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TRACEABILITY, SUPPLY CHAINS AND SMALLHOLDERS: CASE-STUDIES FROM INDIA AND INDONESIA¹

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I. INTRODUCTION

1. At its Sixteenth Session in July 2005, the Intergovernmental Group on Tea requested the Secretariat to research further into the factors influencing export performance and to facilitate the exchange of information on this subject among member countries. This document presents a study of the traceability of tea in India and Indonesia that was carried out by the University of Sydney and is presented to the Group for discussion. An underlying premise of this research activity is that increasingly complex consumer demands, shifting global regulatory regimes and heightened concerns over food safety and security are affecting the global food system, with a trend towards the emergence of a regime of product traceability.

II. BACKGROUND

2. Since 2004 the Australian Research Council has funded a research team from the University of Sydney to conduct a three-year study on *traceability* and supply-chain restructuring across the tea, coffee and cocoa sectors of Indonesia and South India. The objective of this study was to document the diverse implications of an emergent global regime of traceability for agricultural producers and industry structures in these regions. The theoretical approach adopted for the study was an interdisciplinary blend of institutional economics and economic geography (refer to *inter alia* North, 1990; Hoff et al., 1993; Harriss et al., 1995; Dorward et al., 1998 and 2005; and Martin, 2000). This approach also utilizes the tools of global commodity chain analyses to study the emergence of new governance structures which effectively re-regulate global trade (refer to *inter alia* Gereffi et al., 1994; Gibbon, 2001; Humphrey and Schmitz, 2001). In concrete terms, the methodology entailed: i) intensive field visits to key production sites in South India and West Java in Indonesia; ii) semi-structured interviews with key industry stakeholders; iii) attendance at various industry conferences and association meetings; and iv) analysis of published industry technical reports, industry journals and newsletters. This paper presents interim findings from the abovementioned research project concerning the future implications of a global regime of traceability on tea smallholders.

III. TRACEABILITY IN THE GLOBAL TEA ECONOMY

3. Increasingly complex consumer demands and shifting global regulatory regimes are affecting the global agri-food system, with a trend towards the emergence of a regime of product traceability (refer to Opara and Mazaud, 2001; Golan et al., 2004; and Smith and Furness, 2006). Following this trend, traceability requirements are also assuming significance in the global tea economy, with the potential for significant impacts on the world's tea producers. It is expected that the demand for traceability will result in widespread industry restructuring, which will require institutional responses within each of the major tea-producing regions. We identify two key drivers for enhanced traceability in the global tea industry:

- Consumer concerns over health and food safety; and
- Ethical concerns over the social and environmental conditions of tea production.

4. Concern over food safety is increasingly central to supply chain restructuring in tea. Due to the costs, sampling and methodological constraints associated with the monitoring of finished food products, there is a trend towards preventing contamination at source through monitoring of farm and factory processes. This is associated with traceability systems such as Good Agricultural Practices (GAP), Good Manufacturing Practices (GMP) and Hazard Analysis and Critical Control Point (HACCP) certification. Food safety requirements are both formal (such as the EC General Food Law EC regulation 178/2002 effectively requiring food products entering the European Union to be HACCP certified), and informal (such as company-specific codes of conduct and collective industry standards). These audit-style mechanisms demand farm and factory level documentation and supply chain traceability.

5. The second driver of traceability is consumer demands for independent verification that teas have been produced in the absence of abusive labour practices, by respecting worker rights and providing a living wage to smallholders, and by not polluting the environment or threatening biodiversity. Whilst mandatory labelling of products with such “credence” attributes (i.e. requiring traceability) is not currently allowed under the WTO’s Agreement on Technical Barriers to Trade (TBT), there is scope for private sector initiatives to implement “voluntary” labelling schemes. Private sector regulation of ethical concerns has similarly risen in importance. With increasing pressures globally for governments to further liberalize trade and deregulate national production systems, recent trends toward product traceability suggest a significant *re-regulation*, through private sector governance of the global food system (refer to the edited collection by Goodman and Watts, 1997).

6. The common thread that binds both food safety-driven and ethically oriented initiatives together is their requirement for supply chain systems to facilitate the documentation of production processes, storage and transport from plantation to consumer. This requires a realignment of governance structures, as consumers, retailers and brand-managers are able to influence a variety of processes occurring at remote sites of agricultural production. The re-regulation of global food trade through a regime of traceability is beginning to dictate the form of local trade relationships, modes of household production, industry structures and relationships between farmers and their environment. Furthermore, as argued by Hobbs and Kerr (2006: 87), the identification of credence attributes in a final product “increases the information, monitoring and enforcement costs of occasional supply chain relationships, providing an additional incentive for closer vertical coordination along the agri-food supply chain”. In the case of tea smallholders, this vertical coordination necessitates the establishment of new and more effective institutional arrangements.

IV. A FOCUS ON SMALLHOLDERS

7. The high costs, for producers, of dealing with vertically coordinated global commodity chains are a potential threat to the future of smallholder production systems. There are specific concerns about the marginalization of smallholder tea growers in the global tea economy due to the entry barriers associated with traceability requirements. The experience of the fresh fruit and vegetable sector, where traceability initiatives are perhaps most advanced, suggests a loss of competitive advantage held by smallholders in developing countries (Dolan and Humphrey, 2000; Weatherspoon and Reardon, 2003; Brown, 2005). A chorus of researchers (see, for example Narayan and Gulati, 2002, and Vorley and Fox, 2004), highlight that whilst the heightened demands of global markets may offer opportunities of poverty reduction amongst smallholders, this requires substantial strengthening of local institutions to provide *enabling factors* and *coping strategies*. There is some debate in the academic and development literature on whether the decline of smallholder production, and subsequent absorption of labour within the organized sector, is necessarily a significant concern for poverty reduction (see Humphrey, 2006). However, as viewed by Hazell (2004), this would in fact constitute a social and economic dilemma for developing countries. Similarly, Narayan and Gulati (2002) identify the large number of livelihoods dependent on small farms, the large share of the rural poor constituted by smallholders and the large proportion of total agricultural production contributed by smallholders as evidence of their relevance.

8. Problematically, however, the term “smallholder” is frequently used to denote a wide range of farm systems, and can vary considerably across countries and commodities. Even the most commonly applied categorization of smallholders based on landholding size, is not consistently applied across countries. Existing evidence suggests that for the tea producing countries of Indonesia, India, Kenya and Sri Lanka, the threshold holding size varies from 2 ha, 10.12 ha, 20 ha to 35 ha respectively. Other definitions prefer to emphasize reliance on family labour, dependence on farm income and limited resource endowments. Notwithstanding these caveats, Table 1 indicates that smallholders make up a greater share of production in countries

such as Kenya and Sri Lanka compared to Indonesia and India. These former countries have a history of relatively strong institutional supports for smallholders (such as the KTDA and the TSHDA in Kenya and Sri Lanka respectively). Whilst Indonesia and India are dominated by larger estates, a sizeable smallholder sector does exist in each of these countries. The relative dominance of estate production has meant that, for the most part, local institutional supports in Indonesia and India are geared towards estate development rather than smallholders. For these reasons, the field research in the Nilgiris District of Tamil Nadu and in West Java Province holds insights into the institutional setting of smallholder engagement with predominantly private-sector tea factories without overt state intervention. Even in countries with a history of strong state-led support structures for smallholders (such as Sri Lanka, Kenya and Tanzania), the role of government in facilitating smallholder access to global tea markets has changed following the structural adjustment era of the 1980s and 1990s.

Table 1. Contribution of Smallholders in Major Tea Producing Countries

| Country | 2005 Production (and exports) ‘000 MT ¹ | Percentage of production by Smallholders |
|-----------|---|---|
| India | 831 (175) | 20 ² |
| China | 941 (283) | Data not available |
| Kenya | 295 (284) | 60 ³ |
| Sri Lanka | 308 (299) | 62 ⁴ |
| Indonesia | 171 (99) | 29 ⁵ |
| Vietnam | 110 (99) | Data not available |
| Tanzania | 30 (24) | 10 ⁶ |

¹Faostat data (accessed June 22, 2006).

²India Tea Board, www.indiateaportal.com (accessed 22 June 2006).

³<http://www.teaboard.or.ke/statistics.asp> (accessed 22 June 2006).

⁴Central Bank of Sri Lanka (2003). Annual Report – 2003 (Chapter 3: Agriculture, Fishing and Forestry).

⁵Dirjen Bina Produksi Perkebunan (2004).

⁶Baffes (2005).

9. The potential marginalization of smallholder tea producers is clearly a concern for advocates of ecolabeling, corporate responsibility initiatives and other forms of ethical trade. Recognizing the significant challenges facing the incorporation of smallholders in ethical trade networks, the Ethical Trade Initiative (ETI) prepared a set of guidelines for working with smallholders (ETI, 2005). These guidelines have particular relevance to smallholder tea producers, since ETI membership includes the Ethical Tea Partnership (ETP)². The participation of smallholders in ethical supply chains, however, continues to be a complicated matter, and in its initial stages, smallholders have been excluded from the ETP scheme.

10. Whilst certification of teas as “organic” or “fair-trade” has allowed some growers to differentiate their product in a crowded market, industry-wide partnerships such as the ETP and EUREP-GAP may limit the potential of ethical certification to provide a basis for quality-related differentiation amongst tea producers in the future. This may occur as these “voluntary” standards become *de facto* entry barriers regulated by the private sector, attaining moral legitimacy through engagement with non-governmental organizations (NGOs) in consuming countries (Neilson and Pritchard, Forthcoming).

² The ETP is a UK-based association consisting of major tea-packing companies including Sara Lee, the Tetley Group, R Twining & Company, and Unilever (Europe).

11. At another level, there are logistical concerns due to the costs of monitoring and organizing scattered remote smallholders who are involved in extended and complicated supply chains. Similarly, there are challenges in interpreting and applying standards designed principally for formal labour to the specific, highly localized needs of independent smallholders. There are also frequent mismatches between the perceived ethical priorities of developed country actors (including NGOs) and the priorities of smallholders in developing countries. Blowfield (2003) expresses this as a challenge of defining, at a very elemental level, what actually constitutes good ethical performance and consequently acknowledging smallholder priorities within the standards. The ETI guidelines recommend the use of needs assessments rather than standard inspections and audits, but the interpretation of such an approach remains a significant challenge for practitioners. A common source of contention in setting ethical standards is pricing and adequate compensation for the increased costs of compliance. The ETI smallholder guidelines recommend that:

“Prices paid to smallholders should reflect the cost of production and be compatible with ETI provisions on wages (i.e., average prices in the long term should exceed the costs of inputs + labour costs at the legal minimum wage or living wage – whichever is higher).” (ETI, 2005: 60.)

12. A logical extension of this, however, might be the establishment of minimum support prices, or floor prices, to be established presumably by independent bodies, a notion akin to fair trade principles that does not yet have broad support amongst major global tea buyers and governments.

V. THE INDONESIAN EXPERIENCE

13. Smallholder tea growers in Indonesia are mostly excluded from the export market, while they sell fresh leaf to collectors and small-scale processing units for the domestic green tea and jasmine-scented tea markets. Consequently, prices received by farmers for fresh leaf are low: approximately Rp900/kg (10 US cents/kg) in July 2006. Poor quality and the inability to sell into export markets are driving low prices. Whilst Indonesian smallholders contribute only 29 percent to total tea production, they are responsible for 45 percent of total planted area, suggesting low productivity and poor technical capacity of smallholders (Dirjen Bina Produksi Perkebunan, 2004). These smallholders are concentrated in West Java Province, which accounts for 86 percent of total smallholder production (Dirjen Bina Produksi Perkebunan, 2004). This province is proximate to Jakarta, and whilst being characterized by relatively good infrastructure and education levels, rural poverty remains a serious concern in many areas, especially the tea districts of Cianjur, Tasikmalaya and Sukabumi. Despite an extended history of tea cultivation, most growers are pessimistic about the ability of tea growing to continue to support their livelihoods into the future, and production is declining.

14. The institutional interface between small growers and nearby tea factories remains poorly developed in Indonesia, with ongoing limitations related to credit, information exchange, quality control, technical advice and payment. Notwithstanding some recent attempts by both the state-owned plantation companies (PTPNs) and some privately owned estates to purchase fresh green leaf from smallholders, the vast majority of small tea growers in West Java continue to sell to tradition green tea factories with quality below export requirements. For the most part, it is not currently possible to ensure traceability back to smallholder farmers in West Java and the institutional settings within Indonesia (such as farmer organizations, government extension services, research institutes, the auction system) are not generally conducive to a system of supply chain traceability. Supply chains are extended, often involving a number of intermediaries, and the development of a modern, agri-business oriented, tea factory-farmer interface is yet to occur. Whilst global demands for HACCP certification and ETP auditing are yet to be implemented amongst Indonesian smallholders, it is interesting that globally branded tea companies are assuming a lead role in forging new supply chain systems that include smallholder partnerships in West Java. However, at this stage, it would appear to be a major undertaking to introduce institutional reforms that would allow the Indonesian tea smallholder sector to adhere to the

traceability requirements and increasingly stringent quality demands of the global tea market. Instead, these demands are likely to further drive a wedge between smallholders and global export markets.

VI. THE SOUTH INDIAN EXPERIENCE

15. The smallholder tea sector in the Nilgiri Hills of Tamil Nadu in South India maintains access to global markets. This has been due, to a large part, to the efforts of supporting institutions to facilitate knowledge sharing, farmer organization, quality upgrading, factory improvement and supply chain efficiency. Notably, this support has come at the considerable cost of the public purse, and has also been possible due to a history of strong institutional presence in the South India plantation industry, in the form of research institutes and planters associations, as well as to traditions and processes of political empowerment. Quality improvement and control was seen as fundamental to reviving the sector following a serious price decline in 1998, and has been reflected in the Quality Upgradation Program (QUP), managed by UPASI-KVK³ and the Tea Board of India, which was introduced in July 2000. Applying a more comprehensive supply chain approach to quality improvement, the QUP combines farmer extension activities and the empowerment of village self-help groups (SHGs), with the participation of the bought leaf sector.

16. Smallholder development activities have been directed primarily through women's SHGs, which consist of up to about 50 members, and in terms of supply chain structures, have tended to replace agents as first-stage collectors (Neilson et al., 2006). An important outcome of the SHGs has been the increased price transparency and supply chain efficiency, by removing the uncertainty previously created by the first-stage collector. As a result, many farmers were receiving 10 rps/kg (21 US cents/kg) in September 2005. From April 2004 to March 2005, more than 500 000 new SHGs were financed by banks across India, allowing some 25 million poor households to gain access to the formal banking system through an SHG-bank linkage programme (Nabard, 2006). This institutional innovation was vital in reducing transaction costs and allowing smallholder tea growers in India to implement a degree of traceability and maintain global competitiveness.

17. In terms of the grower-factory interface, many factories had hitherto been content to purchase coarse leaf from farmers to increase production throughput in a situation where the rapid growth of bought leaf factories in the Nilgiris had led to significant regional over-capacity. In 2001, UPASI-KVK commenced the Factory Upgradation Programme (FUP), which provided a subsidy of 50 percent to factories to upgrade equipment, associated more recently with incentives and training programmes to help factories attain relatively costly ISO and HACCP certification. Traceability initiatives linked to the deployment of strategies that accord greater priority to quality thus provide the vector upon which the strategies to improve the social wellbeing of Nilgiri smallholders rest. A common feature of the suite of programmes being administered currently by UPASI-KVK under the QUP and FUP initiatives is their focus on improving traceability and production documentation. Whilst poor quality and the capacity to trace tea origins to smallholder suppliers remain serious concerns for the Nilgiris smallholder sector, the South India case-study demonstrates the importance of institutional supports in facilitating continued access to export markets under a global regime of supply chain traceability.

³ UPASI-KVK is a joint initiative of the United Planters Association of South India (UPASI) and the Government of India's adaptive research and extension centre, Krishi Vigyan Kendra (KVK).

VII. CONCLUSIONS: CREATING APPROPRIATE INSTITUTIONS FOR SMALLHOLDER ENGAGEMENT IN GLOBAL TRACEABILITY SYSTEMS

18. As the increasingly stringent traceability requirements noted above become more firmly embedded within the global tea trading system, greater attention is needed to the institutional setting within which smallholder tea production takes place. The consequences of supply chain traceability requirements are likely to be a greater disparity between those producing regions which are able to meet the demands and those which cannot. For smallholders to compete with the estate sector institutional innovation is vital. Unprocessed tea is non-durable, and requires direct linkages to market or processors soon after harvest. It is therefore not surprising that out-grower schemes, contract farming and other direct farmer-factory trade relationships have developed in both sectors and that supportive infrastructure (such as roads) assume paramount importance. Greater attention is required to developing appropriate institutional arrangements at the grower-factory interface.

19. In the Nilgiri Hills, institutions emerge as key arenas for quality upgrading and strategic response formation. The decline in tea prices since 1998 and the subsequent response by UPASI, KVK and the Tea Board underline how formal institutions can develop and deploy new strategies for otherwise imperilled smallholders. A dense organizational presence thus provides a vital ingredient to the participation of smallholders in global supply chains characterized by ever-greater demands for quality and traceability. The supportive role of the State in facilitating a mutually beneficial grower-factory interface should be well noted.

20. In the absence of appropriate government interventions, attention may have to be given to developing appropriate agribusiness models with strong vertical coordination to ensure that smallholders have the financial capacity and access to information required to export into global markets. Multinational tea companies are increasingly contracting with larger agro-processing firms, who are able to effectively coordinate deliveries and quality standards from small farmers through effective supply chain management, as is occurring in Indonesia. This in turn may result in increased selectivity amongst suppliers, and eventually lead to a reduced supplier base.

21. An important question, then, is who should be essentially responsible for bearing the costs of institutional support: branded tea companies in consuming countries or governments in producing countries. In South India, due in part to the presence of industry lobby groups and effective political representation, the state has played an important role. Public sector support, it seems, will still be required to conform with aspects of a global traceability regime, such as testing, regulation of certification procedures, in-country inspection systems and facilitating the development of affordable and credible social and environmental auditing capacity. Clearly, the responsibility for establishing an appropriate legal framework, linked to a supportive bureaucracy, rests on national and local governments. Experience elsewhere suggests that whilst the private sector, implementing strong vertical coordination, can be an important instigator for institutional change to allow conformance to export market requirements, this can generally only occur within a supportive regulatory and policy framework.

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