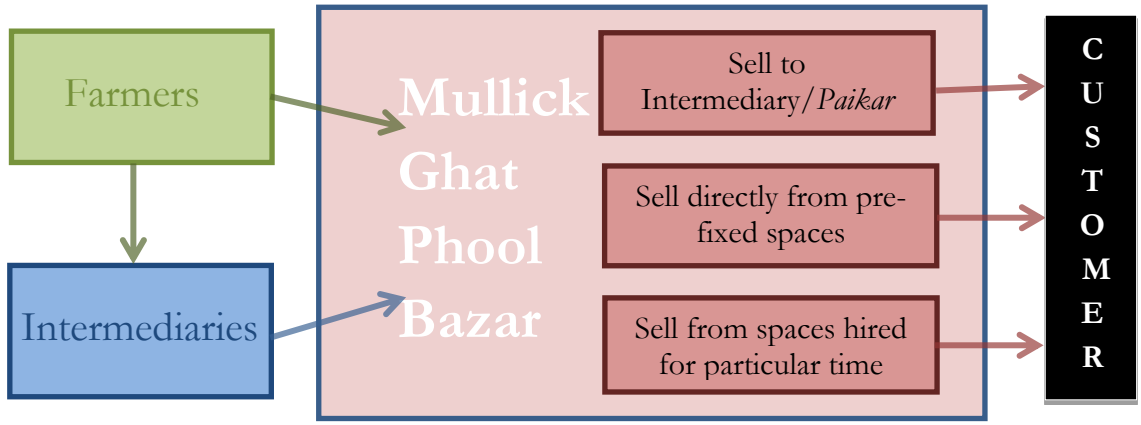
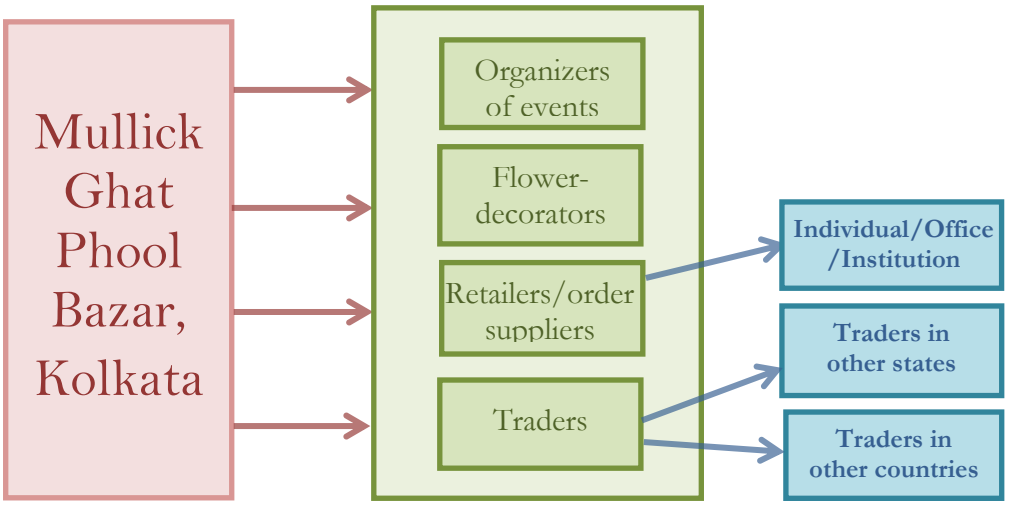


Figure 3.2
Domestic Trading in Mullick Ghat Phool Bazar



The buyers in this market are bulk purchasers like retailers, traders having links with other Indian states and Nepal, the flower-decorators, order suppliers or organizers of events (Figure 3.3). One has to buy in standard bundles (number of sticks in a bundle varies from flower to flower), or in weight (kilogram).

Figure 3.3
Sale of flowers from Mullick Ghat Phool Bazar



3.3.2 *Ranaghat Area of Nadia district*

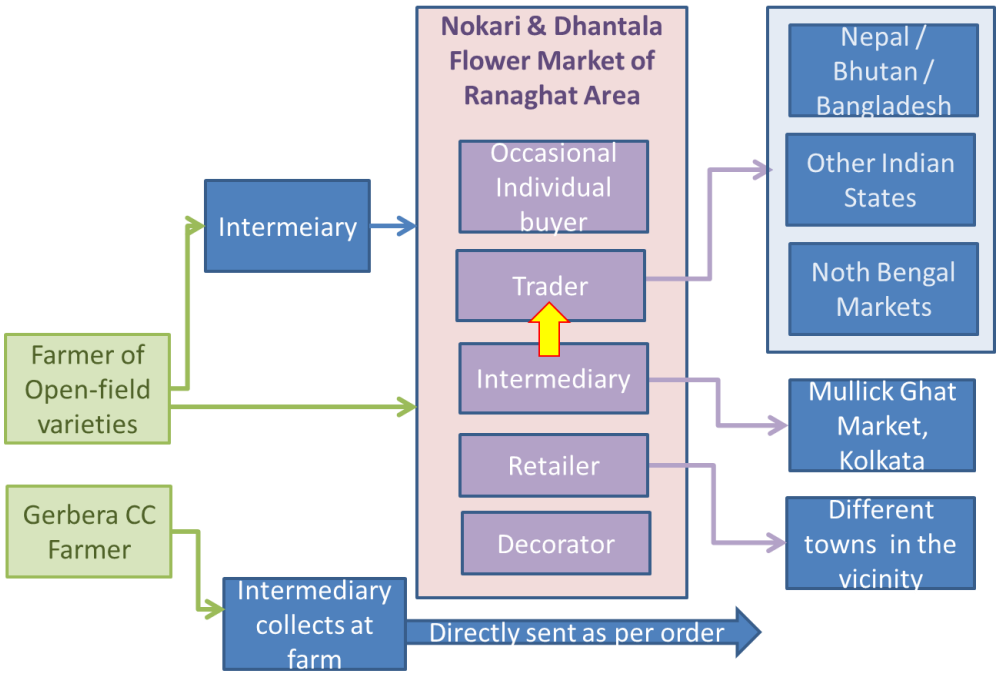
Physical Nature: Nadia district is reported to have twelve flower markets among which two at Nokari and Dhantala near Ranaghat located at a distance of approximately 80km from Mullick Ghat (Map 3.1 and 3.2) are studied here. Dhantala is said to be the biggest market in the district but does not have land or shade and run from the road-side; whereas the Nokari market is comparatively developed with shade, toilet, office room etc.

Value Links (Figure 3.4)**:**The early morning flower markets in Nokari and Dhantala in Ranaghat area of Nadia district is dominated by trade in loose flowers and cut flowers like double-petal tuberose, rose OF (red and other different colours) etc. The harvest from the very small cultivators (in the lower end of the 'marginal' farmers) is collected by the intermediaries. These intermediaries and other farmers take their produce to the market-places here. A few progressive farmers are cultivating gerbera in poly houses (gerbera CC). But these gerbera are not coming to the market-place and directly taken by the intermediaries from the farm.

There are intermediaries who buy from local market and sell at MGPB, Kolkata. Traders at these two markets have direct trade with businessmen in different North Indian and North-East Indian cities from Chandigarh in North-West to state of Nagaland in North-East including Siliguri (home-state). Dhantala area is also home of a few hundred retailers who purchase flowers from local market and sell at different towns within an approximate radius of 60-70 km.

Moreover there is export of marigold and tuberose to Nepal through Raxaul border of Bihar state and Siliguri point of Northern side of West Bengal. Export with Thimphu, capital of Bhutan is also done through Siliguri. Flower is also exported to Bangladesh.

Figure 3.4
Value Links at Ranaghat area of Nadia District



3.3.3 *Deulia Bazar of Purba Medinipur District*

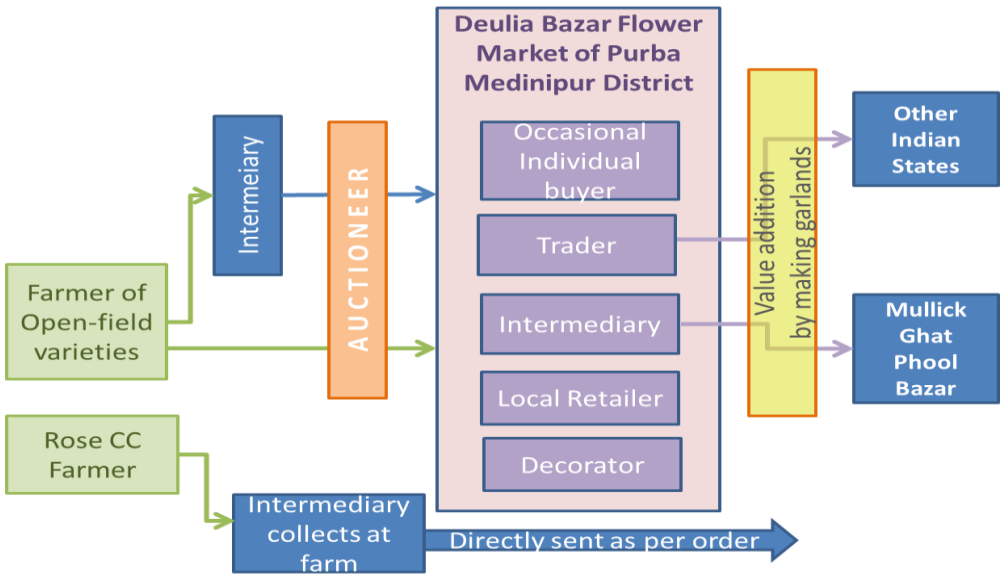
Physical Nature: Located on NH-6 connecting Mumbai and Chennai (via NH-60) and pretty close to Railway line connecting rest of India, at a distance of 70km (approx.) from Mullick Ghat (Map 3.1 and 3.2), this market has two portions, the retail one runs from road-side and a small shade. Whereas the

auction is conducted from small tinned shades with earthen floor and three sides open.

Value Links (Figure 3.5)**:** Deulia Bazar of Purba Medinipur district of West Bengal is a big floriculture hub. The oldest locations of commercial floriculture from pre-independence period are situated around this area. The main harvests at the time of field-work (August; rainy season) were jasmine, marigold, tuberose, rose etc.; winter plants were being grown. One progressive farmer is cultivating a variety of 'Dutch rose' (rose CC) under shade-net.

Unlike the Ranaghat or most other markets, the wholesale market here runs mostly by *auction*, though in a primitive style. *Any* farmer or intermediary can bring their produce of *whatever amount* to this market directly and sell it through auction. The auctioneers take a fixed charge on the basis of quantity traded and not on the basis of price. They pay to the seller on monthly basis with provision of a few 'advance' payments to the party in urgency, subject to adjustment. However, payment for marigold is on daily basis. The intermediaries working between the farmer and the auctioneer here do not purchase the flowers from the sellers; they take it on credit. The intermediaries pay the farmers after deducting commission at the rate of 20% on auction value minus auction-fee. The farmers have the liberty to check the record of the auctioneer to confirm the rates. The *paikars* (wholesaler) and other traders purchase the flowers at auction, get writhed in case of loose flowers, and send to other states or carry to MGPB.

Figure 3.5
Value Links at Deulia Bazar Flower market of Purba Medinipur District



3.3.4 *How the flowers reaching the consumer?*

"I wake up at 2.00am in the midnight, get fresh and start with the stock of flowers by 2.30 on bicycle; board Mecheda local of 3.21 from Bagnan station … reach Howrah station by quarter to five and reach Mullick Ghat by 5.00am or so," told Dibakar Jasu who resides at a distance of 7km from Bagnan, Howrah district. The growers at Rajarhat start early in the morning by 4.00am and reach the same market on

similar hour with their stock of tuberose on mini trucks. The farmers near Deulia Bazar or Markets of Ranaghat reach the respective market carrying their produce on bicycle, cycle van etc. (Figure 3.6).The intermediaries however carry produce by mini/midi truck to MGPB. Train is always a good conveyance especially in Howrah route as MGPB and Howrah station are located on opposite side of Howrah Bridge over the river Hooghly and pliable on foot. Retailers carry the merchandise on bus, small vehicles etc. to their respective location. The trade to other states are carried on mainly by bus (loaded on the roof top), train, truck (in peak season) and flight (very long distance ones, e.g. to Rajasthan) (Figure 3.7).

Figure 3.6
Transportation of Flowers-1

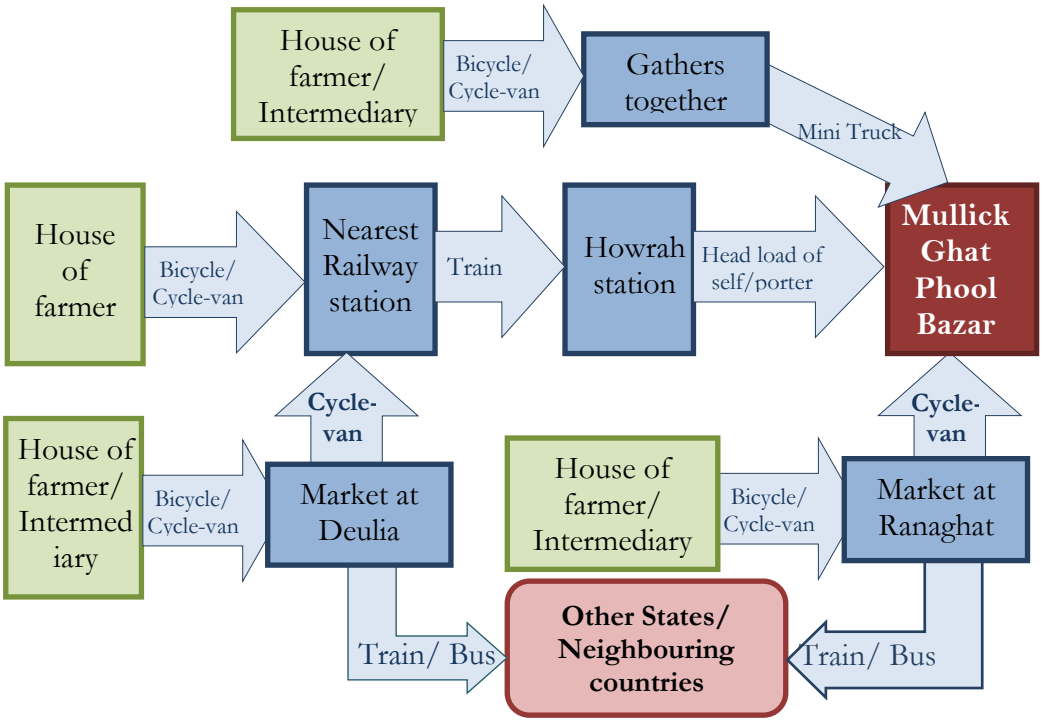
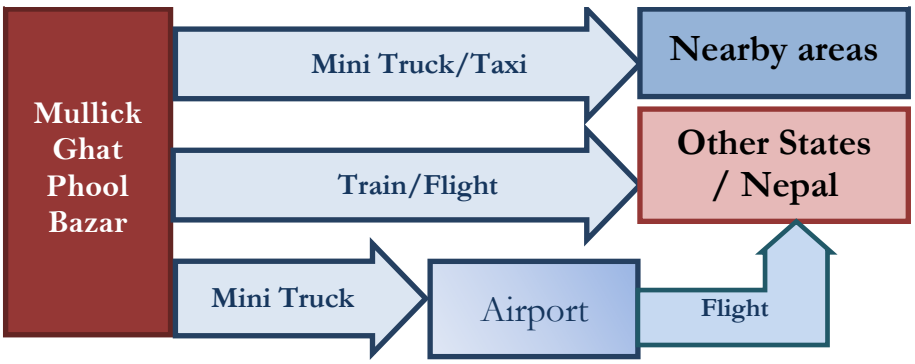


Figure 3.7
Transportation of Flowers-2



3.3.5 *Knowledge and technology in the chain*

3.3.5.1 Input Supplier to farmer

The chain starts working from the input suppliers. The farmers till date rely on the advice of the input suppliers of fertilizer and insecticide. In absence of any regular technology dissemination system where farmers can approach when they face any farming problem, these sellers of fertilizer and pesticide are the chief resources of knowledge. These suppliers get information from the company sales persons and have advantage of interacting with the farmers visiting their shop. Moreover, they try to maintain contact with the officials of agriculture or horticulture department and discuss the issues with them. I have seen a casual discussion among officers of agriculture and horticulture departments in a similar type of shop with farmers who visited the shop and queried on their problems. For cultivating gerbera or rose under controlled condition farmers get farming- knowledge from input suppliers at Pune.

3.3.5.2 Among the farmers

Farmers having knowledge of cultivation / farming is observed from the following evidence:

Tuberose – *"This field will be harvested before Id*[6]*… that field will be harvested in Durga Puja"* told one grower in Rajarhat showing two contiguous plots. Two of them, I interviewed, claimed that cultivate plots with a targeted harvesting week; full plot will be completely harvested by one week. On the other hand they can keep plots that will yield flowers for one month, three months or round the year. The farmers have knowledge in preparing and selecting good quality bulbs for sowing. *"…no we shall not use bulbs of this plot for sowing…this has problem"* - the farmers cannot cure nematode problem but they avoid fields attacked by nematodes for preserving bulbs for next crop. Crop rotation is regular with some mixed cultivation. Cultivation of hybrid variety like 'Prajjwal' is started in some areas. The farmers, however, generally *do not go for soil testing.*

Rose – *"...the result of 'madgod' is not promising in our area, our soil is not fit…we grow 'minuparle'"* – farmers are aware of soil-dependence of crop and select accordingly. Knowledge of grafting, pruning, crop rotation was observed. The quality of rose cultivated in South Bengal under open field condition is neither internationally nor nationally competitive. Only the farmer cultivating rose CC has relatively better quality. He learned pruning by practice and visiting other's farm. He has also informed of getting help of one NGO and one planter from The Netherlands who visited floriculture in their place through this NGO and has given tips. He has visited floriculture in Netherland in 2011 for ten days. This farmer has also undergone a number of other training programmes organized by Bidhan Chandra Krishi Viswavidyalaya[7] and is interested in dissemination of knowledge.

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[6] Id and Durga Puja are two main festivals of the Muslims and Hindus of the State.

[7] An Agriculture University located at Nadia district, West Bengal

Gerbera – Gerbera cultivation under poly-house is growing in Ranaghat area. The entrepreneurs are getting training and infrastructural support from the University/Government. The poly-house has facilities of drip irrigation, sprinkler etc. The farmer I met has knowledge to control the water and fertilizer through these. Moreover, he knows the seasonal variation of treatment of plants. Depending upon order, he can produce export quality. In the summer his flower is exported to Bangladesh. He claims that he can produce quality that can be exported to other countries as well. However, there exists an environment of competition among them which limits voluntary sharing of knowledge.

The cultivation of marigold, tuberose, rose round the year, instead of particular months, also requires knowledge of farming.

3.3.5.3 Farmers and above

Sharing of knowledge to the farmers from above was not seen generally. However, in areas like Deulia Bazar and Ranaghat area some farmers had training. BCKV also provided training in different areas. Minor presence of NGO-based training was observed in Deulia Bazar as noted in the case of rose CC above. Some awareness camps are held by Agriculture, Horticulture or Agri-Marketing Department of the State government. However, the level of percolation did not appear to be deep.

3.3.5.4 Traders

The use of technology by traders is in two purposes. Firstly it is used in packaging and transportation of flowers. For the flowers traded outwards from alluvial West Bengal are mostly packed baskets with ice-cubes. For export to Bangladesh jute bag is used instead of baskets. However, the flowers that come here from Bangalore by train are packed with reusable ice-gel. In the export of tuberose to the Netherland, perforated card-board boxes were used. Perforated card-board box is also being used for export of loose flower, garlands etc. by air-freight to Dubai. But no cooling agent is reported to be used. Use of technology is also important in treating the imported flowers. Removing gel packs, treating the flowers with chemical to give them a fresh lease of life is important. However, the technology did not appear to be shared much.

3.3.5.5 Decoration and Floral Arrangements

It is more use of innovative ideas than technology. The main challenge with big budget event-decoration in this tropical climate is maintaining freshness of flower for a long duration. Selection is to be done on the basis of strength to bear the heat and humidity without support, brightness and cost. Use of floral foam is very common in decoration and in various floral arrangements.

3.3.6 *Infrastructure in the chain*

"Look at that poles…no wire is there ... standing here for long… but electricity is urgently required here" told one Jhaligachhi farmer.

In general flower cultivation here is open-field one. Primary preparation of land is done by tractor/power tiller; irrigation is done by use of shallow tube-well with pump; for spraying of insecticide hand-pump is used; scope and use

of electricity is limited; manuring, weeding, nursing and harvesting are done manually. Poly-house with white shade-net, drip irrigation, sprinkler/fogger are used by gerbera CC cultivators. Rose CC cultivation is done under green shade-net.

Some use of private cold store in Deulia bazar and near Ranaghat was seen/reported. However, Government store at Panskura near Deulia Bazar is reported to be almost idle. The multi chamber cold store at Ranaghat by Agri-marketing Department of GoWB was lying idle, after taking a long to complete, possibly due to absence of any taker caused by its high electricity consumption. A pack-house in Barasat near Kolkata airport served a lot while export to The Netherland but is of no use now.

The rail and road transport is widely used. However, use of cold van in rail or road was not seen. The reefer van of WBSFPHDCL was used in export.

3.3.7 ***Flow of money along the chain***

The money flows in the opposite direction to that of material. The trade is preferably in cash but off and on credit is allowed. The farmers purchase inputs on cash but when he has shortage of money he depends on credit. Role of money lenders as such is not visible. However, in case of severe shortage, the farmers go for it. At the same time role of bank loan was also limited except in gerbera CC cultivation. The trade between farmer and others in a market place like MGPB, markets of Ranaghat is absolutely on cash. But in Deulia Bazar the trade is through auction and money paid by the auctioneer on monthly basis. The intermediary in Deulia Bazar also pays to the farmer after the auctioneers pay. The interstate trade is partly in cash and credit. For trade with Nepal the trader of flowers in Nokari Bazar showed debit cards of the businessman of Nepal.

The decorators or order suppliers in flower get their booking well ahead, is some cases even months together. The decorators therefore buy in fluctuating market and get payment as per contract. However, they get payment within a short period of completion of event.

3.3.8 ***Price of flower***

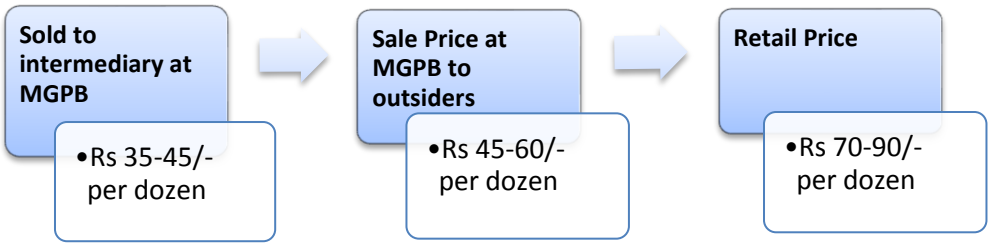
The most important feature of business in flower is fluctuation of price of flowers. All the interviewees confirmed that the price of flower is highly fluctuating. The price of one particular day is reflected in figure 3.8. There is peak season and dull season depending upon the occasions. The season of marriage is most important. Hindu marriages are solemnized only on auspicious days noted in the calendar except in the months of *'Bhadra', 'Ashwin', 'Poush', 'Chaitra' or* any *'Molmaas'*. Other socio-religious festivals also generate high demand. Moreover, the climate being hot tropical, winter is preferred for celebration. Production is also better in winter. Moreover, as one trader from Deulia Bazar told "*...marriage of people of Marwari or other rich community raises demand for quality and quantity".* Apart from these, the important religious festivals like *'Diwali', 'Durga-Puja'* and others escalate demand.

Causes of fluctuation of supply are many. Cultivation is mostly open-field; naturally time-range of production suffers; especially for winter-varieties like chrysanthemum, dahlia, aster etc. the production period is narrow; within the season also production curve (both quality and quantity wise) is naturally bell shaped; daily fluctuation of weather has a big impact. *"Just due to fluctuation (of daily weather) the production of belphool (jasmine) can double up or be halved"* told one Deulia Bazar farmer. Level of knowledge of farmers, availability of transport and storage facilities also causes fluctuation.

Price varies mostly on demand and supply. *"...our production is not sufficient in peak seasons and we need to import from Thailand, China..."* tells a big trader. Furthermore, price fluctuates daily and in some times on hourly manner depending on transport or other fluctuations. In bad weather production is less raising the price.

Payment consummates instantly on cash in most of the markets except in Deulia Bazar. However, absence of pre-fixed price causes disadvantage to the small intermediaries who buy from the farmers and sell in the market as there is risk of incurring loss; one Rajarhat intermediary reported of farmers' help by adjustment in such case.

Figure 3.8
Price of Double-petal tuberose on 15th Oct 2012 in Kolkata



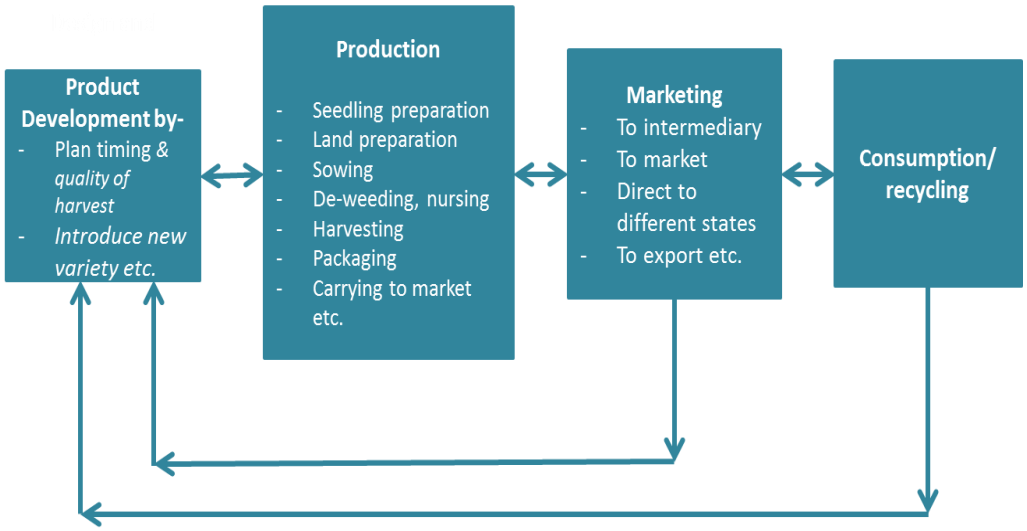
4
Analysing the Value Chain

4.1 Four Links of a Simple Value Chain

Existence of 'transactionally linked sequence of functions' (Dicken as cited in Melese and Helmsing 2010: 37) or the four links as stated by Kaplinsky and Morris (2001: 4) is evident in the cut flower in alluvial West Bengal (figure 4.1):

i. **Design and Product Development:** Though cultivation of flower including cut flower is traditional, area of cultivation is growing fast and new varieties like double-petal tuberose in place of single petal one (some twenty years ago), *'Prajjwal',* a new hybrid variety in tuberose, in open-field rose the varieties like *minuparle*, *madgod* and with multiple colours demonstrate designing. But again whatever is being cultivated is going on in traditional style in the area. Farmers in Jhaligachhi of Rajarhat plan the specific' flowering length'[8] and specific harvesting period for a particular plot before sowing. Farmers also plan to rotate crop. Those who cultivate on leased land, when they have scope, change plots to give effect of rotation.

Figure 4.1
Four Links of a Simple Value Chain in Cut flower in Alluvial West Bengal



Source: Based on (Kaplinsky and Morris 2001: 4)

ii. **Production:** Production entails a series systematic steps to control the quality as planned which include land preparation, use of

[8] Length from last floret to top one of tuberose sticks; this may be 10 to 20 inches approximately.

fertiliser, sowing, nursing and harvesting depending on season, prevailing weather condition, growth of the plants, pest activity etc.

iii. **Marketing:** Marketing is done directly by the farmer and by the intermediaries, traders, exporters, decorators, retailers etc. The extremely marginal farmers sell through intermediaries; those who have one-two *bigha*[9] of land either sell to intermediary or in market. The intermediaries generally sell at established markets. The traders at markets have different trading channels (details in chapter 3). Yet, some intermediaries collect direct from farm and avoid the established markets (in case of gerbera CC and rose CC).

iv. **Consumption/Recycle:** No interview is taken at this level. However, experience shows that flowers are generally used as such and after use go to dustbin. In some cases attempts are being take for extraction of aromatic oil (one such entrepreneur is interviewed) and as *abir*, a form of coloured powder used profusely in *Holi,* the festival of colours. Government is planning one vermicomposting unit at MGPB for unused flowers, stems or foliage. I did not dwell much upon this area.

4.2 Rents in Cut Flower Value Chain

4.2.1 ***Different types of rent in CFVC***

The specific harvesting plan like specific field with time-bound harvest in one particular week or one particular month as seen in double-petal tuberose cultivation in Jhaligachhi area of Rajarhat Block was not seen in Ranaghat area or in other part of Rajarhat. Though cultivated in Nadia or South 24 Parganas, double-petal tuberose Rajarhat (North 24 Parganas district) is famous and was exported to The Netherlands. Similarly single-petal tuberose from Thakurnagar area of North 24 Parganas district is famous for its snow-white colour. *"Nowhere in India will you get white chrysanthemum of this quality….when the chrysanthemum from Panskura reached Mumbai market, price of Mumbai local flowers fell down and traders there threatened our people"* tells Jhantu Barai of Deulia Bazar. The superiority in quality in either place can be linked with two factors - ***the soil type and the technical superiority of the farmers in these places***. Cultivators regularly linked farming of particular variety of rose/tuberose with particular soil type of an area. Those can be explained as **rent exogenous to the chain linked with bounty of nature** – in this case soil type (ref: section 2.2.1) – and **human resource rent endogenous to the chain** (Figure 4.2).

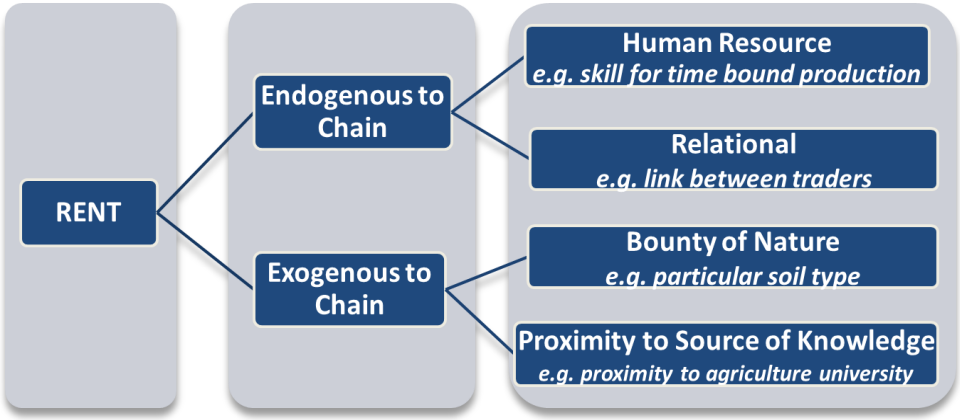
Moreover, the variety of flower cultivation in Ranaghat area of Nadia district is not found in other places and may be linked to the proximity of Bidhan Chandra Krishi Viswavidyalaya which is located in the same district. The cultivation of gerbera did not flourish at Deulia Bazar area whereas the

[9] 1 *bigha* is 0.33 acre

same is promising in Ranaghat area. These may be linked to **the rents exogenous to the chain and provided by BCKV**.

The relation between trader here and in other states or in Nepal or Bangladesh is generally limited within a few and they protect it from spreading. Houses lending out for holding events, like marriage etc. (banquet halls), come with a package of different suppliers including flower-decorator; thus raising barrier of entry to others. These may also be treated as **relational endogenous rent** over the others. In export to The Netherlands, attitude of some organisers was alleged to be parsimonious in selecting flowers for export, thereby giving sense of relational endogenous rent.

Figure 4.2
Rents in CFVC



4.2.2 *Dynamic nature of the rents*

"I brought bulbs of Tuberose from other side of Rupnarayan River almost fifty years ago," told one old farmer of Rajarhat. Now Rajarhat area is the dominant with double-petal tuberose. Area of double-petal variety has again spread to Ranaghat area of Nadia district and Bhangar area of South 24 Parganas district. Similarly area under gerbera, gladioli is increasing. Knowhow for harvesting tuberose, rose, and marigold throughout the year is spread over the region giving idea of spreading of knowledge and dynamic nature of rent.

Now farmers in all areas are becoming more conscious about important events generating high demand and are trying to focus on those; quite unknown events like 'Valentine's Day' are becoming important to farmers.

Thus the widening of area of particular flower or focussed period of harvest shows the dynamic nature.

4.2.3 *Rent vs. Externality*

Parallel to the presence of different types of rents, existence of positive and negative externalities also observed in this value chain. The presence of specific shop supplying all types of inputs required in flower marketing and decorating, development of ice factory specific for flower packaging in Ranaghat area or in

general shifting from cereal cultivation to floriculture indicate more profit at the hands of farmers and thus exemplifies ***positive externality***.

On the other hand reduction of area under food crop especially cereals may add to the causes threatening food security or increasing focus on cold chain increases consumption of electricity and greenhouse gases thus adding to global warming are examples of the ***negative externalities***.

4.3 Immiserising Growth

Overproduction leads to falling price and glut. Among many, one cause of overproduction is *gradual entry of small farmers* which were previously absent in floriculture. Their additional production helps the market to appease the demand but in dull season it remains a cause of glut causing loss to all concerned. *"Daily almost two tons of flowers and stems are thrown away",* said one member of the MGPBPS while referring to the flowers that sellers throw away at the end of the day.

"It is difficult to sustain the cultivation due to wage hike" said a farmer on daily labour wage and repeated by others time and again. It is not generally crossing the base level fixed by MGNREGA[10], which may indicate the profit roofing and sustenance and not prosperity of the labourers or farmers.

Overproduction, glut, non-sustainable price are found but immiserising growth through participation in GVC, as such, was not traceable.

4.4 Governance

The issue of governance determines who will produce in what quality and quantity and for whom (section 2.3.2). To explore the specific question of chain governance, relations at different levels need a visit, which are as follows:

4.4.1 ***Relation and Governance in Local Value Chain***

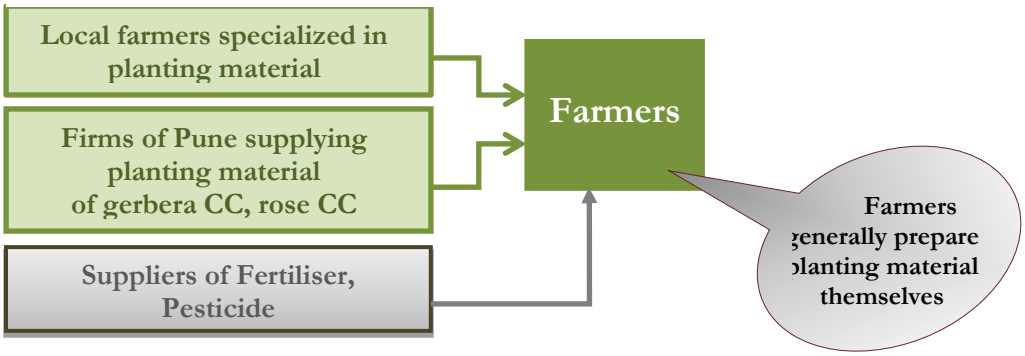
The local value chain starts with the input suppliers. The farmers of cut flower purchase fertilizer, insecticide etc. from local supplier generally on cash payment and at times on credit. This credit however, had little control over the farmer. In absence of regular channel of knowledge and remedial input, the growers share their issues like diseases, pest-infection or other production related problems with these suppliers to get remedy. Farmers generally prepare their own planting material; a few also purchase the same from local growers of planting material like seedlings, bulbs or under-stock of roses but the cultivators of rose CC, gerbera CC rely on suppliers of planting material at Pune for knowledge on farming procedure (Figure 4.3).

[10] MGNREGA: Mahatma Gandhi National Rural Employment Guarantee Act ensures any rural family in India a minimum of 100 days' unskilled wage employment at a rate fixed by the Minimum Wage Act. Present rate in the study are is INR 136 per man-day (approximately Euro2).

The next node is the first tier intermediary. In all four markets I have visited, farmers generally bring their produce to the nearest market directly. Sometimes they prefer to go to distant markets for better profit. Extremely marginal farmers generally trade through local intermediaries considering its scale diseconomy.

In case of rose CC or gerbera CC intermediaries collect directly from the farm and sell to different states of Kolkata market avoiding local market. The farmers always update themselves about the prevalent rates indicating some network; neither price nor quantity is pre-negotiated; finally prevalence of demand over supply tells of power of farmer over supplier. But the Bangalore products, having better quality, help to cap the price.

Figure 4.3
Input Suppliers and Farmer



In Rajarhat one intermediary told *"...when I approach farmers for flowers, they generally do not refuse me",* the tone indicating farmer's power. Intermediary has to harvest from the field and do rest of the job. The intermediary at Deulia Bazar who collects flower from farmers also appeared to be small. The intermediaries who start work at markets or at auction do not appear to be at the mercy of the farmers.

In Deulia Bazar trade is through auction and intermediaries who collect from farmers at field have specific commission (section 3.3.3); payment by auctioneers is on monthly or weekly basis with provision of 'advance' payment before periodic closing. The farmers appeared to be satisfied with this system. One auctioneer is reported to have business in inputs like pesticide, which he tries to sell while payment. The intermediaries pay to the farmers only after they receive it from the auctioneer. In Mullick Ghat, however, clandestine auction in double petal tuberose with immediate payment is reported.

In other markets auction is absent, farmers mostly sell their produce directly sitting in the market-place. In Ranaghat markets some intermediaries work between smallest farmers and the traders.

The relation, particularly in the market, is therefore is devoid of any interlocking; price fluctuates heavily on the basis of demand and supply and without influence from any particular party.

The decorators and retailers buy their flowers from local market or MGPB depending on their requirement and availability. The business of decoration

relies on almost instant payment and reputation. A group supply local or flower from Bangalore to different businessmen at latter's premises. One retailer at Gariahat market at Kolkata reported of having a few fixed customers to whom he supplies at their places. A few businessmen supply cut flowers regularly to some fixed offices/commercial houses. *In these cases of regular supply, price is fixed for a term and payment is periodic and not on daily basis.*

To summarize, in the local business arm's length relation is dominant except firstly, some sense of dependence of the first tier intermediaries on the farmers; secondly, in cases of regular supply to fixed customers and decorating works.

4.4.2 ***Relation and Governance in Interstate Domestic Trade***

The traders from all the studied markets purchase flowers from local markets and supply to different states. The area of operation depends on the location and road/rail connectivity of the market. Flowers are sent to the bordering states like Bihar, Jharkhand and Orissa mostly by bus and to the far off states of Western, Central, Northern and North Eastern India by train. In the peak seasons specially hired vehicles are used for the cities located in bordering states and the traders share the cost; similar arrangement is seen while bringing flowers from Ranaghat to Kolkata market also. Though the traders keep their secrets to themselves, they have working relation and good humour among themselves.

Fresh flower being highly perishable and shelf/vase life being very susceptible to minor fluctuation in temperature, packaging etc. the quality of product is the most important factor in long distance trade, which requires almost two days to reach the destination. Only good quality, fresh hardy flower having balanced moisture content can be transported with ice packs for such distances. The technique of packaging is quite open. To ensure quality many traders keep link with farmers who send flower directly to the traders' point at the prevalent rate of the day (no fixed rate). The reputation plays a big role in maintaining quality of flower.

MGPB traders reported that stock is loaded in train after money is deposited in Bank Account whereas those from other markets reported business on short credit.

The rates are negotiated over telephone. Nevertheless, the businessmen in other states have communication with traders in different markets here, thus by gaining benefit of price variation of different markets. This also helps in controlling price from shooting up.

4.4.3 ***Relation and Governance in International Trade:***

The existence of international trade is seen in three areas, viz. i) trade with Nepal and Bhutan i.e. the countries having special political relation with India; ii) trade with Bangladesh and iii) trade with Dubai; *moreover, there was* iv) export to The Netherlands.

Export to Nepal and Bhutan reveals some interlocking features. Rate of flower was fixed simply at a premium of 20% over the then market rate on the day plus packing, freight and other regular charges; negotiation on rate was

minimum, which indicates existence of trust. Second, for smooth transaction the Nepali businessmen gave their debit card to Indian counterpart. On getting consignment, the importer deposits money in own account and exporter draws the same by using debit card of the importer. Third, In case of loss of consignment due to unforeseen reasons beyond control of the exporter and importer, the loss was shared by both, in spite of no such contract, thus reducing the burden on both. The other features are similar to the prevalent inter-state domestic trade.

Export to Bangladesh by the traders in and around Ranaghat, export-licence of one exporter at Habra was used on the basis of a commission to the latter. This along with the fixing of rate over telephone gives traces of interlocking relation. Otherwise it was not much different from domestic inter-state trade.

Export to Dubai has some similarity with the Nepal export except the exporter I interviewed is using own licence for the purpose and air-freight from Kolkata. The special features here include the price is pre-fixed and not fluctuating based on local market here. The exporter has fixed farmer here who supply high quality flowers regularly and for this he pays 5% premium over market price on that day. The exporter has additionally engaged person to purchase high quality flower from market. In one occasion the cost of flower at local market was exorbitant; when the exporter informed this to the importer, the latter allowed *not* to send consignment on that day.

In erstwhile **export** of tuberose **to The Netherlands** in the period 2003-2006, the Indian actors worked together in a coordinated form from farm at Rajarhat to auction-point i.e. Flora Holland with parallel support and guidance from the Flora Holland authority. The important features were – first, let-all-work-together attitude under umbrella-like-behaviour of WBSFPHD Corporation Limited and ruling party to meet the stringent specifications like sticks length (80cm), number of florets (16-18pairs on each stick), length of flowering portion (minimum 18 inches), bundling (bunch of ten), pre-cooling (8-10 degree Celsius), air freight temperature (4 degree Celsius), minimum volume (one consignment per month) etc. The export was done by Mullick Ghat Phool Bazar Parichalan Samity using export licence and Flora-Holland registration of WBSFPHDCL for which the latter received 2% commission only. Second, Indian Institute of Packaging designed boxes for export. Third, a farmers' association was built in Rajarhat area to ensure quality. An expert group including farmers were formed for sorting-grading. Fourth, purchase-price from framers was fixed centrally. Fifth, air-conditioned reefer van of the WBSFPHDCL was used. Sixth, APEDA[11] gave support with its personnel at Europe. Seventh, support and suggestion also came from Flora-Holland authority. However, the rate was finally fixed in auction in Flora Holland

The presence of key actors and power asymmetry is clear in the present case but it appeared to me that there was a promotional attitude both from the

[11] Agricultural & Processed Food Products Export Development Authority (under Ministry of Commerce & Industry, Government of India)

Indian side and the Netherland side and system stopped before reaching maturity. The presence of legislative, executive and judicial governance was obvious respectively through setting of the rules by the Netherland authorities, assistance to maintenance of the rules from within the chain and beyond the chain and finally by specific system of discarding products if norms are not maintained.

4.4.4 *Pattern of governance in the chain*

Now I shall attempt to analyse the governance in scheme elucidated by Gereffi, Humphrey and Sturgeon (2005: 85-7). I shall try to translate the factors defined by the authors to classify VC governance into concrete indicators before applying it –

A. *Complexity of transactions*: The complexity of transaction includes transaction related to product and process specification; in case of fresh flowers three other elements become important – post harvest management, packaging and transportation. The latter ranges from almost unimportant in spot market in export to highly complicated in export to Dubai/Netherlands. If interaction is required for all these, the complexity may be assigned as 'High' and if the same is not required for any of them, complexity is treated here as 'Low'.

Table 4.1
Types of Cut Flower Value Chain in Research Area based on Gereffi et al. (2005)

Existing Chains	Complexity of transactions A	Ability to codify transactions B	Capabilities in the supply-base C	Degree of explicit coordination and power asymmetry	Deduced Nature of Governance vide Gereffi et al. (2005)
1	2	3	4	5	6
Local trade	Low	High	High	*Coordination:* Low Power *Asymmetry:* Low	*Market*
Inter-state domestic	Moderate	Low	High	*Coordination:* Moderate Power *Asymmetry:* Low	*Between Market & Relational*
Export to Nepal, Bhutan	Moderate	Low	High	*Coordination:* Moderate Power *Asymmetry:* Moderate	*Between Market & Relational*
Export to Bangladesh	Moderate	Low	High	*Coordination:* Moderate Power *Asymmetry:* Moderate	*Between Market & Relational*
Export to Dubai	Moderate (but more complex than neighbouring country export)	Low	High	*Coordination:* Moderate Power *Asymmetry:* High	*Very close to relational*
Erstwhile Export to Netherland	High	Low	High	*Coordination:* High Power *Asymmetry:* High	*Relational*

B. *Ability to codify transactions*: When the buyer at any level has capacity and scope to check the quality at spot and needs no relationship to ensure it, the factor is assigned here as 'High'; this is same if there are simple codes which can describe the product. But when codes are elaborate and requires relationship / assistance to understand or comply it, the ability to codify is termed as 'Low'. In spot market of low volume either party can check the quality, by look, feel and experience; whereas in long distance trade (other than with The Netherlands), in spite of some grading, trust and reputation become important.

C. *Capabilities in the supply-base*: Suppliers include growers and traders here; when supply can be done without monitoring by buyers in production process, capability is 'High', when it requires monitoring, capability is 'Low'. As such in no case buyer's support in production process was obvious apart from dictation of terms in export to The Netherlands.

In all cases any value in between 'High' and 'Low' is termed as 'Moderate'. The results generated are shown in column 6 of Table 4.1 on the basis of Table 2.1.

In the CFVC in general no internal or external control was observed on any link or intra-link agents apart from export. The '**costs of switching'** (Gereffi et al. 2005: 83) is nil in spot market; in long distance switching cost is higher for local traders than their distant counterpart. By permitting Indian traders to use of their bank debit card, the Nepali traders appear to wield better control. When the chain leads to export especially to The Netherlands and to some extent to Dubai, interlocking relationship is traceable up to the farmer at the bottom.

4.4.5 ***What explains the present relations?***

Humphrey and Schmitz (2004a: 366-8) argued that the market-based value chains tend to develop in absence of 'the buyer's role in product definition and the risks to the buyer of supplier non-compliance with product or process requirements'; two factors rule – products are standard and can be evaluated at the selling point in cost effective way; and suppliers are able to take responsibility of designing and producing and buyers are design takers. In case buyers are small and lack competence to develop product or process parameters, probability of development of this relation is high. Economy of scale is clear in value chain coordination.

In the ***local trade***, the buyers go for all varieties depending upon their customer-base. Here product specification is absolutely simple and not at all dependent upon specific buyer and therefore it does not require buyers' support. Moreover, the volume traded by individual trader does not appear to be high enough to exert substantial control on the trade. So simple design and lower scale appear to be significant and result in arm's length or 'market' relation.

In ***domestic inter-state trade***, considering the long transportation, everybody is conscious of need for quality and marketability at destination. The traders here always send the best quality; at the same time the buyers regularly contact and purchase from different traders in different markets; the buyers

sometimes work through middlemen for safeguard. It is learnt that the buyers/suppliers occasionally visit each other's markets but codification is insufficient to ensure quality except verbal ones like 'A, B, and C quality'; the wider range of flowers definitely has no better code. In MGPB suppliers load flower only after the due amount is credited in their account. Though no buyer of other state or country was interviewed, in domestic interstate trade the product specification is relatively complex, the growers or traders here are capable of growing or trading the desired quality but in absence of specific codification/grading and ability to check quality in detail, the business is based on knowledge of buyers, trust between two and reputation of supplier or middlemen. *"If one fails in supplying due quality in one market he will automatically lose market throughout India",* said one trader in MGPB thrusting on importance of *reputation* and giving a clear hue of 'network' over market relations. The ***trade with the neighbouring countries*** have similar features; role of middlemen could not be properly explored. ***In case of trade to Dubai***, the exporter has to resort to fix supplier of good quality flower at a premium over the fluctuating rate, probably to pre-empt supply-failure.

When export is to The Netherlands, the constraints on quality, quantity are more rigid. Without maintaining the basic quality parameters, neither can it be sold nor can it be profitable. In reference to the requirement in The Netherlands, the markets in this research area are dominated by mediocre quality. Furthermore, issue of quarantine, packaging, transportation etc. become complex. Some farmers could definitely grow maintaining required parameters and packaging, cold chain maintenance and transportation were managed; nevertheless the system did not sustain. The Netherlands market having specific quality parameters and controlling mechanism, the question of 'trust' in guaranteeing quality becomes diluted. Nevertheless, the support and coordination from Indian as well as Netherlands side was important to initiate and run the business.

Humphrey and Schmitz (2004b: 101-2) summarizes that issue of suppliers' capacity rather than products' intrinsic characters as the prime determinant of buyers' setting the product or process parameters and this in turn speaks the relation. Here in local market buyers are capable of checking quality but in long distance market, quality is ensured mainly through trust making the chain more 'relational' rather than 'market'.

In conclusion, it appears that the buyers getting the required quality without specific investment keeps the relation short of moving towards pseudo-hierarchy.

4.5 Smallholders' Problem

The farmers engaged in floriculture are generally 'marginal' and 'small' with maximum land holding up to two hectares, having open field traditional agricultural practice, with meagre use of machinery and energy, dearth of investment in cold chain, minimum bank credit, absence of producers' organization and thereby suffering from the general small holders' problems. The general dominance of 'market' type of governance, which does not favour buyer's investment, also illustrates the small holders' problems.

Another problem found in the Rajarhat area is the practice of sale of big sized bulbs of tuberose just at the start of flowering season are sold together as a whole for medicinal use; the buyers purchase the whole plot; the farmers get the return in a shot, to manage their immediate pressing needs, sacrificing long term good return.

I have seen three contiguous plots with three harvesting period belonging to one semi-medium[12] farmer and *not with* marginal and small ones. The growers of gerbera or rose under poly-house get support in training, subsidy, credit and suffer less.

4.5.1 ***Small vs. Marginal***

From the interviews, it also appears that a section of marginal farmers especially the lesser land-holding generally avoid markets and sell/deliver their produce to the intermediaries proving their inability to achieve the scale.

Besides, it is observed that the segment with larger land holding ventured for more variety of flowers as in Ranaghat area or partitioned separate pieces of land for harvesting tuberose in different times in Jhaligachhi area of Rajarhat.

4.6 Auction vs. Classic market place

The flower markets I visited generally run as a classic market place where dispersed sellers meet the dispersed buyers and sell their merchandise at a negotiated price in MGPB or Ranaghat area. The wholesale trade in Deulia Bazar market run through auction for most of the flowers barring a few in a traditional style from huts. Auction is also said to be going on unofficially in MGPB in double-petal tuberose.

The main advantage of auction accrues from the fact that the sellers (farmers or first tier intermediaries) get best remunerative price in auction and can save time by selling the bulk of the material at one go. Secondly, the transfer to next stage especially when it is transferred for wreathing etc. is fast, costing slightest on freshness of flowers. In absence of flooring on volume of trade and in presence of systematic transfer of value when traded through first tier intermediaries, small holders' rights are strengthened. Thirdly, farmers being very small, their money becomes more useful when they get it in a clubbed but manner instead of instant miniscule payment.

4.6.1 ***What explains the existence of these auctions?***

As reported by the interviewees, the market at Kolaghat near Deulia Bazar runs without any system of auction whereas the smaller markets at Panskura, Gnosaiberh, Keshapat or Naskardighi near Deulia Bazar (all in the same district) runs partly through auction though the auctioneering is probably not

[12] Semi-medium farmers have land holding between 2 and 4 hectares (Ojha n.d.)

as deep rooted as in Deulia Bazar itself. One explanation of 'no auction' at Kolaghat came from one interviewee as – *"How can an auction run from Railway land? One needs at least a piece of own land*"; other explanation came from one auctioneer at Deulia Bazar – *"Probably they (auctioneers in the small markets) could not run the auction"*. The latter gives a cue on 'trust' and 'power' – in auction in local markets one of the practice is periodical payment instead of instant payment; this requires trust of both the seller and the buyer upon the auctioneer and vice versa. Sometimes the buyers do not pay immediately and it is not look out of the sellers. Hence payment by buyers needs to be ensured by the auctioneer without any formal system of registration of buyer and seller – this indicates existence of power with the auctioneers. Hence the system, which may have been developed traditionally, appears to be running on the basis of trust. *The other factor*, insisted as a benefit of auction, is the best return to the sellers (mostly farmers) in an auction. When there is no auction, naturally negotiation/bargaining power of the buyers/intermediaries, generally having higher financial power than the sellers/farmers, increases. *The third factor* may be 'local practice' – in the wholesale green vegetable markets near Deulia Bazar also run through auction, whereas the same in many other districts run mostly through negotiation/bargaining. On the other hand, in the wholesale fish markets of the local districts, the general practice is auctioning. *Finally,* the unofficial auction of MGPB in tuberose is reported to bring safety to goods and proceeds to the sellers/farmers who bring flower to the market especially in time of brisk selling. This also corroborates the question of power with the auctioneer discussed above.

4.7 Why Export to The Netherlands failed?

Export to The Netherlands continued from 2003 stopped by 2006; this makes it difficult to analyse. However, the probable reasons as understood were as follows:

First, ***quality and standards*** - Product specificity including quarantine etc. was rigid at Flora Holland. The export was dependent on single item, double-petal tuberose, made it difficult to get acceptable quality throughout the year. The other flowers were not selected and promoted for the purpose. Post-harvest treatment also had difficulties, while the farm land was close to airport the pack house at Barasat (20-25km) was far from the airport in opposite direction costing on time, quality. Farmers later resorted to an unorganised stem near farm avoiding the facility. Cold-chain maintenance was not up to the mark always which resulted in a dark stain on the petals.

Second, ***scale*** - Flora Holland market imposed penalty in absence of no less than one consignment a month. Economy of scale is also important.

Third, ***failed collective action*** - Formal system of quality control did not develop with time with complains on partiality. Coordination from earliest point that is from soil preparation, sowing, nurturing, harvesting etc. were probably not duly taken care of due to lack of experience with likely adverse effect on off-season production.

Fourth, ***air-freight*** was probably one of the crucial issues - In the beginning there was flight to Netherland from Kolkata without any

transhipment. On its closure consignments were sent by Lufthansa with transhipment at Frankfurt leading to hike in freight charges, longer time requirement causing stress on flower; Air India flight did not probably encourage perishable products.

4.8 Systemic Competence

To analyse the systemic competence we need to analyse the weaknesses and strengths at different levels which are shown in figure 4.4 and 4.5.

If seen from the angle of governance, the dominant feature is 'market' or arm's length relation among the different tiers. Yet, there is a tendency towards 'relational' with minimum interference on production process which is a 'modular' feature. In any case, the export proves or proved capacity of the producers of open field variety and less dependence of explicit coordination from the buyers. The different rents are also strength of the system. These strengths are vital and can be the stepping stone for upgrading. But the confidence or strength may prove infructuous in absence of required coordination from domestic or export marketing.

Figure 4.4
Systemic Competence – locating the weakness

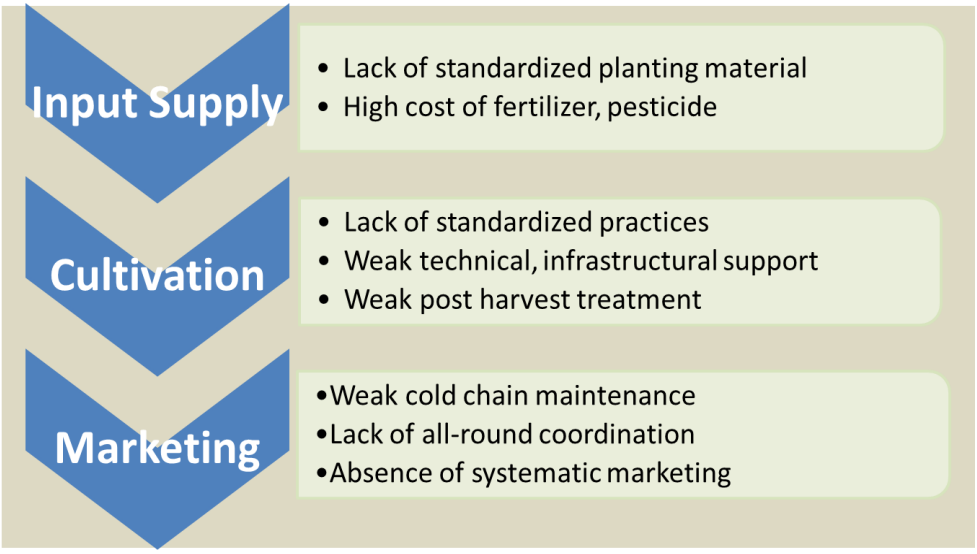
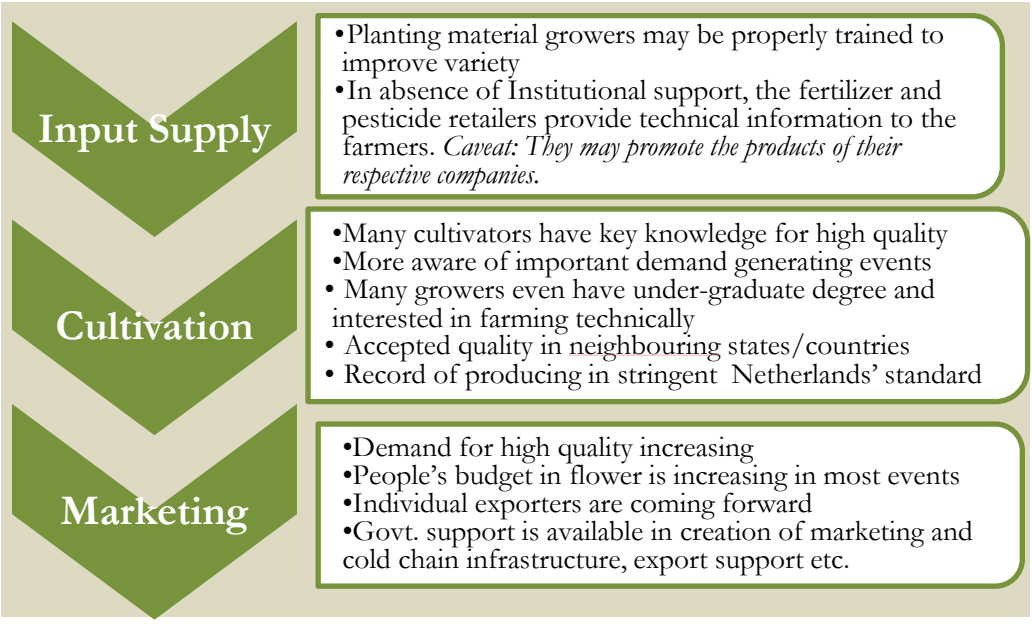


Figure 4.5
Systemic Competence – locating the strength



5 Upgrading Policy

The concept of upgrading is linked with the capacity of innovation guarded by rent. With time the rent will disperse and new innovation needs to come up. Moreover to tread the 'high road' of globalisation, the innovations need to have competitive advantage over the others, consequently highlighting the significance of rent (Kaplinsky and Morris 2001: 41).

The issue of upgrading is discussed here in two perspectives – status of upgrading already visible and scope of future upgrading, The second point relates to the sub research question – 'How can policy support the initiative in improving the position?'

5.1 Present Status of Upgrading:

All four types of upgrading as noted by Kaplinsky and Morris (2001) are observed in the CFVC (Figure 5.1):

Process Upgrading

Demand of flower remains high in certain months and peaks up on certain days of the year. The growers try to grow with harvest-plan targeting those special events. In tuberose of Rajarhat area some farmers are preparing field to get production in focussed week or month. Similarly the farmers of other flowers or other areas are also trying to reap the harvest on specific occasions. Contrarily, flowers like tuberose, rose or marigold are produced throughout the year. These occasion-specific or round the year harvesting of tuberose exemplify process upgrading.

Product Upgrading

Jhantu Barai (near Deulia Bazar) had flower cultivation in family for long but he started cultivation of Dutch rose (rose CC) in more modern way under semi protected condition. In Ranaghat farmers have partially shifted from open-field cultivation of tuberose and other flowers to gerbera under poly-house, drip irrigation etc. together with other regular flowers. Shifting to cultivation of heliconia, cock's comb and different other flowers and foliage indicate product updating. Decorators' improving from use of only flowers to complete thematic decoration using various other articles is also an example of product upgrading.

Functional Upgrading

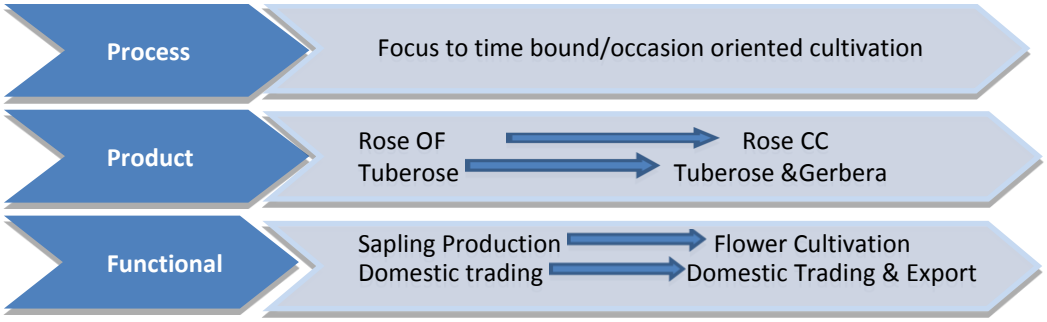
Dibakar Jasu (Bagnan area of Howrah district) started with sapling production and shifted to flower production along with production of own sapling. *He* grafts buds of own plants on rootstock/under-stock (locally known as *'ela'*) bought from others. Jagabandhu Sarkar (Nokari Bazar, Ranaghat area) has shifted to domestic trading from cultivation of Jute and flower and later combined export with domestic trade. He uses his knowledge in flowers in the trade. Here he has moved up from production to marketing and later improved in the marketing also by plunging into export. Just movement one link ahead may exemplify 'downgrading', however, going by Trienekens' (2011) definition of functional upgrading as 'the acquisition of new, superior

functions in the chain', the present case appears to be an example of functional upgrading.

Chain Upgrading

Dibakar Jasu (Bagnan area of Howrah district) has shifted from Betel-vine and paddy to floriculture; some 18 years ago. Cultivation of grass near road-side plots not prone to waterlogging has started in Jhaligachhi village of Rajarhat Block. Presently this is more profitable than flower-cultivation here. However, following Trienekens' (2011) definition of inter-chain upgrading as 'applying the competence acquired in a particular function to move into a new chain' this does not appear to be an example of chain-upgrading though experience of 'cultivation' appears to have been used.

Figure 5.1
Types of Upgrading in cut flower Value chain



5.2 Initiative in Improving the Position – A Policy Issue

Improving the situation of the marginal and small farmers can be done by up-grading their position along the value chain or by bringing more money at their hand and thereby raising their capacity. Humphrey and Schmitz (2004a: 371-2) conclude that *combination of cluster approach* with its incidental and deliberate effects *and chain approach* is effective in upgrading. Moreover, implicit innovation policy through incentive structure ('trade, tax & monetary policy') without frequent and drastic change is more important than explicit innovation policy (e.g. 'financial support to training and technology institutes') to develop and maintain strategic upgrading initiative.

Any upgrading policy should be based upon the ground reality and future goal. Here, some of the *ground realities* are – the position of the marginal and small farmers in the 'production' link of the value chain with low income level; the flower production is more concentrated in six districts of alluvial West Bengal giving a cluster feature but with little cooperation as found in Tuttlingen, Germany (Halder 2004); capacity and willingness of the within-the-chain stakeholders or the local government in investment to bring in technology, infrastructure, capacity building of the actors, institution build up and so forth; dominance of arm's length relation in the sector; skewed price structure with sharp peaks and broad troughs of demand; low producers' share of the overall profit. On the other side, the major *needs* are, firstly, to increase money flow in the chain by increasing volume of transaction and value of per

unit transaction by improving quality of flower and shelf/vase-life; secondly, to reduce the profit-gap between retailer and the producer; thirdly, to broaden the peaks and narrowing the troughs in demand; fourthly, to improve post-harvest management and cool-chain management to increase supply in peak periods; fifthly, to improve quality of flower produced, by investing more in production technology; sixthly, by focussing on economy of scale at different levels.

India being the second most populous country and having a rich domestic market a *two pronged strategy by improving the domestic market and the export market simultaneously* may be adopted. The quality and quantity aspects would be different for domestic and foreign market. The latter is expected to have more stringent norms especially in the sophisticated European or other DC markets. Increasing penetration in export market may also help in growing round-the-year demand and spill-over effect domestic scenario.

Increasing volume of production means and can be done by process upgrading; improving quality of produce indicates product upgrading. These can be done incrementally or substantially; in earlier option cooperation and spill-over knowledge in cluster may be helpful but for big leap external collaboration likely to be helpful.

Increasing money flow, broadening peaks/narrowing troughs of demand directs adoption of new marketing strategy; in domestic market these can be done by improving regular demand of flower especially in the dull season; improving focus of production in the peak seasons and improving preservation techniques and infrastructure; thus indicating various need for all sorts of upgrading.

Reducing the gap between farmer and intermediaries/traders/retailers and improving economies of scale point towards more associating and collaborating among the stakeholders; this is likely to be promoted in cluster.

Major constraint of product/process/functional upgrading is heavy resource and technology dependence of all. Availability of useful technology again depends on resources. The investment capacity of the actors was not seen to be promising; the investment by government and support by the university were not very conspicuous. Moreover considering the dynamic nature of rent, investment planning should be long term one. Hence policy should focus on long term investment requirement - domestic private investment, government investment, foreign investment or a balance of three. Another crucial point is even the investment is domestically arranged, considering the little exposure to DC markets and dominance of rent in high quality auction, wholesale and supermarket chains (Wijnands 2005), penetrating such areas and creating a foothold is not easy.

The VCA gives the key insights that arm's length trade generally does not bring much return (Kaplinsky 2000) ***nor it helps or creates blockage in upgrading*** (Humphrey and Schmitz 2004a); the DC lead firms generally do not promote functional upgrading even in quasi-hierarchical chain or upgrading in arm's length and modular value chain. Dealing with small customers, rather than large ones, facilitates functional upgrading. Hence it appears that for export promotion, integration with global quasi-hierarchical chains is important. It is expected that with improving capacity of the local producers by product and process upgrading through integration in global

quasi-hierarchical chain, the chain relation may change with time when coupled with parallel domestic support and investment.

Hence ***the policy may possibly focus on mixed-approach by parallel development of cluster and value chain based on the local strength*** and expected to cover the following issues-

1. Promoting long-term domestic private investment by substantial incentive structure (tax, trade & monetary policy). This will help in improving domestic market-share and at the same time build up export dealing with small parties as experienced in Indian Garment sector (Tewari as cited in Humphrey and Schmitz 2004a). Movement to modular value chain might help in improving domestic inter-state market.

2. Promoting explicit innovation policy, e.g. financial support to training and technology institute, standardisation, testing facility, institution building etc. (Halder 2004). These institutes should develop association and cooperation within the link and the chain or with the parties beyond the chain. Prioritisation of the smallholders' issue is important to prevent their exclusion.

3. Increasing government investment in the above sector with focus on joint venture or in public-private-partnership mode considering poor performance or utility of existing infrastructure facility. It will also help to focus private investment locales.

4. Integration with global quasi-hierarchical value chain.

Finally, Policy should not be fluctuating or short term, rather it should be steady over long term giving an edge to actors and stakeholders. The DC buyers are often interested but cautious in starting a trade relation with LDC suppliers and look for human resource qualities of the LDC suppliers rather than infrastructure or machinery (Rauch and Watson 2003). Sinos Valley experience show that functional upgrading is promoted by domestic growth. Hence, there is always scope for upgrading based on balanced domestic and export policy.

6 Conclusion

This research started with the question:

What is the position of marginal and small farmers, engaged in its cultivation, in the cut flower value chain?

And the sub-research question:

How can the policy support the initiative to improve its position?

To analyse the questions, value chain concept with rent, chain governance, systemic strength, upgrading, small holders' problem etc. were used as theoretical base. The field work was stretched from the retailers through the markets, decorators, traders, intermediaries, producers to the input suppliers and external stakeholders like market committee, university and government officials. The area of work extended from the retailing area in Kolkata, biggest wholesale flower market in Eastern India and lastly, production zones with auction-based market of Deulia Bazar, negotiation-based market at Ranaghat area and little market at Rajarhat area. Relations in these places, their similarities and differences were also scrutinized.

The primary findings are as follows:

i) Rent: Human resource rent giving an edge to the double-petal tuberose farmers of Jhaligachhi village of Rajarhat; or rent through soil type benefitting the farmers of different flowers in different places; farmers close to Agricultural University gained by getting knowledge in modern cultivation. *Yet* the Jhaligachhi farmers do not produce their best quality in absence of demands.

ii) Governance: The relation is mostly 'market' or arm's length in nature in local trade whereas it is between 'market' and 'relational' in case of domestic interstate trade, export to neighbouring countries and Dubai and lastly, relational in case of erstwhile export to The Netherlands.

iii) Upgrading: Product, process and functional upgrading were observed.

iv) Small Holder problem: The marginal and small farmers are suffering from shortage of producers' organisation, bank loan, investment etc. Moreover it is the marginal farmers or specifically the smaller side of the marginal farmers who are the worst suffers with diseconomy of scale being decisive.

v) Systemic competence: The arm's length relations provide general non-dependence of each actor on other and keep the avenues open. Many farmers are educated and are interested to cultivated more technically. Optimism was found among traders to venture in export and in the existing rents. The overall market for flower is growing.

vi) Weakness: Use of technology in cultivation is low; post-harvest management or maintenance of cool-chain is almost absent. Low demand of high quality products resulting in low demand for other specialized material and knowledge inputs. Demand of flower is

based upon narrow peaks marked by events/occasions and broad troughs; farmers suffer from shortage of fund; at times return is less than production cost. Besides, coordinated approach for export to The Netherlands did not continue for long. Moreover, status of government run infrastructure in the state is not very promising and time taken to complete a government project is sometime too long.

Thus the position of the farmers may be summarized in two ways. Firstly, they are located in the 'production' link of value chain; those who produce and sell in the market directly to different types of customers may be assigned to both the links of 'production' and 'marketing'; in either case, the value chain is of 'market' or between 'market' and 'relational' in nature; that is they are not likely to be under commands of others. Secondly, the position in general – the sale-price at the hand of retailer is double to that at the hand of producer. The farmers have little access to technology, bank credit, association, scale or they are handicapped by low demand for high quality flower when different high quality flowers are brought in from other states or countries. These together make them vulnerable. The example of farmers selling big-bulbs of tuberose for non-floricultural use just before flowering to get money in one go, in the most famous tuberose-region of Rajarhat, buttresses the status.

The second research question is more difficult to answer directly.

Considering the position the probable priority areas appear to be - Increasing money flow in the chain by increasing volume of transaction and improving quality of flower, reducing the profit-gap between retailer and the producer, broadening the peaks and narrowing the troughs of demand curve, improving post-harvest and cool-chain management to increase supply in peak periods, investing more in production technology to meet the export parameters or focussing on economy of scale at different levels. A simple issue is a farmer with two hectare protected modern cultivation is most probably stronger than with open field cultivation on similar holding. These necessitate upgrading, that is innovation clubbed with rent, in product, process and function.

But upgrading is dependent on governance along with cluster, willingness and capacity of the stakeholder and local government approach. The 'arm's length' relation neither supports nor opposes upgrading; experience of 'relational' value chain in export to The Netherlands is not very encouraging. So getting global resources and technology is not very optimistic. Entering GVC also gives a 'low road' or 'high road' option; at least hope of 'endogenisation' is not high.

Hence, to arrange for the resources and technology to promote upgrading, a mixed policy appears to be vital. Weaknesses need to be overcome by the strengths and internal diseconomy of scale can be compensated by external economies of scale by pooled effort, whether in terms of volume or knowhow. *Hence, a four-pronged approach may be helpful* – firstly, to promote long term domestic private investment by substantial incentive structure; secondly, to promote explicit innovation policy by favouring and initiating cluster formation; thirdly, increasing government investment by public private partnership (PPP) or joint venture and intervention; and fourthly, integrating with global hierarchical value chain in parallel. The most important part of

policy frame is that it needs to have *long term focus and consistency* and take care of institution building with full attention to the smallholders.

The marginal and small farmers engaged in CFVC are therefore handicapped by many a problems and sufferings common to smallholders' problems in general. The prevalence arm's length relation result in decentralized chain governance with limited rents and making upgrading an individual actor's decision without having relation with other chain actors. Indeed a lot of value chain characteristics fade away. Nonetheless, the 'market' relation strengthens the marginal and small farmers at least in one way – they are not subject to whims of a few. Scope of upgrading therefore remains open, highlighting the need for multi-chain approach with collective initiative of the Local Government and actors. When the poor farmers without formal training are just stopping themselves from growing export-quality product, it is policy that could intervene.

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Appendices

Table 2
Floriculture: Share of West Bengal in India

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Cut Flower Production	32%	35%	45%	44%	33%	35%
Loose flower	6%	5%	6%	5%	5%	6%
Area of all flower	14%	13%	17%	13%	12%	12%

Source: Recalculated figures from Kumar (2008 & 2011)

Table 3
Number and Area of Holding by Size Group in percentage

Sl. No.	Size of Holding (in hectare)	WEST BENGAL				ALL INDIA			
		Individual Holdings		Joint Holdings		Individual Holdings		Joint Holdings	
		Number	Area	Number	Area	Number	Area	Number	Area
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Below 0.5	58.01	28.24	0	0	44.24	8.61	42.52	7.21
2	0.5 – 1.0	23.17	24.56	0	0	20.02	11.85	20.78	9.84
3	1.0 – 2.0	14.38	30.09	0	0	18.88	21.64	17.29	16.33
4	2.0 – 3.0	3.38	11.56	0	0	7.67	14.99	7.48	12.14
5	3.0 – 4.0	0.66	2.98	0	0	3.48	9.73	3.98	9.16
6	4.0 – 5.0	0.29	1.69	0	0	2.02	7.33	2.37	7.07
7	5.0 – 7.5	0.09	0.74	0	0	2.13	10.51	2.71	11.03
8	7.5 – 10.0	0.01	0.12	0	0	0.81	5.63	1.20	6.84
9	10.0 – 20.0	0.00	0.02	0	0	0.64	6.89	1.25	11.17
10	20.0 & ABOVE	0	0	0	0	0.11	2.82	0.42	9.20
11	ALL CLASSES	100	100	0	0	100	100	100	100
Note: Figures are in percentages to All Classes; Neg: Negligible **Gender : TOTAL** **Social Group : ALL SOCIAL GROUPS.**									

Source: Agriculture Census India 2005-06

Table 4
List of Stakeholders Interviewed

	Input Supplier	Marginal Farmer	Small Farmer	Semi-medium Farmer	Intermediary	Auctioneer	Decorator	Trader	Exporter	Retailer	Cold store	Market Committee	Govt. Officer	BCKV Professor	Total
Deulia Bazar	1	2	-	-	1	1	-	1	-	-	1	-	2	-	**9**
Ranag hat	1	-	2*	-	4	-	-	1@	1@	-	1	1*	-	-	**9***
Rajarh at	-	2	1	1	1	-	-	-	-	-	-	-	1	-	**6**
Kolkata	-	-	-	-	-	-	3^	1&	1	5^&	-	-	4	-	**11**
Mullick Ghat, Kolkata	1	5%	-	-	1	-	-	3#	1#	-	-	4$	2$	-	**14#$**
TOTAL	**3**	**9**	**4**	**1**	**7**	**1**	**3**	**6**	**3**	**5**	**2**	**5**	**8**	**1**	**50**

* => 1 person common; &=> 1 person common; # => 1 person common; $ => 2 persons common;
^ => 2 persons common; % => Farmers were from Howrah, Purba Medinipur, North 24 Parganas districts;