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**39**

**ISSUES IN CERTIFICATION AND  
MECHANISATION IN COFFEE  
CULTIVATION : PERSPECTIVES FROM  
SMALL GROWERS OF KODAGU  
DISTRICT**

**C. Upendranadh, C. A. Subbaiah and P. Rajesh**

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## **ABSTRACT**

Mechanization of plantation operations and improving quality through certification are two critical issues that small and marginal planters of coffee are facing in this era of globalization in order to ensure viability and sustainability of plantations. Market uncertainties, near-static productivity, rising labour costs and environmental concerns have led to tremendous stress for small growers and they pose a serious threat to the viability of small holder production. Planters face numerous difficulties in adoption of mechanization and certification. Through field interviews and group discussions we documented views of planters and identified solutions from their perspective. Small and marginal growers look for government support for investing in mechanization, training and skill upgradation of plantation labourers and meeting part of wage costs by linking MGNREGS with plantation operations in private holdings. Similarly, on quality improvement through certification, more renewed facilitative role of coffee board is sought as a crucial intermediary to streamline multitudes of third-party governance mechanisms. Contextual, indigenous and cost effective native certification with the active support of coffee board is advocated in order to build a niche for Coorg coffee in the international market. Landscape approach to certification of all plantation products may also help enhancing incomes of planter community.

## **Introduction**

Globalisation and concomitant changes in organisation of production, distribution and trade has resulted in changes in the structure and character of economies and societies that depend on primary commodities like Coffee. In India Coffee is produced in the Southern part of the country in the Nilgiris bio-sphere, which is ecologically sensitive region of the country, covering parts of Karnataka, Kerala and Tamil Nadu. Within India over 30 per cent of the production comes from the district of Kodagu, which has over 80,000 small growers and more than 200,000 coffee workers engaged in the production process. It is estimated that small growers contribute about 70% of the production in the country.

The impact of globalization has been seen in production, labour relations (shortage of labour), marketing and trade and social and cultural aspects of coffee growing areas. While the productivity has reached a plateau in terms of current practices and technology, global studies point out that there is tremendous scope for increasing productivity through improved management practices and through mechanisation. From the marketing point of view it is pointed out that adoption of certification processes (which are primarily private governance mechanisms towards quality and sustainability) would enhance production quality and productivity to a larger extent. Given the environmental implications of sustainable production, there is also growing expectations to move towards organic cultivation (certification), which is also expected to enhance incomes for producers

as increasingly global consumers (especially western) are conscious of the value of sustainable production. Certification has also been promoted in order to improve the production conditions, fair labour standards and enhanced value at the production site of the value chain. In relation to addressing labour shortages (and to arrest spiraling input costs) and improving productivity, it has been suggested that mechanization would be an option that can be exercised by the growers. There have been efforts by agencies like Coffee Board to encourage such a measure. However, evidences so far point out a lukewarm response from the planters, especially the small and marginal holders, towards the use of mechanical devices (mostly labour saving) for a host of reasons. Similarly, small and marginal planters also demonstrated less enthusiasm towards third party certification measures that ostensibly fetch premium prices.

Hence, it would be of policy interest to explore in depth these two inter-related issues viz., mechanization and certification. In this study, relying on primary information gathered from planter community, we attempted to explore further some of the issues related to adoption of quality improvement mechanisms viz., certification and mechanization. These two are expected to address economic and environmental concerns from the point of view of sustainable production and marketing. At the same time, they also bring in various dimensions of coping strategies from the point of view of coffee growers who still remain under stress from an 'economic viability' perspective. The critical question is, what are the underlying factors for such a lukewarm response for these initiatives from the planter community.

This paper is organised in four sections. Following this introduction we provide a brief overview of the current state of debates with respect to mechanization of cultivation and recent developments in certification initiatives. Section three provides field perspective with respect to these aspects drawing from the group discussions and

interviews held with small and marginal growers<sup>1</sup>. And the final section provides some of the policy implications with respect to certification as well as mechanization efforts that are underway in the district.

## **Section II: Issues for Debate**

### **Introduction of Mechanization in Plantations**

In India, Coffee is grown under shade and in difficult terrains of relatively high altitude hills and slopes. From a small and marginal holder (below 10 hectares) perspective, cultivation is becoming economically unviable due to fluctuations in prices and increasing labour costs. Long term development and planning vis a vis improvements in production conditions, in terms of acquiring new plant material, machinery and equipment etc are becoming difficult propositions as there is greater price instability and rising cost of inputs. Being labour intensive production, labour cost accounts to about 65 per cent of the total cost of production<sup>2</sup>. Hence the challenge is how to reduce labour input in the production process.

On the positive side, almost all of the plantation operations are undertaken by physical labour (hands) and this itself has its own value as each of the coffee cherry is hand-picked. Unfortunately, such production specificities are not marketed and do not count in creating additional value or premium for Indian coffee at the domestic and international markets.

Be that as it may, the issue in question is to deal with rising cost of labour and also shortage of labour for several of the operations. It is in this context, mechanization has been identified as one of the options. In our previous studies on farm labour issues<sup>3</sup>, we identified that given the specificities of terrain and constraints in production conditions,

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1 We use data and information based on the field work conducted in various phases during 2013 and most recently in early part of 2014.

2 See Upendranadh C & Nanda Subbaiah (2013)

3 *ibid*

partial-mechanisation as a labour saving strategy is possible, if not complete mechanization as it is practiced in coffee growing areas of Latin America. Coffee board has also come up with schemes to support mechanization and there has been growing interest among some planters on the need for mechanization. Special schemes of subsidy for purchase of mechanical devices have also been put in place by the coffee board in this regard. However, we find that mechanization is not a pervasive strategy, especially among small and marginal growers as one would have expected. It needs to be investigated why and how such a situation prevails?

Technology adaptation<sup>4</sup> has been studied from the perspectives of demand and supply. Primary motivation for mechanization is in its effectiveness in increasing productivity (and labour saving) and concomitant economic value in terms of cost reduction as well as quality improvement - especially through small hand operated mechanical devices and equipment. In plantation operations, technology plays critical role in two ways. While labour saving devices are being in use in a limited way, their large scale use is hindered by several factors. Large scale high technology equipment like harvesters (as is practiced in Latin American coffee production) is not possible. Only small scale hand held/motor operated devices are identified as ideal for this terrain and production conditions. For small and marginal growers cost of equipment is still high and the savings that can be made through use of certain machinery is apparent only if there is a scale of operation. Many tasks in plantation operations are individual oriented and payments are also time-to-task based. This mode of management is also a factor which perhaps needs to be re-looked from the perspective of introduction of mechanical devices. How planters adapt to such situations is not yet been studied and it requires action research to establish the productivity

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4 Mechanization and use of equipment is seen as a sub-set of broader technological changes. We do not include in this debate issues related to technological advancement of plant material, R&D related to plant-biology etc. However to a certain degree, adoption of certification is also seen as technological advancement.



increases as well as cost saving with each of the mechanical devices. Such a demonstration in the field would perhaps induce small growers to appreciate use of technological devices.

From a supply side, institutional mediation is critical for the adoption of mechanization and its use. There is a need for facilitation in terms of access to capital, policies related to taxation of such equipment, awareness, skills improvement for labourers, extension and demonstration (lab to farm transfer) support, repairs and services. While at the field commercial establishments play a role, there is also a role for state institutions in enabling large scale adaptation (moving from pilot to scale). All these involve active participation of all stakeholders including planters, private sector and the public agencies (Like the coffee board, research institutions and agriculture universities etc).

Similarly, issues related to gender implications of technology have not yet been fully studied as we understand feminization of work in plantation operations is on the rise. It is mostly women who remain in the plantations as permanent workers and undertake several operations. Mechanical and technical devices that enables 'convenience' and ease for women to work in plantations are not been focused so far.

Another critical area which has not received attention is mechanization and technological devices/advancements in relation to development of organic inputs (manure, insecticides etc). Technologies related to generation of organic matter, preparation of inputs through vermi-compost and other farming methods for organic cultivation have not yet been explored sufficiently in order to argue a case for adaptation by small growers to such practices.

### **Introduction and Implementation of Certification Systems**

Earlier NRPPD research brought out several important dimensions of production, marketing and labour processes within Coffee sector in the district of Kodagu.

As it is well documented, coffee is a very volatile commodity in terms of prices as it is traded globally. The price volatility has a strong relation to the production conditions and productivity (both in-country and outside) as well. As a primary commodity with historical dependence of migrant labour, Coffee production in Kodagu district (and in Karnataka) has experienced a sharp slump during early 2000 , and it is almost after a decade that the sector has seen a recovery in terms of prices. Still fortunes of coffee growers are tied to the global developments, including that of climate change effects. Labour shortage (for critical operations) is also a factor determining the future of the plantation sector itself. When it comes to production and marketing, our previous studies identified several constraints especially in relation to improving the quality of production and improving productivity. Several measures have been suggested that include partial mechanization, encouraging certification, incentives for conservation and input subsidies in terms of easing labour costs by linking some of the coffee plantation operations to government programs like MGNREGS.

It is also found from the studies that not all planters, especially small and marginal planters are receptive to newer private governance mechanisms like certification which attempt to accommodate environmental, social and economic sustainability (4C, Utz-Kapeh, Rain Forest Alliance, bird friendly, etc) and there are structural constraints found in moving to niche quality areas like production of organic coffee on a scale. One possible reason for such a situation - that we infer from earlier studies- is that, historically planters feel themselves as environmental stewards and have a positive attitude towards biodiversity conservation and protection ( Neilson, J and Pritchard, Bill (2009) p.175). Implications of such an observation need to be studied further and we attempt to do the same through our field work observations.

More recently, private corporates like Nestle are encouraging planters to adopt certification and even the Coffee Board has schemes

to encourage certification processes. Big corporates like TATA coffee practices Utz-Kapeh certification for past many years and similarly several large estates practice organic cultivation and other forms of certification and traceability. All these private governance mechanisms have implications at the market and also have demonstration effect on small and marginal growers. However, we do not find a large scale adaptation of these among the small and marginal growers. Reasons for this situation need to be explored.

Being a buyer-driven market, some of these mechanisms of certification have implications for production conditions as well as marketing mechanisms. The critical question is whether the coffee growers (especially small growers) have choice with respect to marketing; and also their ability to withstand the price volatility even while having the produce at hand which is quality complied. While the production quality parameters are set by the external agencies and are audited, the information asymmetries involved in marketing still remain and it works against the producer. There are evidences that often the price premiums assured through certification falls below the normal market prices which in effect would mean a net-loss for the producer who has undertaken the arduous tasks of compliance. In a recent study, it is found that certification *per se* does not guarantee any large premiums and at the same time, multitudes of certification mechanisms are also providing conflicting signals among the coffee producers, exacerbating the issues in relation to choice. Other external factors such as the time-delays in payment, cost of compliance and verification processes, the household economic compulsions of the small growers (especially to manage monthly cash flows), dictate the willingness to participate in such private certification mechanisms.

The other issue of critical concern is some of the certification mechanisms that analyse the value chain and invoke principles of Payment for Environment Services (PES), often address the problem

from an environmental and sustainability point of view which often stands in conflict with the economic choices and decision making of the individual planters. While corporate-driven certification mechanisms often invoke principles of environmental sustainability, their motives are tied to the final consumer (and brand image) and not necessarily the avowed goals of sustaining the economic, social and environmental outcomes of the production sites, especially of the families who are producing raw coffee. We do find such goals are met through corporate social responsibility (CSR), which often would mean providing some social services for the families and improvements in surrounding environment. Sustainability of such operations remains serious area of contention.

Another strand emerging (amongst better endowed planters) is organic cultivation and certification measures based on those criteria of using organic practices. While environmental sustainability is the primary driver for such efforts, it is to be noted that scaling-up of these efforts especially by encouraging small and marginal growers to adopt - appear to be a difficult proposition due to several structural factors related to such production process. They include, relatively stringent parameters of compliance (though some processes provide flexibility), in-conversion process and associated loss of productivity, availability of organic matter etc.

Without going into the merits or demerits of each of the certification mechanism and its implications in terms of marketing, it suffices to say that increasing clamour for certification need to be tempered with caution as almost all those in operation are predicated upon the assumptions that the producers would be able to withstand the short-term disturbances or imbalances in terms of production and productivity. In such circumstances any proposals for large-scale adoption comes under serious question. Rather we argue that it needs to be backed by the intervention from the State. Markets alone would not

suffice to ensure goals of sustainability (environmental, economic and social) when viewed from a small growers perspective. A critical point to reiterate here is that coffee cultivation in Kodagu district is largely contributed by small and marginal growers and they constitute over 70 per cent of the operational holdings. Thus any efforts in relation to quality improvement need to take into consideration household level economic choices and economic sustainability of growers and the workers who depend on them.

From the current state of debate around certification brings us to the following conclusions.

1. There is a general perception among the planters of their historical role and significance as custodians of environment. This brings a scenario where in planters are not able to appreciate the motives of external (third party) certification interventions.
2. Buyer dominance in the market makes these processes of certification often redundant as the promised price premiums do not significantly create additional value from the point of view of small growers.
3. There are also limited / no choice with as most of the certification mechanisms expect exclusive buyer contract – which provides an asymmetrical relationship.
4. It is possible to adopt certain environmentally sustainable production processes ( and certification) in conditions where growers with higher resource endowments, who can withstand the initial periods of instability, uncertainty and have capacities to engage with such niche markets.

It is from this backdrop that we need to analyse the field observations.

### **Section III: Evidences from the Field**

#### **Experiences of Mechanisation in Small and Marginal Plantations**

There are various type of small mechanical devices used for agriculture operations. While some are specifically designed for plantation operations, there are many generic equipment used for multi purposes (for plantation crops and other crops like paddy). Tillers (mini and power), mini hand sprayers, weed cutters, chain saw, motorized sprayers, harvesters etc are some of the machines procured by the planters to meet their operations. Coffee board has provided a scheme to encourage purchase of machines. There are authorized agencies who stock these equipment and upon purchase (with full cost), coffee board would re-imburse the subsidy component up to the extent of 42 per cent of the cost of the equipment (Table 1). There are of complaints from the growers with respect to paper work and delays in realization of the subsidy. One of the areas of contention that planters argue is that these equipment are taxed at a rate of 5% VAT and it is suggested that they can be exempted from the VAT as most of them have use only in the primary and rural sector of the economy. This would in a way compliment the subsidy and would encourage more small growers to come forward procuring these equipment.

Our discussions with planters and farm equipment sales agencies (there are 7 in madikeri town) reveal interesting facets in relation to the procurement of machines. Shopkeepers point out that due to the cumbersome procedure small growers are not inclined to procure any mechanical equipment. For small growers, purchasing at full cost in the first place is also a problem. Only those with large estates tend to buy machines. While after-sale service and repairs are undertaken by the shop keepers who have authorized repair shops, small growers find it difficult to avail those services as they have to incur considerable transportation costs and often spare parts are also not available on time. For these reasons small growers tend to ignore the offers given by the coffee board in terms of subsidy for getting the machines.

**Table 1 : Cost of mechanical equipment and the subsidy provided by the coffee board**

Type of Machine	Model specification	Total Amount (in Rs) including 5% VAT	Subsidy from the Coffee Board (in Rs)	Subsidy as a % of cost
Brush cutter	2 stroke, bike handle type	20045	8519	42
Brush cutter	4 stroke	25320	10761	42
Chain saw	Engine operated	15825	6725	42
Sprayer	Battery operated, backpack model	5169 – 20045	2197 – 8519	42
HTP pump sprayers	4 models	32810 – 37275	13944 – 15841	42
High pressure diaphragm pump sprayers	4 models	66043 - 72373	28068-30758	42
Power tiller	2 models	12238	5201	42
Harvester	Gulliver	15000	6300	42

Source: Compiled from interviews with dealers of farm machinery

It is noted that weed-cutters are the most popular among the planters in terms of its utility. These are motor operated and weighs about 8 kgs, can be carried by the worker. It is mostly used by male workers. As it can be seen from the chart (Annex 1) that planters identify it as most cost and labour saving device. Even for small growers this appears to be an important investment. It is reported by one of the shopkeepers whom we interviewed that he has sold over 300 units during the last year. There is a trend of increasing interest among the planters to use this machine but still it is slow, according the shop keeper. At the same time, harvesting machines are not taken upon by the planters as they found number difficulties with respect to coffee harvesting, which is again a labour and time consuming task in the entire plantation operations. It takes anywhere between 8-10 weeks to complete manual harvesting a small holding of 10 hectares. The difficulties related to harvester (Gulliver – company model appears to be popular), like having to use 2 labourers per machine, not having spare batteries, 4-6 hours life span of one battery are some of the constraints. There are also complaints that in high altitude regions, spreading the mats below the bushes require more laborers and it does not work out economical using harvester in terms of labor costs. Rather it may help in reducing the time for harvesting.

Awareness about the use of machines, simple and comfortable processes of getting subsidy, after-sale services for repair, stocking of spare parts are some of the suggestions given by the planter community with respect to use of machinery. Some growers observed that gender aspects related to machinsation has not been considered at all in terms of design and use of machines. Given the feminization of labour and most operations (except tree branch lopping) are done by women, consideration for women-friendly equipment is something that has not been considered while developing techonologies. It is to be noted that the weed cutter is mostly used by men (it weighs about 8 KGs) and women who does weeding do it manually. Design and use of light



weight buckets, wheel barrows and tillers need to be looked into in reducing the drudgery of women.

Growers felt that R&D in relation to locally suited and convenient coffee harvester is the need of the hour. During our group meetings, many planters expressed their disappointment over the current models of harvesters. Some viewed that even if we improve the existing model “Gulliver” with an option of having a spare battery and reducing the weight, it may be helpful. There is an interesting discussion on the new models of harvesters being adopted in Latin American countries, that vibrate the entire plant so that the berries are dropped down (mechanical vibration and newly found electromagnetic shaker are two variations in this). Planters do not have sufficient information about these models and have expressed doubts whether such machines would affect the plant strength. It is observed that such machines are used for harvesting olives and their suitability for coffee need to be studied. There is a need to explore further in some of these new developments and identify the adaptability to the conditions under which coffee is grown in the district. It is repeatedly observed that use of machinery in coffee is something that needs to be contextualized. For example, simple equipment for transportation like wheelbarrow (with an engine) can be difficult to use in certain terrains in the district.

There is an interesting development in terms of use of small mechanical equipments. Some of the enterprising laborers procure weed cutters and hire them to the planters (along with their labour hours). Such a situation appears to be win-win as these equipment are hired at the rate of Rs.150 per hour basis. It also helps the laborers to get quality employment.

However, small growers are not very enthusiastic to form collectives and procure equipment for their shared use. It is mainly due to the fact that they feel all farm operations are time bound and they may find it difficult to schedule their operations according to group norms. This is one area that needs further exploration as to why such

collectivization is not possible with respect to Coffee while it is followed in other crops.

One area of interesting aspect with respect to mechanization is also an associated aspect of using technical know-how and identification of suitable equipment and mechanical devices for developing organic matter for strengthening the nutrient base of the soils and to encourage use of organic matter. It is well known that most of the coffee grown in the district is under small and marginal cultivation and most farmers use organic material (prepared at their own backyard or purchased) to strengthen the soils. Supporting bio composting, bio-char making equipment etc can be explored apart from soil testing equipment in order to support small growers in developing organic matter on their own. For example, some of the organic coffee growers groups use bio-char equipment in order to make use of dry litter of trees and plants (twigs) and that helps them in generating sufficient organic material to be used to strengthen the soil. Bio-mass production on small scale can also be seen as a technological innovation and small scale equipment to do such operations need to be encouraged (instead of corporatized technologies of bio-mass generation).

There are also some interesting field observations in terms of adaptation of the standard models to suit the needs of the planter community. For example, one shop keeper explained that he has been able to “alter” the tiller by adding additional equipment so that its horse power and strength can be enhanced. This he felt has helped in reducing the fuel consumption and also improved efficiency. While such innovations are possible, they need to be further adapted on a scale in order to encourage more planters to take up mechanization that can reduce the costs.

While the estimates vary, there is a view among the planters that by using weed cutter, tiller and chain saw, on an average about 50 per cent of the labour cost can be saved. One of the major shortages that planters felt is absence of qualified repairers for the small equipment

that they purchase. For even simple repairs they have to take the machine to near-by town, which would mean transportation cost and also time consumed to get the machine repaired. There is a need to develop a cadre of bare-foot equipment repairers who can operate on a self-employment basis, attached to major sales and distribution agencies. Such options have not yet been explored in the district.

There are few expectations that the growers have expressed in relation to mechanization. Some enterprising planters who procured information about machinery that is being used abroad like a small models of Japanese tiller, would like to see import duty on such equipment waived in order to purchase them at a lower prices. Planters also like the coffee board invest in training and capacity building of workers on the use of machines. Right now there are no structured trainings on machinery for the plantation workers. Awareness through radio and other communication medium is also suggested as one option.

### **Experiences of Coffee Certification in Kodagu District**

Planters from Kodagu district has been exposed to certification related interventions over the past decade or so. There have been attempts to introduce certification in various forms, mainly spearheaded by corporate sector as well as international NGOs, mostly through third party governance mechanism. Given that Coffee is completely grown under shade, cultivation practices attracted attention of those who promote certification on the grounds of environmental sustainability as well as those who believe in providing greater (fair) value for the growers and workers of plantations. Economic, environmental and social sustainability have been accommodated in several certification programs that have been in vogue in the district. However, there appears to be a skeptical view on some of these mechanisms. It is perceived by the small growers that powerful interests of roasters and retailers in pursuing audit-based environmental accountability schemes have inspired certification mechanisms which are not context specific, especially to

the local geography of coffee production. This is one observation we repeatedly heard as we interacted with several growers' groups during our field survey. The reality is more complex and there is a need to address this apprehension; and it is here some progressive planters visualise the role of state intervention, especially bodies like the Coffee Board.

Among many the prominent certification processes that the planters (small and marginal growers) are aware include Utz - Kapeh certification, 4C certification, Rainforest Alliance, and Bird friendly certification. It is to be noted that introduction of these among the small and marginal growers has been relatively new and there are out-reach programs by corporate buyers and other INGOs in this regard, which picked up momentum during the past few years. On the other hand, corporate planters like the TATA coffee use Utz certification that governs the production processes of their entire plantation areas. There are also few private estates and individual planters who adhere to organic production and link themselves with certification programmes that have been practiced by various agencies. We understand from the field interviews that some of the organic growers have direct links to exporters who seek organic coffees. IMO – Swiss based ecologically sustainable organic produce certification agency is supporting some planters in getting their produce certified (following national programme for organic production standards). IMO also provides support for certifications like, Global GAP, Utz certification and FSC certification support to planters through accredited agencies. There are also a few planters who initiated Participatory Guarantee System (PGS) as part of organic agriculture movement, where in peer inspection and certification processes are encouraged and such produce is linked to the export markets. However, it is to be noted that efforts from the organic production and certification are far and few amongst the small and marginal growers. Even among the large growers the spread of such certification experiences are not really wide.

There have also been certification efforts through research and innovation side as well. For example, a multi-country project, CAFNET,

attempted an action research on payment for ecological and environmental services with identified planters and introduced certification through rain forest alliance and Utz certification programmes. EcomGill and NED commodities have provided support to planters in this process as procurement agents. Formation of farmers clubs, small groups to get them introduced and trained in quality improvement processes have been undertaken as part of CAFNET project initiatives.

Critical areas we probed during our field visits have been around experiences of small and marginal growers who either participated in these certification programs or aware of them and perceptions of those who are the other stakeholders in these processes.

Our field visits elicited interesting views on certification process that small and marginal growers hold vis a vis certification. For example, marginal growers of Gudalur area (near Maldare, South Coorg), were part of the Nestle program (Nescafe plan programme started in 2012), which has been rolled out as creating shared value program, where in 4C certification is promoted apart from technology support and other services from the company. There have been demonstration and training sessions held with identified planter community. Planters perceive that 4C certification is less stringent and more flexible and the fact that they do most of the cultivation with minimum application of fertilizer or pesticide as they are resource poor. In such circumstances it appears natural that they expected to get a price premium for the coffee. In this model, they were expected to supply to a buyer (High Range Curing works) who is located in Periyapatna, a nearby town in the Mysore district, which is about 20 Km away. There appears to be some demonstration effect as more planters joined in this programme. However, during 2013 crop season, when the production has fallen down, planters could not give coffee to the designated buyer rather they sold it to the local buyer as they needed money to tide over cash shortages. It is to be noted that when the planters gave the coffee to the designated buyer

they received a price premium of Rs 1 per Kg from Nestle, but with a delay of almost 3 months. Here in this model, the designated buyer takes the produce at the market price and the premium is paid by the host company viz., Nestle separately into the planter's bank account. While such a model appears to be attractive for small growers, they identified several deficiencies and expressed the view that sustainability of such models is a major question (asking what happens if Nestle withdraws?).

Small growers felt that in this model, the cost of transportation of the produce to the designated buyer is to be borne by the producer and that makes it difficult for really small and tiny growers. The facility of transportation by the buyer is given if the produce is over 100 bags of coffee, which is not the case with most small and tiny growers. They mostly grow around 40-60 bags of coffee. The need for money, questions on the quality are also other factors which in some cases discouraged small growers to opt for selling coffee to the designated buyer in order to avail the price premium. During the group discussion, there was a suggestion in this regard, to pool the produce at a location within the village with the support of Nestle and transport -but the problem is the produce comes in different days based on the harvesting timings of individual planters and they do not wait for others to complete the operations and also prices vary on a day to day basis. Such practical issues and problems need to be accommodated in the design of programs of this kind.

It is here the role of producer organisations come in. Unfortunately, as we have reported in the earlier papers as well, the major coffee collective viz., Kodagu Coffee Growers Co-operative Society Ltd is not active in a major way in encouraging planters to adopt certification mechanisms like 4C and procure certified coffee. This can be an option that policy makers exercise by supporting the producers' cooperative and rejuvenating it in order to enter into certified market arena. However one positive hope is that some of the Coffee majors like TATA Coffee procure 4C certified coffee from small growers of South Coorg.

Planter community feels that certification efforts are going to increase in the coming years and there is a need for proactive encouragement from the government bodies. While appreciating the efforts of third party (corporate and NGOs) governance systems, planters opine that there is always a feeling of uncertainty and insecurity vis a vis such private mechanisms and the role of the coffee board and the government is needed. Multitudes of certification mechanisms and processes are also creating confusion among the planters as they hear from their neighbors and friends different experiences. While environmental groups provide prominence to the models that govern environmental conservation, fair-trade groups accommodate social concerns like workers welfare etc; on the other hand organic-certification processes encourage production through organic methods which would mean complete elimination of any chemical inputs. It appears that small growers are caught up in this mix of different signals and awareness levels are limited in terms of understanding these and making a choice.

Farmer led initiatives in this regard are identified as critical by some of the planters. This view is particularly echoed by those practicing organic cultivation and related certification processes. The critical element here is autonomy and governance of the processes which are currently vested with external parties in almost all certification processes. It is in this regard models like Participatory Guarantee System (PGS) may show a way for the future in terms of simple and easy to follow certification system that can be evolved by the planters themselves. Here, the role of the coffee board comes in, which endorses 4C certification as a generic model for improving the quality, production processes and productivity. It is for this reason that a pro-active market intervention is required (which has been abandoned by the coffee board since mid 1990s). This is not to advocate state led market regulation, but creating conducive marketing processes through mechanisms like helping buyers setting up procurement infrastructure, meeting the cost of certification, information dissemination etc.

However, from the planter's perspective, large scale conversion to organic cultivation is not a viable option. They question this proposition on several counts. Non-availability of bio-organic matter, lack of cattle population and fodder availability, reduction in the number of shade trees in each plot (the required number is about 100-110) and lack of absorptive capacity of planters to bear losses in the initial years of conversion. There is a view that if organic cultivation is promoted by the government with subsidizing the manure, it may work but again there will be a rise in prices of organic manure. Even some of the organic manure itself is toxic and there is a need to appreciate which type of organic input is required to strengthen the soil quality and productivity. For these reasons planters feel large scale organic cultivation is not a feasible option in kodagu context.

From our discussions with planter community, the following points emerge vis a vis their views on certification.

1. Information and awareness among the planters is still low with respect to certification and their sources of information is occasional visits by NGO representatives, corporate (CSR) representatives and through word of mouth. There are few who mentioned that they attended some awareness meetings held by NGOs and corporate representatives.
2. There is still an expression of skepticism on the utility of certification from among the small and marginal growers as they do not see price premium in any significant way in order to enhance their incomes. Most small growers express the view that economic viability is critical in decision making with respect to sale of coffee and quality and sustainability parameters do not come into picture. Most of the planters feel that it is more for optimizing the supply chain and brand image that the corporate are offering these certification, rather than sustainability motives.
3. Some planters feel that several practices that are prescribed as certification are actually being followed as norms while



cultivating coffee and to that extent, they feel certification mechanisms appear to be additional cost implications. If that were the view of a majority, there is a case for revisiting the 'generic' certification processes and bring them on board for a broader policy response towards incentives for sustainable production from the government's side.

4. Cost of certification and adherence to follow systems like record keeping etc are some of the areas that small growers expressed concern in relation to the adoption of any certification system.
5. Multitudes of certification systems that are being promoted by different agencies is resulting in planters getting confused in terms of their ability to take a view on which one is better suited and how they would benefit from such an adaptation.
6. Information sharing and peer learning among the planters in relation to certification is also limited and there are very few groups that are formed by sponsoring agencies. There is a general indifference to group based engagements in relation to coffee cultivation among the planters which has been expressed in various ways. It is mainly related to their historical practices of depending on the clan and other social networks.
7. There appears to be many individual initiatives and practices in relation to organic cultivation. These efforts are more from the large and medium size estates and they do have different networks and groups who share and learn from each other. However such efforts are still on small scale and many small growers do not know about such activities.

#### **IV: Summary, Conclusions and Policy Recommendations**

In this study we attempted to gather evidences from the field on two critical aspects related to small growers of coffee in the district of Kodagu. This is continuation of our earlier explorations on issues

relating to production and marketing constraints and other structural issues in relation to economically viable production by small growers. While ecological and social sustainability are also critical, for small growers coffee cultivation is critically linked to its economic viability, especially for those who do not have any other sources of income.

It is in this context, our earlier papers brought out two critical issues that the planters are facing at present. Labour shortage and scarcity and rising costs of labour is one primary concern. The other issue related to marketing system in general and low value realisation for the produce through mechanisms like certification and quality enhancement systems which are promoted through third party governance systems.

There has been recognition of these twin problems and attempts have been made during past few years in terms of encouraging mechanization of some of the production processes and also bringing awareness and implementation of certification processes. In this paper we attempted to bring in evidences from the field on the extent to which these are being taken up by the small and marginal growers and what are the issues that they confront. Being a qualitative study which relied on the perceptions gathered through group discussions, we are not in a position to concretely validate (through statistical methodologies) to come to conclusions. Hence our recommendations and policy observations are exploratory in nature, and they need to be studied further.

In the following, we present set of recommendations that emanated from our interaction with the planters with regard to mechanization efforts as well as certification measures.

### **Mechanization:**

1. Planter community feels that only simple mechanical tools (mostly hand operated) are useful in order to save labour cost, enable and ease convenience, reduce drudgery in the plantation operations. They do not see the scope for sophisticated (high technology) equipment like mechanical harvesters that are being

in use in countries like Latin America. While coffee board has initiated schemes for encouraging procurement of such devices, most small planters find the procedures cumbersome. They would like simple and easy to follow system of getting subsidy. As a first step, it may be worthwhile to examine exemption of VAT on these tools by the state government and to that extent (at least 5%) planters will benefit. Removal of import duty on some simple mechanical devices that are available outside India can also be explored.

2. Planters require some mechanical devices which are simple to use and meet the requirements. For example, pepper decanters that have small capacity and used by hand will be of much greater use than those presently available. Right now the motorized models available would be able to decant 1000 kg in one hour. For large number of small growers, their annual production itself would be below 1000 kg!
3. Role of coffee board in dissemination of information on the mechanization program is found to be critical. There is a felt need for outreach and demonstration programs on the use of these hand held devices and planters feel not much pro-active role is seen from the coffee board. Training for workers is found to be critical. Hence the coffee board with the help of NGOs and other training institutions could develop an institutionalized training mechanism.
4. For small growers repairs and service of mechanical equipment is another major constraint. In many cases we hear delays in repairs as planters have to take the machines to the nearest town and that makes the farm operations and efficient use difficult. There may be a program of training bare-foot farm equipment repairers that can be sponsored by the coffee board or other agro equipment companies so that a cadre of repairers (may be youth) can be established across the district in many villages. Local NGOs and socially responsible entrepreneurs may be encouraged to take up such tasks.

5. It is to be noted that some of the machines are labour saving which would mean direct reduction in cost of production. Some are for the convenience of labour (which means reduction in drudgery) that improves productivity. Some of the technical improvements (not strictly mechanical devices) would enable generation of organic matter for strengthening the soil strength. Processes like in-situ compost making etc can be encouraged. Here too roles of the coffee board and its extension services and university of agriculture science may be emphasized.
6. There have been sporadic efforts in building solidarity group based initiatives in coffee cultivation. There has been mixed results in this respect so far. Given the time-boundedness of plantation operations, it is difficult for the planters to form groups and procure machinery on a scale in order to use in their farms. However plantation workers could be formed into groups and procure machines and hire out for the operations (labour with machines). Such models can be explored and there is a need to proactive support and engagement from the government departments (DRDA /labour) and also from Coffee board in this respect. At the moment, few individual and enterprising workers are procuring machines like weed cutters in order to hire them out for interested planters. There can be an organized system in this respect.
7. Local innovations and R&D is required to identify and suggest relevant and suitable mechanical devices for the use of small planters. Such an R&D can also take into account specific requirements of women workers. For example, light weight wheel barrows, sprayers, baskets can help women to participate efficiently.

### **Certification**

There are multitudes of experiences in this area of certification during the past few years. There is a growing trend of introduction of

among the small growers through corporates (Nestle plan program for example), which has a membership of around 600 planters. Some medium and large size plantations follow other certification systems like Utz, RA, 4C and others. Critical areas of concern relate to cost of certification, multitude of certifying systems, few buyers (or each certification system tied to particular buyers). Most of these systems do not have any regulatory mechanism at the local level, though they adhere to national organic production parameters. Planters feel the need for institutionalised channels through which they can gather information and interact with the relevant agencies. An apex regulatory agency appears to be imminent in the coming years. Specific recommendations that emerge from our enquiry are the following;

1. There is growing interest among the small and marginal growers about various certification mechanisms available and most of the information is being passed on to them through NGOs, corporate company (certifying agencies) and others. There is a need to systematic information dissemination from the coffee board in order to enable planters to make right choices. Many are skeptical because they feel these are not feasible options for them.
2. The reality is that the conditions under which they grow coffee makes it very ideal situation for them to adhere to several of the qualifying criteria that are set out by certification agencies for recognition of their coffee and its quality. This is true of the case with 4C certification, which appears to be seen as flexible and the coffee board is also inclined to support promotion of such certification. However there is less receptivity from small growers to join in any such certification programs. This paradox can be addressed through a proper education and awareness building, which need to be taken up by the coffee board, which is seen still as a custodian of the interests of the planters.
3. Multitude of certification mechanisms is also creating confusion with planters becoming suspicious of the motives of the

promoting agencies. It may be useful if there is proper institutional mechanism of information sharing through coffee board as a conduit for advancing these certification mechanisms. Private governance mechanisms need to be covered under the preview of oversight so that planters feel confidence of the promoting agencies

4. Planters feel there are not many buyers in the market for certified produce and most often certifiican process is tied to some identified buyers. Such a situation forecloses options before the planters. It may be useful for the coffee board or any such apex agency to enter into marketing arena for the initial period in order to build confidence.
5. As an another option for the coffee board which is endorsing 4C certification, it may be worthwhile to explore partnerships with kodagu district coffee growers cooperative society or support apex bodies like CPA or small growers federation with procurement partnerships with some of the certification agencies.
6. There is a growing trend of organic production (though by small number of planters). This brings in set of issues related to promotion and support for such measures. The constraints faced by them need to be addressed, again in terms of marketing channels. Model of peer to peer learning, sharing and certification proposed by groups which practice Participatory guarantee scheme (PGS) are worth studying as they provide interesting insights into how knowledge and practice can be transferred across planters in a systematic way.
7. For planters, economic viability of coffee cultivation critically depends on the price signals/stability and the ability to enhance productivity. Concerns related to environment and sustainability needs to factored into this calculation. It is for this reason that

several small growers find it difficult to participate in any mechanisms of certification that is seen as imposed by outsiders. There are several agro-forestry based products that are generated within the plantation landscape which has economic value. Apart from coffee, pepper, bananas, oranges, cardamom, arecanut, soap nut, etc are grown along with conservation of forest cover. It is in this context, landscape approach for brand building and marketing can be promoted by the coffee board with indigenous certification methods where in parameters can be set by the local planters (and their groups) based on the location). Such locally determined flexible models may be one interim solution before planters adopt external compliance criteria. It is to be recognized that coffee cultivation is part of the tree crop economy and several products that are associated with coffee also account for such value proposition as it were the certification.

### **Policy Recommendations**

1. Government of Karnataka may consider linking MGNREGS with some of the plantation operations especially of the marginal plantations (below 2 hectares) in order to support growers in terms of wage subsidy. Activities like fence repairs, water bodies augmentation, desilting, weeding, path clearing etc can be added to the MGNREGS works and with the support of local panchayats prioritization of works can be taken up so that most deserving planters would benefit first.
2. Simple and easy to follow procedures for realization of subsidy for mechanization can be developed by the Coffee board as the current system is found to be cumbersome. Similarly re-plantation subsidy can also be streamlined, permitting planters to use the plant material from private (certified) nurseries.
3. Larger role of the coffee board on mechanization can be taken up, along with schemes to train plantation workers in farm equipment

handling etc. similarly cadre of bare-foot farm equipment repairers can also be developed which would create employment for local youth. NGOs can be taken as partners in such schemes.

4. Exemption of farm equipments in the district from VAT can be another concrete steps which may serve as an implicit subsidy for the planter community.
5. Exemption of import duty on small mechanical devices (produced outside india) can also be explored in order to ensure large scale adaptation of mechanization.
6. Research and development on gender-sensitive farm equipment can also be explored as women are the majority of plantation workers.
7. Institutionalised channels of information dissemination and accreditation of certification mechanisms are very critical. Here the role of the Coffee board is significant as an apex agency and that would create confidence among the planter community for wide scale adoption of certification. A policy directive/perspective on these areas needs to be taken up on urgent basis through wider stakeholder consultations.
8. Contextual and locally relevant certification can be promoted by the Coffee Board so that multitudes of certifications that are presently available can be streamlined.
9. Through Coffee producers cooperatives, coffee board may provide facilitation services for market access to the certified coffee
10. Market intelligence, information on niche markets and quality parameters, dynamic costs and price forecasting can be explored by the coffee board and such information can be made available to the planter communities through ICT sources.
11. A landscape approach for conservation and coffee marketing (and all plantation produce) can be encouraged through a systematic input incentives as well as linking with niche markets.



**Annexure 1:**  
**Use of mechanical devices (equipment) and estimated saving (benefits) by the small and marginal grower**  
**(average estimation / per acre basis)**

Type of equipment	Use details (no. days in a season)	Labour savings/ requirement for using such machinery	Details of labour use etc if the same activity is carried out without machine(s)	Approximate saving in terms of labour cost, time and convenience	Remarks
1	2	3	4	5	6
<b>Weed cutter machine</b>	For weeding	2 labourers for one one day to complete one acre of weeding @ 350 per person. 3 weeding in a season	6 labourers per acre per day. @ 250 per person per day	About 50% savings on labour cost	This is most frequently used equipment
<b>Chain saw/ Wood cutter</b>	Shade main- -tenance One time in a season Once branches are brought down this is used. Or for cutting fallen tree branches.	2 days for 2 persons for a plot of 1-2 acres of plantation @ 350 per person per day	2 days for 4 persons @ 350 per person per day	About 50% savings on labour cost	

cont'd....

1	2	3	4	5	6
Brush Cutter	Trimming the fence – done occasionally, when required. This is not a machine that is used by many small growers. It is more useful for large plantations.	Done 2 to 3 times a year.; depending on the need	Labour saving is considerable	Most large planters use this. Not possessed by small growers.	Remarks: this is not very frequently used by small growers
Sprayers (mechanical/motor)	For pesticide and fungicide.	Motor sprayer saves effort by labourers in a marginal way. More for convenience in operation.	The cost saving is marginal in comparison with mechanical sprayers	Marginal savings	Women can also use this comfortably
Wheel barrow	For transportation of different kinds of inputs and harvested produce	It is a matter of convenience. Used extensively	Labour saving is in comparison to manual transport of each bag.	Used mostly by all planters as a labor saving and convenience device.	Motorised ones are not extensively used. Post-harvest operations they are used.

1	2	3	4	5	6
Pit digger (Augur)	Used on times of requirements. New plants; fence poles etc	Used when required. Saves labour time and effort. Number of persons required may be same but can be done in less time and in good quality	It is more a time saving and efficiency enhancing device. There may not be so much of labour cost saving. Marginal savings in terms of a day or two labour cost	Savings can be anywhere to the extent of 30% in labour cost.	
Tiller (power and manual)	For preparation of land used for paddy land and also in some parts of plantation. To do scuffle weeding.	Saves labour in a significant way. But not used by small growers as it is costly. Prepares land in a good quality – productivity increases	More manual labour required if this is not used	Significant savings to the extent of 30% labour cost	Some planters forego this operation as they would not be in a position to own / hire tiller.

1	Harvesters	2	3	4	5	6
	Picking coffee One time use at the picking season	Not used extensively by small growers. They find lot of difficulties. But more harvest can be done in a day. Workers have to work in groups	For manual harvesting payment is per Kg basis varies from Rs. 2.00 -2.25 per kg. One day labour cost Rs 300 per day.	If used in a proper way about 30 % of the labour cost related to harvesting can be saved. Presently the approach of harvesting is individual time- task oriented. For using harvester group task approach required.	No savings in terms of labour use, but the production increases.	For efficient use, spare battery and spares required. Group task approach required.
Irrigation – sprinklers	Being used to give water – not a labour saving device -improves productivity. Dry seasons watering would help strengthen the plants	Not a labour saving device, but can help in improving productivity	Planters without sprinkler irrigation, depend on the rainfall			Irrigation systems are expensive for small growers. Need support

1	2	3	4	5	6
Telescopic Pruning Knives	Use for pruning the branches of coffee plants. It enables convenient pruning – used by women workers also. Used for regulating intermediate shade.	It is a convenient tool. Takes the same time, as it with other knives, but helps in reaching to higher edge.	No significant difference in labour use. But the quality of trimming and shade regulation improves.	No significant savings in terms of labour time. Improves productivity	Being used by small growers in a limited way. Used for harvesting arcanut.
Mini transporters/ track carriers (imported) with	Use for transportation in steep slopes.	Useful for difficult terrains for transportation walk behind model			Not affordable for small growers as it costs over 3.5 lakhs

Source: Compiled based on field interviews.

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