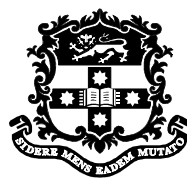


Embedded Geographies and Quality Construction in Sulawesi Coffee Commodity Chains

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ABSTRACT

Changing global conditions of agri-food production, trade and consumption are resulting in industry re-regulation and new forms of supply chain governance. This thesis explores emerging governance structures within a set of coffee commodity chains, which are dominated by various quality considerations. The research scrutinises relationships between the geographies of production and global commodity chain structures. To this end, a detailed investigation of production geographies is performed in one particular producing region, South Sulawesi in Indonesia. The diverse ways in which these regional geographies are inserted within, and transformed by, global supply chains in the coffee sector provide vital insights into emerging characteristics of the global economy.

Prices paid for tropical commodities such as coffee, are currently at historic lows due primarily to chronic global oversupply. Quality-related product differentiation is a common policy recommendation to producers of tropical commodities to escape these depressed prices. In the Sulawesi coffee commodity chains moreover, quality is widely perceived and presented to consumers as a function of geographical associations with the site of agricultural production. However, a key insight of this thesis is to add a cautionary note to an argument for product differentiation as an unqualified economic development option for commodity producers. In the case of Sulawesi coffee, powerful corporate actors have been able to appropriate the value of geographically-informed quality differentiation.

A central concern of this analysis is to document and interrogate the complex and contested (social) constructions of quality within the supply chains that link together disparate worlds of production and consumption. Traceability emerges as a critical mode of supply chain coordination to enable the authentication of quality constructions. Furthermore, traceability prioritises the accurate and efficient transmission of information and knowledge in the maintenance of trade relationships between supply chain actors. Traceability imperatives require innovative forms of supply chain coordination, and this thesis examines the emergence of new industry structures as a result of these changing conditions. Furthermore, the implementation of traceability systems with control over quality construction and management has important consequences for the allocation of economic benefits amongst supply chain actors.

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LIST OF ABBREVIATIONS

AEKI	Association of Indonesian Coffee Exporters
AJCA	All Japan Coffee Association
ASL	Above Sea Level
CIRAD	Centre de cooperation internationale en recherche agronomique pour le developpement
DAU	General Allocation Fund
ECF	European Coffee Federation
EU	European Union
FLO	Fair Trade Labelling Organisation International
FOB	Free On Board
GBE	Green Bean Equivalent
GCC	Global Commodity Chain
GDRP	Gross Domestic Regional Product
ICA	International Coffee Agreement
ICCRI	International Coffee and Cocoa Research Institute
ICO	International Coffee Organisation
IFOAM	International Federation of Organic Movements
IISD	International Institute for Sustainable Development
INAO	Institut National des Appellations d'origine
NCA	National Coffee Association of America
NGO	Non-Government Organisation
NIE	New Institutional Economics
NYCSE	New York Coffee and Sugar Exchange
PEB	Pemberitahum Ekspor Barang
PGI	Protected Geographic Indications
SCAA	Speciality Coffee Association of America
SCAE	Specialty Coffee Association of Europe
SCI	Sustainable Commodity Initiative
SIS	Subject Information Sheet
TNC	Transnational Corporation
TRIPS	Trade Related aspects of Intellectual Property
UNCTAD	United Nations Conference on Trade And Development
US	United States
USDA	United States Department of Agriculture
WTO	World Trade Organisation

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1 INTRODUCTION AND OVERVIEW

1.1 Introduction

The demise in 1989 of an international quota system that dominated structural aspects of the global coffee trade has resulted in extensive restructuring within this industry. Coffee prices, which had previously been held relatively high despite continued overproduction, crashed immediately following the dissolution of the quota system. With the exception of a brief price rise in 1994/1995 due primarily to frost in Brazil, coffee prices have remained disastrously low for coffee producers since 1989. During the same period, the industry has witnessed spectacular growth in the specialty coffee sector, associated with changes in coffee consumption patterns in major consuming countries, especially the United States (US). The decline in prices for coffee, as a bulk commodity, has occurred simultaneously with widespread product differentiation, as consumers select from a dazzling array of organic, fair trade, shade-grown, dark roasted, and various geographically specific, single-origin coffees.

The success of key industry actors (particularly roasters) to distinguish their product in the competitive and lucrative retail coffee market is increasingly reliant on their ability to trace the origins of the coffee they offer back through the supply chain to sites of primary production. *Traceability* here is inherent to quality construction. Quality demands increasingly require additional information on the geographical, environmental and social conditions under which their coffee is grown. This thesis explores the way that traceability-related quality imperatives are constructed through, and contextualised by, relations of economic power in the specialty coffee sector. These issues are addressed in the context of one particular collection of coffee supply chains, encompassing *arabica* coffee exported from the port of Makassar on the island of Sulawesi in Eastern Indonesia.

In its broadest context, this thesis examines the changing global conditions of agri-food production, trade and consumption. The spatial integration of these systems requires immense logistical coordination and inevitably results in the intersection of diverging socio-cultural, political and economic arrangements across various geographic contexts. Activists, unions, policy-makers and multilateral development agencies alike are increasingly calling into question the uneven nature of economic development existing within, and resulting from, these global arrangements. In September 2003 at the WTO

(World Trade Organisation) meeting in Cancun, national trade ministers failed to reach agreement on the future direction of agricultural trade reform. This failure was heralded alternatively as either a severe blow to the aspirations of millions of farmers in the developing world, or as a much-needed respite from the march towards ‘corporate globalisation’. Either way, it is apparent that the present structures and rules for international trade in agricultural products generate uneven and inequitable outcomes. This is particularly the case for tropical commodity producers, where massive overproduction and a global imbalance between supply and demand have eroded prices to disastrously low levels. This overproduction has been encouraged by export-oriented agricultural schemes and production improvements recommended across the board by development agencies, combined with a lack of access to developed country markets for other agricultural products, and for many processed products.

With few alternative livelihood options, farmers in the developing world continue to cultivate a limited number of unprocessed agricultural commodities for which access is relatively unrestricted to developed country markets, and with which they are already familiar. Such products include coffee, cocoa, tea, and rubber, the prices of which have all crashed to historic lows as millions of farmers, and the national economies of many countries which depend on them for export revenue, struggle with widespread poverty and an uncertain economic future.

Frequently, tropical products are used as undifferentiated raw inputs for downstream industrial processing located in developed countries, where the value-added components of the supply chain are concentrated. Increased end-product differentiation in the global coffee sector is held as a possible departure for growers from the cul-de-sac of low-priced, bulk commodity production (ITC, 2002; Lewin et al., 2004). However, at the same time, product differentiation raises issues of how regional or product identities are developed, negotiated and controlled within international arenas, and whether this is a sustainable alternative anyway. Through the analysis of a geographically informed specialty coffee product, this thesis examines the ability of production-based differentiation to meaningfully contribute to improved economic and living conditions for growers.

These debates are engaged through an analysis of the relationships between the embedded geographies of production and global commodity chains. Key issues include

questions of how production geographies affect quality characteristics of the coffee bean and subsequent access to particular niche markets. How do various actors along the supply chain trace, acknowledge, manipulate and construct quality-related product identities?

Geographical identities have re-emerged in the global coffee sector as a key method of product differentiation. As with other selected gourmet food and beverage products such as fine wines, cheeses and meats, there is an assumption along various sites in the coffee supply chain that coffee grown in a specific region will retain certain quality attributes reflecting the physical and human geography of the growing environment. Unique quality attributes in the cup are widely associated with the combined influence of altitude, soils, climate, crop variety, culturally-inspired crop maintenance and processing methods. In short, quality is widely believed to be a function of the *geographical embeddedness* of production. Correspondingly, the geographic place name of the producing region is subsequently utilised as a marketing name or trade identity by various actors throughout the commodity network to suggest the presence of these quality characteristics. Yet, despite extended historic usage of place names within the global coffee industry, systems for regulating these uses remain essentially ad hoc. Asserting the authenticity of place is predominantly the responsibility of industry actors located in consuming countries, rather than being a producer-driven initiative.

However, for this to change, traceability must emerge as a dominant form of supply chain coordination. Traceability implies the accurate and efficient transmission of information and knowledge in the maintenance of trade relationships between supply chain actors. Consumer groups and non-government organisations (NGOs) are providing further impetus for ensuring supply chain traceability. Such pressure is frequently driven by environmental and social concerns. Hence, traceability imperatives require innovative forms of supply chain coordination, which depart significantly from current arrangements. Such coordination may be articulated through vertical integration, through arm-length coordination, self-regulation, or through a reliance on institutional structures and external verification procedures. Methods of regulating geographical specificity are an important element of traceability-inspired industry re-regulation, driven separately by consumer demand, marketing strategies, and producer attempts at value-added product differentiation.

The implications of traceability-driven supply chains are wide-ranging and strike at the heart of key debates central to contemporary agri-food scholarship. An argument unfolds in this thesis that concern for geographical traceability within the Sulawesi coffee supply chain is indicative of wider trends affecting future developments across the global agri-food system. At present, coffee production in Sulawesi is constituted by a complex assortment of supply chains defined by very different forms of social, economic and agroecological embeddedness. However, emerging patterns of industry re-regulation appear to be converging towards a regime of accumulation centred on concerns for product traceability. Security, health, environmental, social and ethical considerations are at the forefront of constructing conformance to these demands.

The underlying impetus for this research is to investigate the potential of quality differentiation, based upon the distinctiveness of embedded production geographies, to provide meaningful economic benefits for commodity producers in developing country contexts. This thesis explores the multi-layered and contested constructions of quality in Sulawesi coffee supply chains. Quality-related product differentiation in the specialty coffee sector is increasingly linked to the implementation of traceability systems. The embeddedness of production geographies, the social construction of quality, and the authentication of quality attributes through traceability thus provide a platform from which to analyse potential development outcomes.

1.2 This Study's Contribution to Global Agri-food Studies

Emerging modes of industry re-regulation reflect and assert a changing role for nation-states within the global regulation of agri-food trade. In broad conceptual terms, this thesis enters the theoretical debate on how processes of neo-liberal globalisation have substantially changed the direct political regulation of global agri-food production and trade. Of critical importance here is the emergence of new socio-institutional structures constructed by various actors throughout the agri-food system, which are informed by diverging economic and political priorities (LeHeron, 1993).

There is mounting evidence that the reformulation of regulatory regimes by state, and increasingly non-state, actors is forging new sets of food governance structures on a global scale (Goodman and Watts, 1997; LeHeron, 2002). Multinational agri-food corporations are playing an influential role in establishing 'private global regulation' (Friedmann, 1993), whilst consumers, NGOs, farmer groups and other non-state actors

are simultaneously reconstituting alternative trade networks (Whatmore and Thorne, 1997). At the core of understanding the emerging structures of re-regulation within the global food system is the increasingly central role of quality to supply chain coordination. Here quality is broadly construed to include concerns for health, environment, social ethics, security and locality, as well as gourmet-style food consumption. As such, notions of quality are not restricted to narrow niche markets, but are used to define a variety of food attributes and acceptable standards also applied to the wider, conventional worlds of food production and consumption (Mansfield, 2003). The governance of quality by state and non-state actors in the global economy is an increasingly pertinent issue within discussions of the emerging re-regulation of food commodity chains.

In this context, this thesis proposes that the debate on quality is pursued most effectively via an approach that integrates two broad analytical perspectives; global commodity chains (GCC) and embeddedness theory.

GCC provides an effective meso-level theoretical framework for the examination of these issues, because it is capable of bridging the global/local divide in the analysis of agri-food globalisation. The GCC approach involves selecting a particular commodity for analysis, and following the transformation of raw materials through processing and trade to final marketing and consumption (Gereffi and Korzeniewicz, 1994). This approach focuses on the role of the firm and how powerful 'lead' actors establish control of strategic nodes in the chain to coordinate the organisation of upstream and downstream processes. According to Blair and Gereffi (2001: 1888),

One of the key hypotheses of the commodity chains literature is that the type of lead firms that drive a commodity chain, and therefore the type of governance structure that characterizes it, will shape local development outcomes in those areas where the chain touches down.

This approach has merit in identifying sources of economic power within supply chains, but as this thesis argues, also needs augmentation by an elevated concern for the specificities of place. Accordingly, a key theme pursued here is how the embeddedness of actors within particular geographic contexts interacts with vertically driven commodity chains to produce new forms of coordination. Essential to this argument is an appreciation of the entanglement of economic theory with social and political relations, where production, trade and consumption systems are created from the place-based

contexts in which they arise. In his elucidation on the theory of embeddedness, Mark Granovetter (1985: 482) proclaims that,

The behaviour and institutions to be analysed are so constrained by ongoing social relations that to construe them as independent is a grievous misunderstanding.

Granovetter's argument is particularly relevant to developing an understanding of the interplay between the geography of production, constructions of quality, and supply chain dynamics. This complex and fricative interaction underscores the futility of assuming that economic forces are truly capable of wholly overriding the social, natural and geographic embeddedness of commodity exchange. Just as economic actors do not act within the parameters of a socio-cultural void, geography continues to interact with the decision-making processes of economic agents. As the demands for traceability become increasingly apparent in the agri-food sector, the manner in which production is embedded within particular geographic spaces assumes pre-eminent significance.

As such, this thesis deploys the concept and argument of *geographical embeddedness* within a global commodity chain analysis to examine wider issues of supply chain restructuring. The nature of embeddedness is investigated in substantial detail at one node along the coffee supply chain, namely at sites of primary production in South Sulawesi. Three primary concerns influenced the selection of this particular node for detailed examination: the marginalisation of coffee growers within the global coffee industry; the importance of geographical embeddedness at this site for the construction of quality throughout the entire supply chain; and the purported potential of quality differentiation based on the embeddedness of production to contribute to the improved welfare of growers in the specialty coffee sector.

A synthesis of the commodity chain approach with theories of embeddedness is therefore expected to provide valuable insights into the ability of marginalised farmers to employ place-informed quality associations to resist the pervasive influence of corporate actors in consumer countries within this commodity chain. The potential of specialty food products utilising regional identities to provide an alternative development approach for lagging rural regions has also been discussed by Ilbery and Kneafsey (1999) and Ray (2001). Informed by academic interest in industrial districts and theories of flexible specialisation (Piore and Sabel, 1984; Christopherson and Storper, 1986; Sabel, 1989), Murdoch (2000: 414) has even suggested that,

Those rural areas that hold a reservoir of traditional farm-based economic forms, which are integrated with kinship and other close relations, may be best placed to grasp the new economic opportunities.

Geographical embeddedness in Sulawesi is indeed central to the definition, construction and perception of quality throughout the supply chain. Coffee grown at 1,800 metres above sea level (ASL) in the Toraja region is believed to possess intrinsic quality characteristics setting it apart from coffee grown at 1,000 metres ASL. The characteristics imparted on the coffee bean at this point due to local geography define the ability of those beans to penetrate particular international trade networks and gourmet coffee markets. This peculiarity of place has an important influence on the economic relationships between various supply chain actors. However, evidence from the case of Sulawesi coffee suggests that whilst the geographical embeddedness of production has important implications for supply chain restructuring, the potential for meaningful economic change at the grower level remains limited.

Restructuring of Sulawesi coffee chains is occurring primarily in response to traceability demands and the associated centrality of information flows to these chains. Whilst geographical integrity is a key aspect of emerging traceability systems, the ability of key actors to control the implementation of these systems may have unexpected outcomes. The critical characteristics and outcomes of re-regulation along the Sulawesi coffee supply chain provide a valuable addition to our understanding of the dynamics associated with the globalisation of agri-food systems.

1.3 Coffee

This thesis has selected an analysis of the coffee trade to investigate dynamics of re-regulation occurring within the global agri-food system. Trade in coffee has been global for centuries, and since its development as the quintessential colonial commodity grown in tropical dependencies for consumption in core countries, coffee has been emblematic of traditional agricultural exports from developing countries. However, trade relations and structures have undergone significant change in recent years, and so there are a number of reasons why analyses of this industry are particularly informative for assessing relationships and observing trends within the current global trade system.

The biophysical characteristics of the coffee bean are principal determinants global industry dynamics, and a deeper understanding of the biophysical nature of coffee reveals

insights into forms of supply chain coordination. Due to the physiological characteristics of *arabica* coffee, production is restricted to high altitude regions of tropical countries. This geographic reality ensures that the vast majority of the world's coffee is grown in developing countries, often by politically disadvantaged ethnic minorities living in remote mountain regions. Flowering on the plant is weather dependent, and in many areas the fruits ripen successively on a single branch, requiring staggered harvesting throughout the season to ensure only ripe red cherries are selected. Therefore, coffee generally demands hand harvesting, and the availability of cheap, seasonally available labour can determine the success of the industry. Production levels can vary considerably each season due to environmental (primarily weather-related) fluctuations, and the occurrence of frost in Southern Brazil has historically been known to dramatically impact global supply¹. Demand quickly outpaces supply and prices rise, resulting in the expansion of area planted worldwide. As a tree crop however, there is a lag time of three to five years after planting before coffee starts producing. Supply responds very slowly to market demands, and inevitably leads to a cycle of oversupply and erratic price fluctuations.

Table 1-1 shows how the major coffee exporting countries are located in South America, South and Southeast Asia, and Africa. Brazil, Colombia and Vietnam together account for 56 percent of total exports. The importance of coffee to national economies is particularly high in Africa, and in Burundi, Rwanda and Ethiopia, coffee exports constitute more than fifty percent of total export value (Lewin et al., 2004).

In contrast, the bulk of the world's coffee is consumed in some of the world's wealthiest regions, such as North America, Japan and Europe (Table 1-2). Coffee is thus one of the world's most widely traded agricultural commodities, and is characterised by an exceptionally high degree of social inequality and cultural divergence along the commodity chain. An analysis of global coffee supply chains addresses some of the most challenging issues confronting the current international trading system:

About 17-20 million families - mostly small farmers - in over 50 developing nations produce and sell coffee. A number of them are facing considerable difficulties because of the dramatic decline in the price of coffee to 100 year lows in real terms. The destabilizing effect of the price crisis has sparked concern in some of these countries that have experienced bank failures, public protests, and

¹ As production moves north in Brazil, this factor is becoming less relevant in effecting cyclical swings in supply and demand.

dramatic falls in export revenues. This single crop represents more than 20 percent of export earnings for nine developing countries; it accounts for more than half of all export earnings in four countries. By some estimates, approximately 100 million people are directly affected economically by the coffee trade (Lewin et al., 2004: xi).

Country	Exports in Tonnes (% of Total)	Arabica/Robusta (A) / (R)
Brazil	1,506,288 (29.7%)	A/R
Vietnam	699,632 (13.8%)	R
Colombia	623,218 (12.3%)	A
Indonesia	276,000 (5.4%)	R/A
Guatemala	225,700 (4.5%)	A
India	225,699 (4.5%)	R/A
Mexico	158,797 (3.1%)	A
Uganda	150,987 (3.0%)	R
Honduras	145,938 (2.9%)	R
Cote d'Ivoire	144,141 (2.8%)	A
Peru	143,620 (2.8%)	A
Ethiopia	133,064 (2.6%)	A
Costa Rica	103,358 (2.0%)	A
Other Countries	532,732 (10.5%)	A/R
Total	5,069,174	

Source: (ICO, 2004b)

Table 1-1 Volume of coffee exports by exporting countries (2003)

Since the introduction of coffee consumption into Europe during the fifteenth century, and the subsequent spread of coffee cultivation via colonialism throughout the tropical regions of Asia, Africa and the Americas, the industry has been characterised by a high regard for geographical specificity. The New York Coffee and Sugar Exchange (NYCSE), which provides indicator prices upon which global trade in coffee is commonly conducted, explicitly acknowledges geographical specificity through four indicator categories; Colombian milds, other milds, Brazilian milds and *robustas*. An

underlying assumption held by the industry is that coffee beans from various regional sources consistently possess particular taste characteristics (such as acidity, aroma and body) due to the specific conditions under which the coffee is grown.

Country	Imports in tonnes (% of Total)
United States	1,374,458 (27.1%)
Germany	858,200 (16.9%)
Japan	415,793 (8.2%)
Italy	362,374 (7.6%)
France	300,825 (5.9%)
Spain	212,415 (4.2%)
Belgium	182,482 (3.6%)
Netherlands	121,301 (2.4%)
United Kingdom	120,961 (2.4%)
Eastern Europe	542,556 (10.7%)
Other Western Europe	439,171 (8.7%)
Other Countries ²	138,638 (2.7%)
Total	5,069,174

Sources: (ECF, 2003; ICO, 2004b)

Table 1-2 Volume of coffee imports by importing countries (2003)³

The blending of coffee beans from disparate geographic sources has long been standard industrial practice within the roasting sector. It is held that skilfully combining certain proportions of different beans will produce a consistent taste in the final product. Whilst relying on a supply of various regional coffees for blending purposes, inherent variability in this supply has necessitated roasters to frequently substitute regional sources to produce a desired product. The ability to alter the regional coffees used in a blend, and yet maintain a consistent taste, is fundamental to the art of coffee blending. It is this ability that allows particular roasting companies to offer a standardised taste to

² Other Countries data interpolated from the sum volume of mentioned countries subtracted from ICO (2004) data.

³ Eastern Europe data from 2000, European data from 2002. USA and Japan data from 2003

consumers year after year, despite inherent fluctuations in the availability of regional coffees. Furthermore, recent technological improvements in the roasting sector have significantly reduced dependence on individual origins (Ponte, 2002a; Lewin et al., 2004). Therefore, whilst geographical specificity is implicitly acknowledged within the coffee industry, the ability of commercial roasters to counter this specificity through blending has permitted a global sourcing strategy by international coffee traders that effectively ensures a downward pressure on green bean prices.

In the early development of the global coffee industry, geographic specificity was an integral element of the descriptive language employed by traders and roasters, who constructed romantic and exotic images of the locations where coffee was grown. The 1935 edition of *All About Coffee* by William Ukers, for many years a definitive text for the trade, exemplified the importance placed on geographic specificity at the time. The text contains a 20-page “Complete Reference Table of the Principal Kinds of Coffee Grown in the World with their Trade Values and Cup Characteristics” (Ukers, 1935: 212-233). This emphasis on geographical origins was a product of the age of imperialism when many producing regions were considered a political and economic extension of core European powers. Decolonisation, together with advances in roasting and brewing technology, gradually eroded the importance of regional agricultural identities, as control of product identity shifted to the roasting sector located nearer the consumption end of the commodity chain. Pendergrast (2001) describes how industrial roasters completed the transformation of coffee away from a product with a strong agricultural identity into a processed consumer item in the post-war period, where green beans were increasingly used as undifferentiated inputs for industrial processing.

The declining use of regional agricultural identities in the global coffee industry coincided with a period of tightly regulated international trade. Between 1962 and 1989, a series of International Coffee Agreements (ICAs) were administered by the International Coffee Organisation (ICO). The ICAs effected a global supply retention scheme operated via national quotas in an attempt to stabilise coffee prices at levels acceptable to both producing and consuming countries. The cessation of international regulation since 1989 reflects the emergence of neo-liberalism as the hegemonic model for global economic development. This new orthodoxy spurned any trade distorting interference in commodity markets, and the global coffee sector has since been exposed to new modes of regulation.

Many industry actors, multilateral development agencies and even the ICO itself now believe that such supply retention programs are detrimental in the long-term to the overall vitality of the sector (ICO, 2003; Neumann, 2003; Petit, 2003). This view is not shared by all producing countries, industry commentators and NGOs, and there has recently been renewed momentum for reconsidering supply retention (Robbins, 2003; UNCTAD, 2003; Wilundari, 2004). Whilst the quota system successfully raised coffee prices during its operative years⁴, the dominant economic paradigm holds that rigid control of national outputs provides an in-built disincentive towards product differentiation resulting in a lack of quality-related innovation in the industry. Indeed, the post-1989 global coffee industry has been characterised by intense market fragmentation, with numerous product differentiation initiatives and strong growth in the specialty coffee sector.

The specialty coffee industry is now the most vibrant and fastest growing segment of the global coffee market (Ponte, 2002b). The term ‘specialty coffee’ has been attributed to Norwegian coffee connoisseur Erna Knutsen, who introduced the concept in 1978 to emphasise the role of geography in influencing taste profiles and the preservation of geographic identities in the coffee trade (Holly, 2003). Following in this vein, the founding members of the Specialty Coffee Association of America (SCAA) agreed to define specialty coffee as “good preparation from unique origin and distinctive taste” (Ponte, 2002b: 11). A number of roaster-retailer chains, exemplified by the Starbucks Coffee Company, have proliferated across major consuming countries, and indeed have broken into new markets including within the producing countries themselves. These roaster-retailer chains offer a selection of house blends along with single-origin coffees from around the world. The use of geographical expressions, as an integral part of the marketing process, has generally resulted in an improved awareness amongst coffee drinkers of the different taste characteristics and origins of coffees. Romantic and exotic imagery of the growing regions is also increasingly used (recalling historic trends) as an important tool to sell coffee. Only a limited number of regional coffees are considered to possess favourable taste characteristics which allow their unblended acceptance by consumers.

⁴ For a more complete discussion on the ability of the ICAs to successfully raise global coffee prices, refer to Bates (1997).

The intrinsic quality of such regional coffees is considered an effect of the combined influences of geographically specific production factors such as altitude, soil, rainfall, prevailing winds, surrounding vegetation, and culturally regulated cultivation and processing techniques. The way coffee is grown and processed varies significantly across the world's major producing regions. In addition to the physical environmental setting of the growing region, the effects of particular processing decisions made along the supply chain will critically affect the taste characteristics and perceived quality of the coffee. In this thesis, the influence of such place-related environmental and cultural determinants of perceived product quality is conceptualised as the geographical embeddedness of production. The (re-)emergence of geographical specificity in the booming specialty coffee sector permits an investigation into how such specificity is contributing to industry restructuring. The actual importance of geography in the current specialty coffee sector is however, problematic due to the continued emphasis on roasting identities and branding, and the widespread use of milk, sugar and other flavourings in espresso bar culture at the expense of an emphasis on agricultural origins.

Evidently, the history and development of the global coffee industry has been profoundly entwined with the history of dominant politico-economic systems, of which the latest is a commitment to neo-liberalism. The global importance of this commodity, affecting as it does many millions of people worldwide, presents an ongoing challenge to development economists and confronts issues of social justice at the heart of the global economic system. The ongoing importance of geography within the industry underscores the fragility of homogenising accounts of globalisation, prompting alternative frameworks for inquiry. The global coffee industry presents a non-linear exposition of agri-food globalisation, where the influence of individual actors and places are part and parcel of the constantly reformulated sets of regulation that inform trajectories of development.

1.4 Sulawesi

Sulawesi coffee is selected as an empirical entry point into debates on re-regulation within the global agri-food system. Sulawesi is a strangely shaped island, often compared to an octopus because of its several peninsulas extending from a central land mass. It is the fourth largest island in the Indonesian Archipelago, located directly east of Borneo and northeast of Bali (Figure 1-1).



Figure 1-1 The island of Sulawesi within the Indonesian archipelago

The island straddles the Wallace Line, a biogeographical boundary which separates the Asian and Australasian faunal regions. As a result, Sulawesi is of substantial ecological significance, with an extremely high degree of endemism amongst its native wildlife. Such singular animals as the babirusa, maleo and anoa are found in the remaining forests. The southern and most densely populated peninsula of the island is administered as South Sulawesi Province. In the northern part of this province, the rugged Latimojong mountain range extends along a north-south axis with peaks rising 3,000 metres ASL, and adjoins the more remote regions of Central Sulawesi Province. No fewer than eleven languages are spoken on Sulawesi including four on the southern peninsula, each with a number of distinct dialects. The four largest, and linguistically distinct, ethnic groups in the province are the Bugis, Makassar, Toraja and Mandar people. Indonesians however tend to categorise ethnicity according to a combination of religious, cultural, administrative as well as linguistic divisions. According to this categorisation, at least ten such ethnic identities are located within South Sulawesi alone.

South Sulawesi is an important contributor to Indonesia's agricultural export earnings, leading the country in shrimp and cocoa exports, and is an important producer of palm oil. The devaluation of the rupiah, following the Asian economic crisis in 1997, initially improved local commodity prices, particularly cocoa and shrimp. This was a key factor allowing the province to weather the impacts of the crisis far better than other parts of Indonesia, and even induced an atmosphere of relative prosperity amongst smallholder commodity producers. The crisis stimulated widespread production increases and an enhanced export orientation for the local economy, which is now increasingly susceptible to volatile international commodity markets and consuming country quality requirements.

Tana Toraja⁵ is the name of a single *kabupaten*⁶ located in the Latimojong Mountains of South Sulawesi, and populated by a people known by anthropologists as the Sa'dan Toraja (Nooy-Palm, 1979), but who now exclusively refer to themselves simply as 'Torajan'. The Torajan homeland is a series of wide mountain valleys with a base altitude of 700 metres ASL, surrounded by a ring of imposing mountain peaks up to 2,800 metres ASL. Wet-rice agriculture is commonly practiced in the valley bottoms and

⁵ In this thesis, 'Tana Toraja' is used for referring explicitly to the district as an administrative unit, whilst the more common expression 'Toraja' is used when speaking more generally.

⁶ An Indonesian administrative division below the provincial level and frequently referred to as a district or regency.

on some steeply terraced slopes, along with intensive livestock production (primarily buffalo and pig). Moreover, these agricultural contexts are entwined with regionally specific socio-cultural practices. Over the last twenty-five years, Toraja has emerged as one of the foremost tourist destinations in eastern Indonesia, due to a remarkable and unique cultural belief system. A syncretic blend of Christianity, Animism, and Ancestor Worship culminates in a complex ceremonial cycle that continues to dominate daily life for the Toraja. Occasions such as marriage, house construction and renovation, the rice harvest and, most extravagantly, funeral rites, are celebrated with elaborate ceremonies that may require years of planning, exorbitant financial sacrifice and complex community participation.

For hundreds of years in the Latimojong Mountains of Sulawesi, both the Toraja and neighbouring Duri people have grown *arabica* coffee, which has developed an international reputation as a high quality product. South Sulawesi is currently the only significant coffee-producing province on the island, and as such ‘Sulawesi’ and ‘South Sulawesi’ are used largely interchangeably in the context of coffee production. This coffee is commonly traded internationally as ‘Kalosi’, ‘Toraja’ or simply ‘Sulawesi’ coffee, and has established itself as an important single-origin offering within the specialty coffee sector, with particular appeal within the Japanese market. Whilst the total volume of annual exports (3,562 tonnes in 2002) is modest by global standards, coffee production dominates the local economies where it is grown. Moreover, the specific geographical associations of coffee quality characteristics, and the penetration by international corporate capital into local production systems make the Sulawesi industry a particularly informative case-study.

Within South Sulawesi, a number of *kabupaten* spread across the province now grow *arabica* beans for the export market. Far from constituting a homogenous production zone, the numerous growing districts of South Sulawesi vary considerably in terms of physical setting, cultivation methods, processing techniques and trade networks. The heterogenous nature of geographical embeddedness within sites of primary coffee production across the province, with important implications for quality construction, is a key factor driving a regime of traceability for the Sulawesi coffee supply chains. The importance of local geography to the Sulawesi coffee industry thus provides a revealing case study for an analysis of how geographical embeddedness intersects with wider supply chain structures.

In the Toraja region, there is a relatively high degree of entanglement between coffee production and local cultural and ecological systems. This geographical embeddedness, as a product of the specific vagaries of history and geography, appears to confer particular quality characteristics on locally grown coffee. Moreover, the unique characteristics of Torajan culture have, in recent times, become an asset contributing to the construction of quality attributes within the specialty coffee sector of consuming countries. In short, the uniqueness of the culture is linked with the rarity of the coffee it produces. Coffee is the most important locally generated financial source that fuels the ceremonial cycle in Toraja, and according to the local statistics agency, coffee is the foremost contributor to the Gross Domestic Regional Product (BPS, 2002b). Whilst *arabica* coffee cultivation in South Sulawesi is not restricted to the administrative bounds of Tana Toraja, for reasons outline above, this particular growing district is a primary research focus in this thesis.

Torajan culture is interpreted and transmitted globally through both physical commodity trade and through parallel, but not always mutually responsive, information networks. The selection of Toraja for detailed ethnographic and geographic analysis responds to appeals that “globalisation studies must encompass an understanding of how macroeconomic processes and transnational cultural flows articulate with historically specific cultures and ways of life at the local scale” (Rankin, 2003: 727).

1.5 Methodology

The scope of this research is defined by the 3,562 tonnes of green *arabica* beans exported from the port of Makassar in 2002, at which point the coffee most commonly assumes the geographic trade identity of either Toraja or Kalosi. Only at the site of export does the network concentrate itself into a spatially discrete unit with reliable and standardised trade data available. The green coffee beans exported from Makassar are sourced from at least six different *kabupaten* across the peninsula. A simplified rendering of the pre-export trade network suggests a pyramidal structure (Figure 1-2), with the fourteen exporters active during 2002 buying coffee from several hundred local traders who visited local markets and bought coffee from an estimated 74,404 coffee farmers (BPS, 2002c). If the pre-export network is pyramidal, the post-export network is funnel-shaped, with thirty-two coffee importers from four continents purchasing coffee in Makassar and then selling their beans to hundreds of roasting companies before being consumed by

possibly hundreds of thousands of coffee drinkers worldwide. With the degree of complexity increasing at either end of the network, an entrance point at these extremes would be unavoidably arbitrary. Whilst the site of Makassar defines the scope of analysis as consisting of all coffee grown in South Sulawesi that enters the export market, fieldwork investigations actually commenced at sites of agricultural production in the highlands rather than in Makassar. This site of entry into the trade network has important methodological implications, as outlined below.

The geographical nuances affecting supply chain dynamics are of central concern to this research, thus requiring an in-depth understanding of coffee production geography across Sulawesi. Accordingly, this thesis sketches the physical environmental conditions in each of the growing regions in South Sulawesi, as well as the position of coffee within each agroecological setting. Each region also possesses a unique set of socio-economic relationships with coffee cultivation that influence the quality characteristics of the coffee grown in that area. The specifics of how coffee production is embedded within particular geographic settings are of considerable importance to the research. Hence intensive ethnographic fieldwork in Indonesia was necessary. This fieldwork was performed during two extended visits: the first from May through to November in 2002 and the second from February until September in 2003 (a total of fifteen months)⁷. Details of field activities including interviews, site visits and participatory activities in Indonesia are provided in Appendix B in the form of a field diary. Interviews were predominantly carried out in *Bahasa Indonesia*, Indonesia's national language (in which the author is fluent) or alternatively in *Bahasa Toraja*, a local language (in which the author is conversant), or in other regional languages, where it is relatively easy to obtain a translation into *Bahasa Indonesia*.

As a foreign researcher performing extended fieldwork in Indonesia, it was necessary to obtain government permits, a process that required the establishment of a collaborative relationship with a local academic institution. The subsequent relationship with the University of Hasanuddin in Makassar involved substantial discussion of fieldwork approaches and of preliminary results throughout the research period. Formal

⁷ Prior to these periods of fieldwork, the author had also spent a total of approximately two years in Toraja, during numerous visits to Sulawesi.

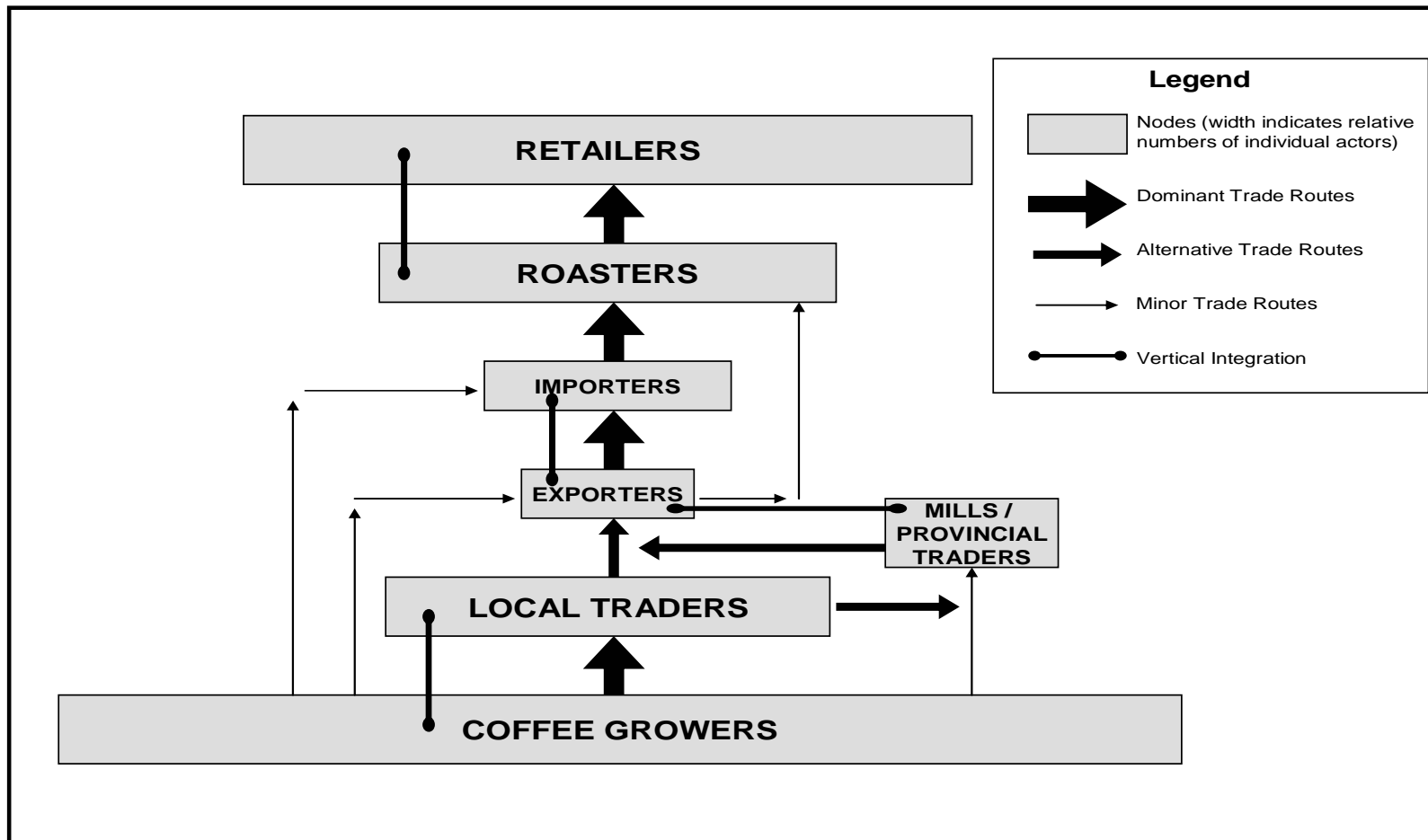


Figure 1-2 Symbolic representation of industry structure

introductions from the University were helpful in facilitating contact with government representatives in some areas (*Kabupaten Gowa*) and with research centres in Java, such as the International Coffee and Cocoa Research Institute (ICCRI). However, this relationship was not generally used to facilitate communication with growers and local traders in the growing regions. Initial contact with members of the growing community was performed independently of this academic association, and this significantly affected the way I was perceived and received by the coffee-growing community.

Previous research in Toraja had provided contacts and familiarity with this particular site of production, and as such, Torajan villages were selected as the initial site of inquiry into Sulawesi coffee production and trade networks. As a general rule, the direction of inquiry in Sulawesi thus commenced with coffee growers and worked down the supply chain to market traders, processors and exporters. This direction of inquiry influenced the authors overall understanding of the supply chain and generally acted to prioritise and empathise with those actors encountered earliest. The author's marriage with an ethnic Torajan⁸ was a key factor affecting the way members of the Torajan community related to the author in his secondary role (in their eyes) as an academic researcher. The author's status was perceived to be a dependent extension of family relationships, and he was generally accepted as being "*anakna ne'ne Eden*" (literally the son of Eden's grandfather). Even in villages remote from direct family relationships, where marital status and parenthood is routinely established soon after acquaintance, the author was typically greeted with familiarity as a consequence of this status.

During the fieldwork periods, the author was based in Tondon village, which is located only a few kilometres east of the main town of Rantepao, and is proximate to a number of offices, purchasing stations and processing plants for the local coffee industry. This allowed the undertaking of regular, informal talks with local traders, processors and estate owners active in the area. From this location, numerous visits (often overnight) were made to the main *arabica*-growing villages situated in the more remote mountain areas of Toraja, with frequent repeat visits to several villages in the north.

Prior to visiting the coffee-growing villages, it was common to establish a contact person living in that village, usually through family-linked relationships, existing friendships

⁸ The author's partner was not however born in Toraja and had undertaken only brief visits to Toraja prior to this period of fieldwork. Despite this, due primarily to continued family involvement in the ceremonial cycle, an extended family network provided important access to the growing community.

and even relatives of Torajan friends living in Australia. The contact was either a coffee grower or someone able to quickly provide introductions to local growers in the village. A dense and extended network of informants consisting of coffee growers, traders and processors thus developed within the regional coffee industry of South Sulawesi. This approach facilitated informal interviews with informants across the *kabupaten* of Toraja, Mamasa and Enrekang, as well as some exporters in Makassar.

The extended period of residence in Toraja allowed a participant observation approach to fieldwork, facilitating the accumulation of extensive ethnographic material concerning the coffee-growing community. Participant observation involves spending time being, living or working with people or communities in an effort to understand peoples everyday lived experiences (Dowler, 2001; Laurier, 2003). Involvement in community activities, not directly related to targeted field data collection but often unexpectedly productive at the same time, included participation in ceremonial obligations, religious meetings and social events. One advantage of extended participant-observation fieldwork is the high degree of flexibility in terms of designating research priorities. To a certain extent, the extended period allows informants to tell their own story, in their own way, on their own terms with as little prompting as possible from the researcher. This approach allows the compilation of informant world views, representing as closely as possible, the perceptions of the actors themselves with minimal projection of the researcher's own preconceptions. The luxury of time also provides insights into the subtle relationships amongst growers, traders, and processors in Sulawesi, which may not have otherwise become apparent. Cultural factors affecting production, the complexities of the ceremonial cycle and the cyclical role of coffee in the village economy were revealed only after extended participant observation.

Furthermore, collaboration with a local university student in conducting an experiment involving soil, leaf and coffee fruit sampling provided a valuable entry point into many non-Toraja growing communities. By accompanying growers into their plantations and personally participating in the harvest, direct observations of grower's relationship with their coffee trees became possible. The experiment also became a tool for discussing processing techniques, as the coffee sample was often pulped, fermented and washed in situ. The act of physically participating in farm activities greatly assisted to break down tensions, allowing interviews to then be held in a very casual and informal environment.

In his way, growers would naturally discuss aspects of coffee cultivation that they considered important, without overt prompting.

In an industry where trust-based relationships are often paramount to financial success, and trade secrets (along with deception and sometimes fraud) are commonplace, there is an element of suspicion towards investigators at all stages of the supply chain (Freidberg, 2001). The development of personal relationships with various actors, particularly those involved with local trading, estate management and exporting, was especially important in ensuring a relatively high degree of mutual trust. It is important however, to acknowledge the possible information biases that may have tainted informant responses during the fieldwork period. It was common for growers, traders and exporters alike to initially respond to investigative inquiries regarding their coffee with the hesitant eagerness of a vendor confronting a potential buyer. At such times, the informant would emphasise their belief in the uniqueness and quality of their product, growing environment, processing techniques, and sourcing strategies, at the expense of possible weaknesses.

A further methodological component of the study involved semi-structured interviews with growers, estate owners, exporters, importers and roasters. Interview approaches were adjusted to appropriately consider the context of any particular social encounter. In some more traditional rural contexts, the immediate presentation of an image as a researcher desirous of information and data would have been insulting to many potential informants introduced through personal relationships. However, government officials and many Makassar-based exporters expect a higher degree of formality during initial introductions. In these contexts, a Subject Information Sheet (SIS) outlining institutional affiliation, research background and aims were routinely provided (an example of the SIS is provided in Appendix C). Whilst a list of questions was often prepared prior to a meeting (examples of question lists for smallholders, estate owners, exporters, importers and roasters are provided in Appendix D), these were not routinely presented to the participant and provided an extremely loose framework for the meeting. In this regard, Longhurst (2003: 117) states that “semi-structured interviews unfold in a conversational manner offering participants the chance to explore issues they feel are important”. During the course of all interviews, the academic nature of the investigation was explained in detail to the informants, emphasising their voluntary participation, and a SIS provided where appropriate. The Association of Indonesian Coffee Exporters (AEKI) South

Sulawesi branch office provided a list of coffee exporting firms and contact details, facilitating interviews with Makassar-based exporters.

Interviews held with government officials in Makassar provided an opportunity to gather official, and some unpublished, industry statistics. Notably, a comprehensive export data set was collected from primary sources at the provincial office of the Department of Industry and Trade in Makassar (the complete data set for 2002 and 2003 is presented in Appendix E). Each individual shipment of coffee exported from the port of Makassar requires a *Pemberitahuan Ekspor Barang* (PEB) issued by the Department as a 'Notification of Exported Goods', as well as an ICO Certificate of Origin (examples of which are included in Appendix F). These two sources of export information included details of the date of export, name of the exporting firm, name of the importing firm, country of destination, volume of shipment, value of goods, and identifying mark (usually a geographic name) of shipment. Similar export data was also obtained from a secondary source (the private records of PT Toarco Jaya) for the years 1999, 2000 and 2001, although these did not include the geographic identity of individual shipments. These data sets are otherwise unpublished and provided a critical understanding of the internal dynamics of exporter-importer relationships and their use of geographic identities.

A second phase of the study involved structured interviews with international coffee traders located in Hamburg, Amsterdam, Nieuwerbrug, Antwerp, New York, Oakland and Sydney. Multi-site ethnography is an important requirement in the analysis of global commodity chains, allowing the triangulation of data and facilitating a more nuanced approach to globalisation (Freidberg, 2003). By following commodity chains from the village level through to global arenas, we begin to express the requirements of a global ethnography (Burawoy, 2000). Major international buyers of Sulawesi coffee from Makassar were identified through the export data set obtained in Makassar (Appendix E). These traders were initially contacted via email and presented with the SIS (Appendix C) and a list of questions (Appendix D) that would guide the interview. Upon their voluntary willingness to participate, the informant then determined a convenient location for the interview (most were held at the trading houses), eight of which were performed in person, two via email and one over the phone. Interviews were held with traders responsible for importing sixty-nine percent of Sulawesi coffee into Europe, seventy-three percent into the United States and one hundred percent into Australia. A single

importer responsible for eighty-two percent of Sulawesi imports into Japan was also interviewed in Sulawesi. These interviews were held according to an open-ended format, and frequently lead to extended conversations regarding the quality, history and production conditions in Sulawesi. Most of these international informants were equally keen to obtain information regarding Sulawesi production collected during the author's fieldwork. The resulting reciprocal information exchange was a key factor encouraging these informants to talk openly about their trade and perceptions of Sulawesi coffee.

No video or audio recordings were taken during participation observation or during interviews, and the use of photography and note taking was performed sparingly. In many village settings, even the apparently innocuous activity of note taking during an interview can illicit mild suspicion and can create a psychological barrier between researcher and informant (this of course would be further exacerbated by recordings). Notes were often written down immediately following an interview, or during quiet evenings of intensive participant observation in village environments. As pointed out by Laurier (2003), introducing your notebook during an interview or participant observation reinforces your status as a researcher, which in some circumstances may help to promote the seriousness of the discussion.

The combination of participant-observation and multi-site ethnography employed in this thesis corresponds with the theoretical synthesis of embeddedness theory and commodity chain analysis. Such an approach allows greater sensitivity to the ways in which local cultures confront the political economy of globalisation at various scales and places. To this end, Rankin (2003: 708) has argued for a greater synthesis of anthropology and geography in the study of globalisation, adopting the formers' emphasis on the "role of culture in anchoring (or resisting) globalising processes within particular societies" and the latter's "more comparative emphasis on the politics of place and scale". The methodological approach taken up in this research responds to these challenges.

1.6 Structure of the Thesis

This thesis consists of eleven chapters presented in five parts. Part One directly follows this introduction and establishes the theoretical foundations of the thesis by situating the research firmly within current debates on the global restructuring of agri-food industries. Intercontinental food chains have proliferated in recent years, resulting in new configurations of supply chain actors positioning themselves to maximise their role in the

emerging food system. Chapter Two enters into current debates on globalisation, the evolution of the world food system, and the re-regulation of global trade structures. Conceptualisations of agri-food change are then presented in Chapter Three, which draws primarily on the literatures of global commodity chains and embeddedness theory. In this discussion, specific reference is made to the contributions made by these literatures to understanding changes within the post-1989 global coffee industry and the role of institutions in particular.

Part Two provides important contextual information on both the province of South Sulawesi in Indonesia and the coffee supply chains which link this region with international markets. Chapter Four presents a geographical analysis of the coffee growing regions of South Sulawesi. This descriptive chapter follows a loosely chronological layering of the physical and social setting of South Sulawesi, providing a regional context for the ensuing discussion. These geographical settings are central to the unfolding debate on the interaction between geographical embeddedness with supply chain restructuring and coordination. An overview of the Sulawesi coffee supply chain then follows in Chapter Five. Trade networks connect growers situated at the various sites of primary production to coffee drinkers in North America, Australia, Japan and Europe. There are essentially six sets of actors whose coordination ensures that the fruit of the coffee tree is transformed from its agricultural origins into a (predominantly) gourmet beverage for final consumption. These are the growers, village traders, processor/exporters, importers, roasters, and retailers. The aim of Chapter Five is to present the Sulawesi coffee commodity chains, dominant actors, trade relationships and processing techniques performed.

Part Three presents a narrative of the geographical embeddedness of coffee production across Sulawesi. Chapter Six portrays this embeddedness as a historical process commencing with the introduction of coffee cultivation via indigenous trade networks to the Latimojong Mountains prior to Dutch colonisation. The nature of embeddedness is then moulded by the political and economic developments affecting the peninsula over the ensuing period, and most recently by the implementation of regional autonomy across Indonesia in the post-Suharto period. Chapter Seven details the outcomes of this embeddedness through an analysis of contemporary coffee production spaces in the Toraja region. The integration of smallholder production spaces within agroecological and social contexts contrasts sharply with the more recent imposition of estate agriculture

in Toraja. The embeddedness of coffee production in Toraja is then juxtaposed by the analysis of production spaces in other regions of South Sulawesi in Chapter Eight. The ethnographic detail presented in Part Three serves to emphasise the variety of influences that have resulted in the high degree of heterogeneity within the Sulawesi coffee industry. The role of the environment, social systems, political influences, cultural attributes, market networks and economic development have all conspired to create a mosaic of quality-differentiated production spaces. The peninsula is anything but a homogenous growing space producing a standardised quality product.

Part Four of the thesis presents the argument that quality constructs in the Sulawesi coffee chains are primarily articulated through the embeddedness of production spaces, resulting in increased concern for traceability and supply chain restructuring. Chapter Nine exposes the concept of quality as a social construct, which is informed by the negotiation of actor perceptions throughout the supply chain. The embeddedness of all the main actors involved in the coffee supply chain demonstrates how horizontal cultural, political and economic factors at each node interact with vertical relationships within the chain to inform various quality perceptions. A key theme however, is how perceived quality arises and is transformed by the real and imagined geographies of production. Chapter Ten then provides concrete evidence of how these negotiated quality attributes are providing the impetus for traceability-centred coordination of the supply chain. Restructuring within the Sulawesi supply chain can be explained largely as a response to these traceability demands. Central to these concerns are the various attempts to regulate the use of place-related product identities.

Finally, in Part Five, Chapter Eleven applies the conceptual foundations laid in Part Two to present an argument for the re-regulation of global agri-food industries around a central concept of product traceability.

PART I: THEORY

Efforts to understand recent shifts in the world economy have concentrated on globalisation processes. Chapter Two presents these globalising processes through a discussion on emerging regimes of industry re-regulation within the agri-food sector. Chapter Three then identifies key theoretical approaches used in this thesis, with a discussion on their applicability to conceptualising change in the global coffee industry.

2 GLOBALISATION AND AGRI-FOOD RE-REGULATION

The global food system is in a state of flux. Evolving consumer demands, shifting regulatory regimes operating at new spatial scales, increasingly mobile transnational capital and geopolitical change are fundamentally affecting the way food is produced and distributed. Rural restructuring has become a sensitive political issue, as debates in the World Trade Organisation (WTO) stall over the pace and extent of the deregulation of national agricultures. Simultaneously, trade in agricultural products is being re-regulated through non-tariff barriers and disguised rural subsidies. Millions of farmers throughout the developing world face poverty and starvation as the prices paid for the basic commodities they produce crash to historic lows due to saturated markets and massive overproduction. Meanwhile, in laboratories in the world's wealthiest countries, billions of dollars are invested in biotechnologies to further increase crop productivity. And in these contexts, the environmental resource base upon which agriculture depends has been gradually eroded due to the widespread implementation of unsustainable farm practices.

The inability of the International Coffee Agreements (ICAs) to maintain a quota trading system for coffee after 1989 is emblematic of the dominance of a neo-liberal trade agenda in the current global economic system. Within this economic paradigm, globalisation is equated with free trade and the pre-eminence of market pressures to determine efficient allocation of resources to sites of comparative advantage. Globalisation however, is not a linear process towards a pre-determined idealised end-state, and politicised, social actors remain integral determinants of how processes of agri-food change are unfolding. Commodity chain analyses of the global coffee sector (Talbot, 1996; Talbot, 1997; Ponte, 2002a; Talbot, 2002b) have emphasised the prominent role of powerful lead actors (international traders and roasting firms), operating at strategic sites within consuming country contexts, in controlling supply chain dynamics. Moreover, free market economics applied to the international coffee trade has contributed to this development, allowing the concentration of actors at these nodes to accrue surplus value created along the supply chain (Talbot, 2002a).

Recent shifts in the scalar dynamics of food and agricultural sectors are frequently framed in terms of 'globalisation', and this chapter commences with a discussion of this notoriously slippery concept. Globalisation is initially problematised and then expressed as a contested and relational experience. Recent interest in the outcome of the apparently

opposing forces of globalising processes and place-specific agricultural development has reinserted agriculture as a prominent focus of study within economic geography, which hitherto relied on a strong sectoral emphasis on manufacturing. The global agri-food system is currently characterised by increased international trade in a number of non-traditional food commodities, regional specialisation, fragmentation of traditional products and ongoing reform debates in the WTO. Agri-food studies in recent years have focused on the evolution of agricultural systems under capitalism, the changing role of the nation-state, and the influence of quality as a mode of governance. These debates are entered into with a particular focus on the re-regulation of trade through shifting social, environmental, health and political agendas.

2.1 The ‘Globalisation’ Debate

The global does not lurk and threaten out there as the Great All-Encompassing; it noisily fills the innermost space of our own lives. (Beck, 2000: 74)

Trade in various commodities, including coffee, has been global for a number of centuries. There is nothing new about international trade, and as argued by Hirst and Thompson (1996), flows of merchandise trade, capital investment and labour migration were relatively greater in the period 1850-1914, than they were in the period 1950-2000. And yet, there is general agreement amongst scholars, politicians, corporate actors, and various other individuals that “something fundamental is happening in the world economy” (Dicken, 2003: 1). That ‘something’ is of course, frequently conjured up by the buzzword ‘globalisation’.

The inference here is that changes in the world economy since the 1970s have heralded a new age of increased global interconnectedness. It is the rise to importance of this global scale that some commentators, such as Leyshon (1997), believe sets current trends apart from historical antecedents. Others believe that “globalisation is developing in the context of a new international division of labour” (Bonanno et al., 1994b: 1). And yet another popular conceptualisation of globalisation, widely propagated by politicians, the media and some activist networks, is that globalisation constitutes an exogenous force, and implies a sense of inevitability and closure. This final view has been supported by theorisations that make bold proclamations linking globalisation with “the end of geography” (O'Brien, 1992) and “the end of the nation-state” (Ohmae, 1995) in a “borderless world” (Ohmae, 1990).

Geographers, and other social scientists, have mostly rejected such claims and instead propose a more reflexive and situated conceptualisation of globalisation (Larner and Le Heron, 2002). Inspired by the ‘cultural turn’ in the social sciences and the permeation of post-modern critique, globalisation is increasingly seen as a dialectical relationship between the global and the local “composed of multiple and asymmetric *interdependencies* between local and wider fields of influence and action” (Amin and Thrift, 1997: 147). Such an approach responds to earlier demands made for a “multiperspectival, multivocal and multidimensional” reconstruction of economic geography in contributing to the globalisation debate (Martin, 1994).

In these terms, globalisation is a ‘project’ (McMichael, 1996), in which human agency is central to the creation and determination of outcomes. This approach to globalisation emphasises its social, political and cultural construction, and as such rejects totalising grand theories and the projection of idealised end-states. Beck (2000) labels the misinformed belief that cultural convergence is a direct result of growing economic unity as the “linearity myth”. Instead, globalisation can be “presented as a process that is forever incomplete and contested, and which contains apparent complexities and contradictions, including reflexivity and hybridity” (Pritchard and Burch, 2003: 12). In this sense, we can start attending to the need for an inclusive approach to understanding and perpetuating global issues, and how these intersect with other scales of activity:

Adopting the metaphor of globalising economic processes breaks open this meganarrative: instead we can emphasise the emergent, create room to give agency some space, acknowledge that participation may be fluid, informed, motivated, intentional, aspirational, hint at the constructed nature of processes and new spaces, and most importantly, begin to reinsert politics and policy and reset priorities (Larner and Le Heron, 2002: 416).

Clearly, globalisation processes should not be understood as universal truths, but are situated and informed by how individuals perceive, construct and respond to their experience of those same processes. For economic geographers, sites of production and consumption are located in geographically diverse contexts, linked together by multiple intermediary network arrangements that provide connectivity between otherwise spatially remote actors. Far from culminating in a dull, standardised global cultural space, as feared by many early globalisation observers, we are witnessing the (re)-creation of enhanced heterogeneity due to this increased connectivity. A ‘multiperspectival’ and contextual approach to globalisation is an important starting point, as it opens the way for

a more textured analysis of the various complexities that characterise contemporary economic geography.

O'Brien's (1992) prediction of the 'end of geography' was a response to the enthusiasm induced by the rapidity and extended reach of globalising processes. Indeed, fundamental geographic notions of place, and the nature of spatial relationships and scalar dynamics, are increasingly being challenged and re-positioned in response to the changing parameters of the global economy. Advances in communication technologies have undoubtedly altered our perception of geographic scale, while the integration of global financial markets has appended, to an unprecedented extent, the economic fortunes of one country with those of another. Interestingly however, reconfiguring our sense of place within the 'global society' and the potential for instantaneous exchange of cultural information has had some unexpected outcomes. We are living a kind of "place polygamy" (Beck, 2000), where our sense of place is not limited to particular geographic confines or mono-scaled activities. Our ability to consciously exist within a number of interrelated scales has facilitated our potential to absorb, translate and transmit information with unprecedented speed. This tendency has not obliterated space, and neither has it led to outright cultural homogenisation. The projection of place-related imagery in the specialty coffee sector and the ability of consumers to relate to distant locales is a manifestation of these tendencies.

Swyngedouw (1997) has labelled the constant jumping between scales of social and economic processes as "glocalisation". Unlike frequent characterisations of globalisation, where the global is contrasted with the local in unnecessary and unrealistic polarisation, the emerging 'globalising experience' is far more complex. As explained by Latour (1993: 122), "the two extremes, local and global, are much less interesting than the intermediary arrangements"⁹. Furthermore, Dicken (1998: xiv) reminds us that "between the 'global' and the 'local' there is a continuum of inter-related geographical scales through which the processes of transformation are mediated". This thesis responds explicitly to the theoretical agenda suggested by these ideas, and focuses on how a collection of places within one regional space (South Sulawesi) is inserted within, and responds to, economic globalisation.

⁹ Latour calls these intermediary processes "networks".

The role of regional space within the emerging global system has been intensely debated, with Agnew (2000) arguing for a renewed interest in a political economy focused on regions as the geographic setting for economic development. In a subsequent paper, Agnew (2001) discusses the emergence of regional and local identities as a strategy to enhance competitiveness in response to the pressures of globalisation, when exposure to world markets can erode the protection offered by national borders. Friedmann and McMichael (1989) consider regional specialisation in particular agricultural products as the consequence of a global sourcing strategy by agri-food capital, which is then able to minimise the cost of food inputs by imposing competitiveness amongst producing regions. However, regional product identity linked to quality has in some instances been successful in reversing the power relations associated with the production of generic agricultural products as inputs to manufacturing and distribution networks.

These arguments about the role of regions in agri-food globalisation parallel more general arguments about the roles of regions in the contemporary global economy. Scott (1998) argues that we are experiencing a major geopolitical shift in conditions of production towards a global mosaic of regional economies. Ray (2001) has discussed the “re-territorialisation” of rural space in the European Union in the context of the adoption of neo-endogenous rural development initiatives under the LEADER program. The role of regional space as a new scalar focus for economic development is also reflected in Indonesia’s 2001 Regional Autonomy Law. This law has altered the distribution of capital accumulation through revenue collection and has ultimately led to an assortment of economic development policies with strong regional influences. Trends towards regionalism and separatism in diverse places such as the Balkans, Central Asia, Indonesia, and Papua New Guinea would seem to support the belief that we are witnessing the re-establishment of the sub-national region as a significant unit of geopolitical space. The political empowerment of regions is frequently a consequence of economic processes themselves, with separatist movements finding fertile grounds in resource-rich regions where the benefits of economic development have excluded local communities. Separatist movements in Indonesia (Aceh, Papua, Riau, East Kalimantan) correlate closely with areas of resource abundance, where regional movements are demanding endogenous development approaches. Here, we begin to observe synergies between the decline of centralised state planning and regional political ascendance with emerging patterns of food consumption and place associations of quality. In this context,

the possibility exists for the development of a heterogenous mosaic of regional agricultural spaces in contrast to homogenising accounts of agri-food globalisation.

2.2 Global Agri-food Re-structuring

Influential work on the political economy of agri-food systems produced during the last decade has often been explicitly couched in respect to the ‘global’ (Le Heron, 1993; Bonanno et al., 1994a; McMichael, 1994; Goodman and Watts, 1997; Burch et al., 1999). This reflects a need to understand how the globalisation processes of late-twentieth century capitalism reshaped the production, trade, and consumption of agri-food products. Le Heron (1993: 189) has argued that “globalised agriculture is an intrinsic element of contemporary capitalism”, and that it is a myth to maintain that agriculture differs significantly from other industrial activities. Utilising a commodity systems approach, Friedland et al. (1981: 6) similarly asserts that,

The peculiarities of weather and soil in the making of food and fibre crops should not, however, obscure the universal character of commodity production in capitalist agriculture.

However, in returning to Kautsky’s ‘The Agrarian Question’ and the future of agrarian economies under capitalism, the edited collection by Goodman and Watts (1997) suggests that characteristic features of the agri-food sector have resulted in unique trajectories of capitalist development. Indeed, Goodman et al. (1987) earlier argued that the industrialisation of agriculture had confronted capitalism with a “natural production process”, taking a decisively different path to the manufacturing sector. Whilst it is sometimes tempting to consider the increase in international trade of agricultural products as the result of similar processes as those occurring within the manufacturing and finance sectors, such an assumption would appear to require greater scrutiny at this stage. The critical role of nature in food provisioning systems has long been acknowledged in agri-food studies, with Goodman (1999: 18) arguing that agri-food systems are unique in possessing a

dual set of metabolic relations – eco-social production and human food consumption ... [which] ... involve a two-step process: *on the land*, where agricultural nature and its harvests are co-produced and co-evolve with social labour, and *at the table*, where these co-productions are metabolised corporeally and symbolically as food. (Italics in original)

It is argued that these ‘organic’ properties existing at either end of the commodity chain render the food system essentially distinct from non-food systems and come to shape the

features of agri-food globalisation (Goodman and Redclift, 1991; Goodman and Watts, 1994; Whatmore, 1994; Watts and Goodman, 1997; Murdoch and Miele, 1999). Attempts by capital to deny the centrality of nature within the food supply chain, through “appropriation” of natural processes and “substitution” of natural products are in themselves limiting factors to the rapid industrialisation of agriculture (Goodman et al., 1987). Furthermore, Murdoch et al. (2000) suggest that resistance to the “circumvention” of nature through industrialisation and the “boomerang” qualities of nature have had unexpected outcomes in the agri-food sector. In particular, these have become manifest in changing consumption patterns in response to food scares during the last decade.

Of particular interest to the changing role of capital within the global agri-food system is the concept of a food regime (Friedmann and McMichael, 1989). This literature links international relations of food production and consumption to world-historical perspectives of capitalist transformation, gaining inspiration from theories of world system analysis (Wallerstein, 1974). As with earlier neo-Marxist dependency theorists (Frank, 1969), such a world-historical view considers the development trajectory of individual nations or regions as responsive to the evolution of an all-encompassing global system. World systems theory applies a worldview that positions developing countries on the periphery of global capitalist development and developed countries at the core.

Friedmann and McMichael (1989) describe the period from about 1870 until the outbreak of the First World War, as representative of the first food regime, where the export of raw food products from settler states and colonies to European powers was balanced by reciprocal trade in manufactured goods. The second food regime assumed dominance during the period of decolonisation and nation building that followed the Second World War, and is characterised by the US model of agri-food industrialisation linked to a powerful and supportive nation-state. This second regime was influenced by Rostow’s “Stages of Economic Growth” (Rostow, 1961; Rostow, 1964), and cold war geopolitical imperatives, which promoted Keynesian capitalist development managed primarily by the Bretton Woods institutions. Heavily subsidised agricultural production in developed countries resulted in the transfer of substantial agricultural resources to the developing world as food aid, undermining local agricultural systems (McMichael, 1996).

Although many agricultural price subsidies and import controls were not dismantled under the GATT (General Agreement on Tariffs and Trade), McMichael (1992) suggests

that the world was entering a transitional stage in the world food order in the early 1990s. Privatisation, national deregulation and the hegemonic role of multilateral agencies in alliance with transnational corporations (TNCs) were put forward by Friedmann (1993) as symptomatic of a new era of “private global regulation”. Moreover, Le Heron (1993: 192) identified the dynamic fresh fruit and vegetable industry as perhaps the “harbinger of a third food regime”. However, as the ability of agri-food capital to operate across national boundaries has remained politically restricted, and subject to increasingly complex regulatory spheres, the defining features of a third food regime continue to be vigorously contested. Whilst the challenge to consider agri-food change from a world-historical perspective remain, Pritchard and Burch (2003: 2) argue that,

It is a mistake to interpret restructuring trajectories in the industry within a simplifying, all-embracing, framework that assumes a dominant shift towards global uniformity in production systems, product types, and culinary cultures.

The decline of the nation-state is a widely circulated mantra within the globalisation debate. Bonanno et al. (1994b) argue that the declining significance of the nation-state is crucial to understanding globalisation, and that sub-national spaces are either integrated or excluded from global processes, thus creating a new distribution of ‘winners’ and ‘losers’. According to this account of globalisation, “the central defining element behind this configuration of new capital accumulation is the transnational corporation (TNC)” (Bonanno et al., 1994b: 2). Le Heron (1993) however emphasises the continued role of (national-based) agricultural policy in determining the outcomes of globalised agriculture, rejecting claims that TNCs alone are responsible for shaping the future direction of global agri-food development.

The inability of trade ministers (representing nation-states) to agree on key issues of agricultural reform at the WTO meeting in Cancun during 2003, suggests the need for a more complicated political rendering of agri-food globalisation. At the core of these debates around deregulation in the agri-food sector is the continued preferential treatment provided to agriculture within many national contexts. This protection is variously framed by concerns over health, food security, loss of a way of life or cultural heritage, environmental stewardship and reduced ‘food kilometres’. The nation-state remains an important regulatory arena through which debates on agri-food production and consumption are articulated.

The trend towards deregulation of various national agricultural sectors, where this is in fact occurring, should equally be viewed with caution as the shift is often accompanied by re-regulation of production and trade by both state and non-state actors. Governance, as the regulation of relationships within complex systems, thus becomes a central analytical feature of the discussion. Watts and Goodman (1997) cite re-regulation in the agrarian sector as occurring simultaneously with deregulation of tariffs and a move towards a neo-liberal trade agenda. Re-regulation in the area of diet, health, ethics, safety and the environment is frequently led by consumer-driven food provisioning concerns, and appears to be increasingly central to restructuring of the global food system.

In the New Zealand context, where such reforms have progressed further than most, Le Heron (2003) describes the emergence of new, and widely contested, governance structures as a response to deregulation. International standards, benchmarking, audit systems, contractual arrangements and the New Zealand Royal Commission on Genetic Modification are all provided as case examples to demonstrate how the various manifestations of reformulated governance relationships are asserting themselves in New Zealand (Le Heron, 2003). Auditing practices, in particular, are emerging as an important mode of governance, linked to growing traceability demands, within tightly controlled supply chains. Whilst Power (1997) is especially critical that auditing is increasingly used as a “ritual of verification”, he refers to an “audit explosion”, whereby,

auditing signifies a distinctive, if unevenly distributed, phase in the development of advanced systems as they grapple with the production of risks, the erosion of social trust, fiscal crisis and the need for control (Power, 1997: 2).

Within a context of changing consumer preferences, the role of quality management in shaping governance structures within a supply chain is vitally important. The increasing influence of quality considerations in the re-regulation of agri-food governance has been referred to elsewhere as a ‘turn to quality’ (Goodman, 2003). Whilst concerns for quality are generally acknowledged as contributing to widespread restructuring of regulatory practices (Buttel, 2001), they are frequently framed as ‘counter-trends’, operating at the margins of dominant (industrial) production systems. There is however, increasing evidence that quality is forcing itself, as an integral element of industry re-regulation, on mainstream food supply chains (Mansfield, 2003). Mansfield’s analysis of the *Surimi* seafood industry aptly demonstrates how industry actors negotiate quality attributes within a globalised, industrial production system, resulting in new forms of economic

coordination. Definitions of what constitutes quality may have to be substantially expanded to appreciate the full implications of a ‘turn to quality’ in global food systems.

Convention theory offers valuable insights into how social constructions of quality have become embedded within supply chain relationships. This approach has been widely applied to quality constructions in the agri-food sector (Murdoch et al., 2000; Ponte, 2002b; Freidberg, 2003). Criteria for determining the quality content of a commodity are negotiated by economic actors as part of the transaction process and, it is argued, are based on an assumption of commonality defined by pre-determined conventions. Such an understanding is also implicit in Le Heron’s (2003) discussion on contractual relationships between farmers and processors in New Zealand’s sheep meat industry, where a shared understanding of context and situation was central to supply chain re-alignment. In this New Zealand case, quality is determined in the context of meeting supply specifications, becoming a prerequisite for global market access.

Convention theory offers typologies of the ‘worlds’ of ‘legitimate common welfare’¹⁰ that can be drawn upon to explain firm behaviour and relationships between actors (Wilkinson, 1997a). Convention theory assumes a broad understanding of quality, where “it is argued that markets can function only on the basis of a prior definition of the quality of the products to be exchanged” (Wilkinson, 1997: 330). Whilst niche quality markets often assume mutual understanding of *civic* and *domestic* conventions to coordinate actor relationships, the dominant and industrialised food production systems often possess a shared commitment to *industrial* and *commercial* conventions as a way of reaching a prior definition of quality. This relational construction of quality is thus composed of “assemblages of political-economic, cultural and natural relations” (Mansfield, 2003). Such an understanding regards quality construction as implicating the various actors along the supply chain and being constantly renegotiated by their interrelationships.

Whilst this thesis does not adopt convention theory as a primary theoretical approach, convention theory categories are borrowed in the analysis of quality construction in

¹⁰ The six ‘worlds’ espoused by Boltanski and Thevenot (1989) were based on justifications from within the epistemology of political philosophy (Wilkinson, 1997) and have been used as the basis for ‘conventions’ applied by actors as forms of coordination within the world economy. The six ‘conventions’ (from Wilkinson, 1997) are *commercial* (market-based competition), *civic* (common social welfare and ethics), *domestic* (trust, loyalty and embeddedness), *industrial* (productivity and use of standards), *public* (opinion-based, brands and reputations) and *inspirational* (creativity).

Chapter nine. The usefulness of convention theory is therefore limited, in this thesis, to being essentially descriptive. In this sense, it allows a more textured portrayal of the shared understandings of quality which inform the relationships between supply chain actors.

There exists a powerful need to unpack notions of quality, and how they are constructed in global commodity chains, in a way which inserts quality dimensions as defining features of governance systems. Quality then becomes an information-dense source of leverage for well-connected actors in the supply chain. In this context, Ponte (2002b: 4) argues that,

the management of quality may be seen as a question of competition and/or cooperation between the actors of a value chain, each one have only partial access to - and control of - information on the product and its related production and process methods". [And that] "choices aimed at solving quality information problems by key actors will then determine the way a certain value chain (or segment of a chain) is governed.

A specific manifestation of the 'turn to quality' is the attempt to attach locality to farm products. This approach has a long history in the southern European countries where the *appellations* system has provided legal protection to producers living in a bounded region through exclusive rights to the marketing use of local geographical expressions. The assumption here is that specific taste (quality) characteristics are bestowed on the product by geographical attributes. However, the association between place and quality is a highly contested and politicised arena, and as demonstrated by Winter (2003), local food purchases frequently represent "defensive localism" rather than imbued quality attributes. Regulation of the use of place-quality associations, and evolving systems of authentication are important aspects influencing the development of quality governance in agri-food supply chains.

The potential of specialty food products utilising regional identities to provide an alternative development approach for lagging rural regions has been discussed by Ilbery and Kneafsey (1999) and Ray (2001). Such an approach assumes that quality assumptions in food consumption are increasingly linked to the embeddedness of production systems within local environments, as suggested by Murdoch et al. (2000). However, manifestations of quality in food products are wide-ranging, and as demonstrated by Winter (2003), locality-based food quality preferences do not necessarily imply 'natural' or environmentally benign production.

Discussions on regional food products are frequently set within the context of regulatory structures associated with the protection of collective intellectual property such as *appellations* and Protected Geographical Indications (Moran, 1993; Parrot et al., 2002; Barham, 2003). In these contexts, institutional support is critical for the construction, promotion and protection of geographic identities, which allow farmers to effectively differentiate their products in the market place. Geographic specificity should not however be automatically equated with producer empowerment, particularly in the absence of supportive institutional arrangements. As becomes increasingly palpable in this analysis of place-quality associations in the Sulawesi coffee industry, parallel systems of corporate governance are creating powerful regulatory spaces alongside, and even substituting, producer-driven place-name protection.

In this thesis, issues of governance in global agri-food systems are engaged through a case study of how distinct local geographies of production are inserted within, and transformed by, global supply chains. An inclusive approach to analysing globalisation processes demands a multivocal depth of analysis which attempts to incorporate local dynamics, perceptions and contexts. The re-regulation of food provisioning systems according to socially constructed and politically volatile beliefs and assertions thus provides a particularly informative context for analysis. In particular, there is a need for greater sensitivity to the way varied consumer quality concerns are re-regulating supply chain dynamics in the agri-food sector. Notions of quality are at the forefront of both state and non-state re-regulation of supply chains, and need to be inserted within broader debates on deregulation and trade liberalisation. Increasingly, control of quality depends on control of information. Globalisation processes have resulted in the increased centrality of quality-related information flows between sites of production and consumption, which raises fundamental issues of access to, and even ownership of, this information. Such issues are especially pertinent, and polemical, when we consider trade in products where quality associations are fundamentally linked to the geographical embeddedness of production.

3 INSTITUTIONS AND EMBEDDEDNESS IN GLOBAL COMMODITY CHAINS

The removal of the ‘economic clauses’ from the International Coffee Agreements (ICAs) in 1989, and the progressive dismantling of many national coffee marketing boards since that time, implies widespread deregulation of the global industry. However, the persistence of various social institutions, and the re-regulation of trade according to new sets of consumer concerns, suggests a more complicated rendering of globalising forces is required. The implications of these structural shifts in industry dynamics and debates on economic policy are examined through the lenses of two theoretical stances: commodity chain analyses and embeddedness theories. This chapter summarises these key theoretical concepts in turn. Each review is immediately followed by a discussion of their applicability to the global coffee sector, drawing on recent literatures where appropriate.

3.1 Global Commodity Chain Analysis

A number of related theoretical approaches, characterised by a detailed empirical analysis of a particular commodity chain, are, for the purposes of this thesis, considered a coherent school of analytical thought referred to as global commodity chain (GCC) analysis¹¹. This approach is otherwise known simply as commodity chain analysis, commodity systems analysis (Friedland et al., 1981; Friedland, 1984), commodity circuits (Appadurai, 1986), systems of provision (Fine and Leopold, 1993) and *filiere* analysis (Love, 2001). Whilst similarities between these approaches tend to outweigh their differences, agreement has yet to be reached on a common language. Other sources refer to ‘value chains’ (Porter, 1990; Kaplinsky, 2000; Humphrey and Schmitz, 2001; Sturgeon, 2001) because, it is claimed, the word ‘commodity’ implies the production of largely undifferentiated products with low barriers to entry. In contrast, a central thematic of this literature is the ability of actors to position themselves strategically in the chain, accruing economic surplus, at nodes with high entry barriers (Kaplinsky, 2000). Notwithstanding this important analytical distinction, the term ‘global commodity chain’ is maintained in this thesis due to its widespread popularity and acceptance in the literature.

¹¹ There are however, some important epistemological and disciplinary differences between these approaches. Raikes et al. (2000) provide a comparative review of global commodity chain analysis and the French *filiere* approach.

The theoretical foundations of GCC analysis originated from Wallerstein's World Systems Theory (Wallerstein, 1979), which describe a hierarchy of wealthy 'core' nations, the 'semi-periphery' and poor 'periphery' nations. The analytical debt here is evident in the emphasis that the analysis of the GCC places on the extraction of economic surplus along the chain and the ability of particular nodes to exert influence over other less powerful nodes. Hopkins and Wallerstein (1986: 159) first defined the commodity chain as a "network of labour and production processes whose end result is a finished commodity". Gereffi (1999: 38) applies a similarly loose definition: "the whole range of activities involved in the design, production, and marketing of a product".

Bill Friedland's pioneering work on the Californian lettuce industry (Friedland et al., 1981) emphasised the unique characteristics of the commodity under investigation and highlighted differential rates of capitalist penetration along the commodity chain. The inherent characteristics of tropical commodity crops such as coffee, cocoa and tea are also fundamental determinants of industry organisation. Talbot (2002b) shows how this subset of tropical commodities is affected by: their ecology of production; resistance to mechanisation; need for initial on-farm processing; and the storability and transportability of intermediate products. It therefore becomes necessary to understand the inherent nature of the commodity under investigation, which then begins to incorporate Appadurai's 'the social life of things' (Appadurai, 1986) into GCC analysis.

Gereffi et al. (1994) identify three primary dimensions of commodity chains: an input-output structure; territoriality; and a governance structure. The GCC approach thus commonly commences with a descriptive analysis of the geographic coverage of the supply chain and the use of various raw materials and services that are constituted to produce a consumer product. Kaplinsky (2000: 9) argues that "considered in this way, the value chain is merely a descriptive construct, at most providing a heuristic framework for the generation of data". A critical element of the GCC approach, providing more analytical insights, is then the identification and explanation of governance structures within the chain, with a critical distinction between buyer-driven and producer-driven commodity chains (Gereffi et al., 1994). According to Gibbon (2001), the institutional framework surrounding a chain is increasingly important and of particular relevance in identifying the conditions under which subordinate actors can successfully upgrade to more profitable activities in the supply chain. Potential for industrial upgrading is a

central concern for many GCC analyses applied to development contexts (Gereffi et al., 1994; Gereffi, 1999; Gibbon, 2001; Talbot, 2002b).

As a heuristic device, GCCs provides a useful meta-scale analysis of globalisation processes which “takes a significant but still manageable slice of the world economy as its object of study” (Sturgeon, 2001: 1). Global tendencies become apparent in local contexts where the commodity chain ‘touches down’, and in the relationships forged by inter-firm linkages. The focus on ‘global’ commodity chains (Gereffi et al., 1994; Gereffi, 1999) underlies the explicit endeavour of understanding new patterns of global organisation and change.

In a recent attempt to build a theoretical framework for governance patterns in GCCs, Gereffi et al. (forthcoming) present a typology of commodity chain governance based on the degree of explicit coordination and power asymmetry within the chain. These types are identified as: markets (low switching costs); modular value chains (loose supplier relations that meet customer specifications); relational value chains (typified by mutual dependence); captive value chains (suppliers dependent on larger buyers); and hierarchy (vertical integration). According to Gereffi et al. (forthcoming), the emergence of a particular governance relationship is determined by the complexity of the transaction, its codifiability and the competence of suppliers. This analytical emphasis on governance patterns and the setting out of intermediate typologies provides an important focus that transcends a simplistic market-oriented versus vertically integrated dichotomy.

Whilst GCCs acknowledge that local and national structures and institutions do sometimes matter in the determination of governance patterns, their influence is sometimes regarded as subordinate to the role of organisational structures internal to the chain itself. An important implication of this model is that in the context of developing country industries,

access to developed country markets has become increasingly dependent on participating in global production networks led by firms based in developed countries (Gereffi et al., forthcoming).

There is a corresponding emphasis on the importance of industrial upgrading, which “involves organisational learning to improve the position of firms or nations in international trade networks” (Gereffi, 1999: 39). Furthermore, there is a belief that,

participation in global commodity chains is a necessary step for industrial upgrading because it puts firms and economies on potentially dynamic learning curves (Gereffi, 1999: 39).

Such an approach tends to prioritise vertical relationships dominated by TNCs at the expense of local networks and institutions, which are given greater emphasis in the literature on industrial districts, clusters and embeddedness. Commodity chains research emphasises the influential role of TNCs in determining local development outcomes. Whilst this is often true, this role has been somewhat overstated, and tends to ignore cases where development has occurred endogenously without enrolment in global production networks. The relationship between integration within global commodity chains and industrial upgrading prospects requires greater examination. As pointed out by Kaplinsky (2000: 1):

If the ‘losers’ had been confined to those who did not participate in the global economy, then the policy implications would be clear –join the rush.

Network approaches, exemplified by Actor Network Theory (ANT) (Latour, 1993; Law, 1994; Murdoch, 1995) have often applied a similar commodity-specific, empirical mode of inquiry to GCC analysis (Busch and Juska, 1997; Whatmore and Thorne, 1997). The network approach however, does not share the same analytical focus on power asymmetries and governance structures. Rather, ANT focuses on the deconstruction of corporate actors, relations between institutions, the inclusion of non-human actors and the ability to ‘act at a distance’ (Busch and Juska, 1997). Arguing for the merits of actor network theory, Busch and Juska (1997) believe that an over-reliance on structuralist explanations and the reification of corporate actors in traditional political economy (which they see as exemplified by GCC) presents a serious weakness. Whatmore and Thorne (1997) demonstrate how alternative industry structures and sets of actor relationships have been established and maintained through a mode of ordering committed to the ethical principles of fair trade. Importantly, this alternative network exists within a global coffee industry otherwise characterised by the dominance of TNCs in key nodes.

Whilst ANT has provided some room for agency within global food systems, as argued by Lockie and Kitto (2000), ANT analyses are invariably drawn to the same corporate actors which dominate GCC research. On the relevance of ANT to agri-food studies, Frederick Buttel has argued that “actor-network scholarship is essentially a

methodological injunction, rather than a theoretical approach per se” (Buttel, 2001: 175). As such, adoption of ANT methodology implies an appreciation of imaginative self-transposal, subjective analysis, and the requirement to follow networks without making any *a priori* assumptions about structural form or inherent power relations. Gereffi et al. (1994) believe that the relational terminology and methodological concerns used by network analysts are highly relevant to, and can be incorporated within, the GCC approach. The amalgamation of ANT insights within a GCC theoretical framework is applied here to the Sulawesi coffee industry, without explicitly committing to an ANT conceptual foundation.

According to GCC research, the existence of high entry barriers at particular nodes in the chain where competition is less intense determines the distribution of wealth within a chain. Innovation in core-like nodes transfers competitive pressures to peripheral nodes, where the ability to accrue economic surplus is subsequently limited (Gereffi and Korzeniewicz, 1994). In support of these predictions, GCC approaches applied to the global coffee industry demonstrate how a number of acquisitions and mergers in the 1980s and 1990s have resulted in increased consolidation in consuming country markets by international traders and roasters (Talbot, 1997; Ponte, 2002a). Four firms (Nestle, Phillip Morris, Sara Lee and Proctor and Gamble) account for sixty percent of coffee sales in the major consuming markets, whilst five trading companies (Neumann, Volcafe, ED&F Man, Cargill, and Goldman Sachs) control forty percent of world imports (Talbot, 2002a). It appears that within these highly concentrated nodes, the major TNCs are able to maintain high retail prices at the same time that green bean prices are declining, generating massive profits¹².

Talbot (1996) however, points out that the ability of actors to accrue surplus value at these nodes is dependent on supportive institutional arrangements. In particular, through collective action during the ICA years, producing countries were able to resist the appropriation of surplus by consuming country actors. One could argue that the WTO has similarly facilitated the accumulation of profits by TNCs through its support of trade

¹² In 1992, the Price Surveillance Authority of Australia conducted a public inquiry into instant coffee prices and the then three declared suppliers: Nestle Australia Ltd, Unifoods Pty Ltd, and Cadbury Schweppes Pty Ltd. The aim of this inquiry was to determine whether lower green bean prices had in fact been passed on to the consumer. The inquiry found that instant coffee was a distinct price-inelastic market segment and that “Nestle possessed and exercised substantial market power” (PSA, 1995: 11). Concentration of roasting activities with a few TNCs has allowed companies such as Nestle to “increase its already very high profitability to levels that are exceptional” (PSA, 1995: ix).

liberalisation. This simply reinforces the need to be attentive to the role of relevant institutions within the GCC theoretical framework.

(Ponte, 2002a) uses a commodity chain analysis to show how the lapse of the ICAs has shifted power (and total income) from producing to consuming country actors, resulting in a fundamentally unstable institutional setting. Market instability is also occurring in response to an increase in futures trading and speculative buying (van Dijk et al., 1998; Talbot, 2002a). Talbot (2002a) uses the case of the global coffee industry to argue that a “new international inequality” has been superimposed over an “old international inequality” due to a period of financial expansion (associated with an over-accumulation crisis). 1989 is an important turning point in the development of the global industry, and it is frequently used as convenient shorthand for a number of wider interlinked changes that have taken place in recent decades. Talbot (2002a) identifies weakening of regulatory powers within producing countries, consolidation of capital by TNCs in the core, an increase in speculative trading, and the importance of access to strategic information as key changes in the industry. These changes, demonstrated by comparing the effects of Brazilian frost in 1975 with another in 1994, have resulted in increased inequality within the system. In the second frost, TNCs in consuming countries were able to respond quickly to supply fluctuations, and effectively minimise periods of high prices as a result (Talbot, 2002a).

These shifting power relations in global coffee commodity chains, which are contingent on particular institutional arrangements, are highlighted through an analysis of governance structures. Ponte (2002a: 1112) argues, “the post-ICA regime exhibits many of the characteristics of a buyer-driven chain”, and identifies various entry barriers set by roasters as indicative of increased ‘drivenness’. Gibbon (2001) however, presents a case for traditional tropical commodity chains to be considered in terms of being ‘international trader-driven’. Whilst the portion of the chain located within producing countries possesses a governance structure driven by international traders, the consolidated position of roasting firms within consuming markets identifies them as lead actors (Talbot, 2002b). This case demonstrates the need for understanding possibilities of supply chain governance in relative terms according to the relationships established at individual nodes of the chain.

It is increasingly common for multinational trading firms to integrate, or tightly coordinate, their activities with processing plants and export operations in producing countries, particularly in supply chains where quality management is vital (van Dijk et al., 1998; Ponte, 2002a). The removal of marketing board institutions, associated with liberalised investment regimes in producer countries, has facilitated this integration. In contrast, escalating tariffs frequently confront exporters attempting to sell value-added coffee products to consuming countries¹³. The potential for producer country upgrading, which might otherwise lead to the emergence of substantially altered governance structures in coffee commodity chains, is therefore restricted by these market interventions. Without recourse to international price stabilisation schemes and value-added processing, growers are now widely encouraged to establish differentiated coffee product identities linked to quality. In this context, embeddedness processes occurring at the site of production increasingly inform quality constructions, and are discussed in the following section.

The GCC approach, focused as it is on industry-specific dynamics, runs the risk of extrapolating too far from industry-specific commodity case studies to draw broad conclusions which explain global processes and trends. However, the growing body of empirical research on global commodity chains is now sufficiently developed to allow comparative analyses, which in turn are facilitating the advancement of wider theoretical arguments. This thesis contributes to the body of research on GCCs, and suggests that an increasing analytical emphasis on the role of social relations and institutional frameworks throughout the chain will further enrich this field.

3.2 Embeddedness Theory

Each actor situated along the commodity chain does not exist in the market ‘atomically’, as a bare individual, in social isolation from other actors. Social relations continue to bind economic actors together, and the socio-cultural influences of wider society continue to pervade commercial life. Callon (1998) argues that the abstraction of economic theories of the market from the real happenings within the economy (the physical marketplace) has perpetrated a divisive gulf between the science and its purported object of study. Moreover, Callon (1998) suggests that whilst economic theory

¹³ Processed coffee is subject to tariffs as high as 12.1 percent in the European Union (EU), 18.8 percent in Japan, and 10.1 percent in the United States (UNCTAD, 2003).

shapes and formats the economy rather than simply describing how it functions, rarely is the relationship between the two elevated as an object of analysis. An important exception, claims Callon, is Karl Polanyi's 'The Great Transformation' (1944), which presents a social history of the economy and critiques the myth of a self-regulating market. It was Polanyi who first set out an argument for the embeddedness of markets, which was later re-worked by Granovetter (1985: 482) as:

the argument that the behaviour and institutions to be analysed are so constrained by ongoing social relations that to construe them as independent is a grievous misunderstanding.

Economic relationships are never fully commoditised, but in their construction, always depend on an interplay between the economic and the social (Murdoch et al., 2000). Embeddedness theory attempts to re-introduce the sociological setting of the economy back into economic thought and theories of industrial organisation.

Granovetter questions both the exaggeration of embeddedness in non-market economies and the extent to which economic action has been 'disembedded' from social contexts in modern society. Instead, what emerges is the embeddedness of economic behaviour in networks of interpersonal relations, the substance of which arise from within the interactions themselves. This complex and fricative relationship underscores the futility of assuming that economic forces are truly capable of overriding the social conditions of commodity exchange. Whilst it is unproductive to pit embeddedness against the market, an understanding of economic actors as social beings greatly assists explanations of industrial structure, market access and inter-firm relationships.

Whilst using an analysis of decision-making within hierarchical firms to illustrate his argument, Granovetter (1985) expresses the very general applicability of embeddedness theory. Concepts of embeddedness have since been applied to suggest that production systems 'embedded' in particular cultural or ecological contexts retain specific characteristics that enable them to successfully compete in the global economy (Christopherson and Storper, 1986; Cooke and Morgan, 1993; Saraceno, 1995; Chari, 1997; Wilkinson, 1997b; Murdoch, 2000; Murdoch et al., 2000). The ways in which competitive advantage is constructed through embeddedness are varied, and may include the existence of flexible inter-firm and labour relationships, supportive institutional arrangements, advantageous cultural organisation, biophysical characteristics, and traditional agroecological practices.

In these contexts, the imposition of an industrial system in conflict with pre-existing social and ecological relationships can generate a friction that inhibits maximum efficiency (and profitability). Utilising a cultural perspective, Chari (1997) demonstrates how the agrarian Gounders caste in Tirupur, India, was able to exploit various rural-based social relationships in a way that provided favourable conditions for economic growth in the knitwear industry. Correspondingly, Wilkinson (1997b) demonstrates that agricultural production systems aligned with economic, social and political institutions facilitate the ongoing competitiveness of family farms in Southern Brazil. In each of these cases, the particular conditions created by the local embeddedness of production have affected industrial structures, which in turn have determined competitiveness. This influence of local embeddedness on industry dynamics and governance structures gains only marginal attention in many GCC analyses.

Coalescing with theories of embeddedness is the flexible specialisation literature, where an important dynamic underlying the success of ‘industrial districts’ is the existence of,

forms of social being... consonant with efficient and smoothly ordered production under conditions of organisational and labour-market flexibility.... [where] positive human qualities [are] made fortuitously available to them by the circumstances of history and geography (Scott, 1988: 110).

Piore and Sabel (1984) identify limitations to the fordist style economies of mass production and consumption, suggesting a revival of the craft methods of production and introduce a theory of flexible specialisation. Referring to localised networks of flexible, innovative firms, with a high degree of co-operation, Sabel (1989) points to Carpri, Modena, and Bologna in the ‘Third Italy’, Jutland in Denmark, and the entertainment complex of Los Angeles as examples of ‘new industrial districts’, where principles of flexible specialisation apply. The mutually supportive and co-operative agglomeration of inter-linked firms founded on local value systems heralded a renaissance in regional industrial location theory, which Piore and Sabel (1984) claimed to represent a second industrial divide¹⁴. Christopherson and Storper (1986) support the arguments of flexible specialisation, and identify “powerful agglomeration tendencies at the regional level” as leading to the repositioning of regional economies within global systems.

Such a shift in accounts of industrial geography and location theory however, has been widely questioned (Amin and Robins, 1990; Goodman and Watts, 1994). These critiques

¹⁴ The first occurring in the nineteenth century when mass production technologies limited the growth of the less rigid manufacturing technologies associated with craft systems of production.

object to a totalising theory of localised agglomerations, or that such regions constitute a blueprint for the utopian regeneration of local and regional economies. They argue against the extrapolation of dynamics observed at particular sites as exemplary of wider trends in industrial restructuring, referring to the persistent domination of mass production and consumption spaces in the global capitalist system.

Despite the apparent failure of flexible specialisation to result in the seismic shift in production methods predicted by Piore and Sabel (1984), important dimensions and dynamics of recent industrial restructuring were identified and demand analytical attention. Perhaps the existence of a series of new industrial spaces is most effectively conceptualised by what Murdoch (2000) tentatively labels the network paradigm. This approach identifies two sets of networks affecting development outcomes: vertical linkages found in hotspots of globalised production, and dense horizontal linkages sustaining innovation networks in the new industrial spaces. Whilst it is implied that these sets of networks are spatially discrete, it is interesting to investigate the outcomes when deeply embedded horizontal relations confront highly driven vertically-oriented commodity chains.

Concepts of embeddedness have particular salience in the global food system, when considered in terms of recent trends in food consumption. There is a widespread assumption that,

food consumption is increasingly characterised by food safety awareness, focus on health and diet, globalisation of consumer tastes, and social and environmental concerns (Ponte, 2002b: 3).

The emergence of alternative consumption patterns and the existence of new industrial districts represent a distinct (re)-embedding of commodity networks within regionally specific social and ecological settings. An analytical focus on consumption in agri-food studies provides a framework for investigating how shifting market demands are revealing a powerful economic incentive for the re-embedding of production spaces (Fine and Leopold, 1993). Furthermore, Murdoch et al. (2000) have explicitly linked forms of embeddedness (social and natural relations) with the 'turn to quality' in food consumption. The implications for traditional rural environments are important here, with Saraceno (1995: 327) arguing that,

the presence of small farm systems, simple forms of co-operation among enterprises, independent and artisan work are no longer to be considered as

obstacles for the modernisation of rural areas, but rather as precious human capital that should be sustained in its evolution and permanence.

Considering the policy implications of such claims, the dynamics of how the institutional arrangements of pre-existing social structures align themselves with issues of market access become critical. The LEADER program in Europe is an example of policy-directed knowledge transfer and transnational inter-regional co-operation (Ray, 2001). Such an approach echoes debates on flexible specialisation and the promise of regional growth districts founded on embedded networks of traditional social relations. However, Murdoch et al. (2000) describe how producers of organic yoghurt in Wales gained initial market access due to their perceived embeddedness within specific ecological and geographical contexts, but were subsequently under pressure to conform to industrial and commercial conventions.

Despite concerns of quality within niche markets presenting new spheres of regulation across the agri-food industries, the ability for regionally embedded producers to participate is polemical. It would appear that, in most cases, embeddedness itself would remain weak unless otherwise supported by aligned institutional arrangements. Explicitly linking embeddedness with new realms of agricultural production and rural development is problematic, and the unqualified use of the concept has been widely critiqued. Goodman (2003: 5) remarks that,

In view of its conceptual centrality, and developments in correlate fields, the notion of social embeddedness requires markedly more scrutiny,

and,

[the] concept of embeddedness, although widely utilized, has tended to escape close interrogation and theoretical refinement.

Just as economic actors remain social beings, economic activity does not occur within an undifferentiated spatial void. Clearly, the degree and mode of embeddedness throughout a particular commodity chain will vary considerably over time and space, and are inextricably linked with the particulars of place. This thesis applies the notion of *geographical embeddedness* to denote the entanglement of place and economic action at individual nodes along the supply chain. Here geographical embeddedness refers to the totality of place-specific socio-cultural, economic and environmental influences that interact with economic activities situated at individual nodes of the commodity chain. The idea is thus presented in the broadest possible sense to encapsulate a range of

‘horizontal’ relationships interacting with, and deliberately expressed in opposition to, the ‘vertical’ influences inherent to global commodity chains. The degree to which geographical embeddedness is a transformative agent in commodity chain structures varies considerably depending on the spatial flexibility of individual operations.

The ability of vertically orientated power relations to dominate more lateral and locally situated networks is a crucial concern and may be resulting in new patterns of dependent and uneven development within quality-related food networks. Global sourcing strategies by TNCs imply that agricultural products may be ‘mined’ from a particular agricultural region, with vertically orientated pressures on production degrading the local natural environment before relocating to a different source region. Using case studies from Brazil and the Caribbean, Marsden (1997) describes how agricultural intensification and responses to external market demands have created environmental vulnerability above the carrying capacity of the area. Understanding the world as a collection of commodity chains tends to divorce production from the specific environmental or social context in which it is intimately entwined. To avoid the appropriation of embedded production by more powerful actors in the supply network, Marsden (1997) argues that more effort is required to reintegrate agriculture and food supply into their local and regional setting to cope with these external pressures.

These debates are particularly relevant to recent changes in the global coffee industry. An increasingly common development option offered to coffee growers by multilateral organisations and development agencies is to somehow differentiate their product for the growing specialty market. The logic here is that,

When prices are good ... gourmet or specialty coffee prices will be even higher.
When prices are low ... gourmet coffee or specialty coffee is the only type of coffee making a profit for the farmer (Jepson, 1998: 35).

Ponte (2002b: 4) argues that the oversupply of goods with commodity traits has resulted in a push towards product differentiation, which in turn has increased the importance of traceability practices. A range of differentiated coffees is discussed further in Chapter Ten, with many explicitly promoting manifestations of embeddedness within local rural contexts, which suggests that the ecological and social relations of production are vital factors affecting market access. Moreover, Lewin et al. (2004) suggest that differentiated coffees can shift the locus of power away from traders and roasters in consuming countries. However, the relationship between product differentiation and the reversal of

power relations in the coffee supply chain requires greater consideration (Fitter and Kaplinsky, 2001), and is a central concern of this thesis.

There is always the risk that product differentiation, when the form of differentiation is easily duplicated elsewhere, will eventually succumb to the same problems of oversupply that characterise the bulk commodity market. The use of geographic *appellations* presents a case whereby producers can benefit from the nature of local embeddedness through ensuring product differentiation is supported by supply restrictions. Regulatory frameworks which govern use of geographic identities in some countries, such as Protected Geographic Indications (PGIs), have been discussed elsewhere (Moran, 1993; Ilbery and Kneafsey, 1999; Parrot et al., 2002; Barham, 2003). These studies show that supportive institutional arrangements have moved to promote quality associations, restrict supply, monitor quality and create strict entry barriers that minimize competition. The result is dramatically altered governance dynamics not only at the site of production, but throughout the entire commodity chain. The role of supportive institutional arrangements is fundamental here to ensure success.

The quality attributes of embeddedness are not always inherent within the product itself, and may require verification of ‘credence’ attributes applied to production and process methods (Ponte, 2002b). The production process itself is under scrutiny here. An important implication identified by Ponte (2002b: 33) is that,

as the nature of standards becomes more complex, the institutions setting and/or monitoring them achieve increased power.

Many of the proposed attempts to achieve product differentiation in the coffee industry are dependent on meeting standards that rely on third party verification, based on conventions that are buyer-driven. The implications of adopting audit protocols may have differential effects on income distribution throughout the supply chain. Power’s (1997) critique of auditing as a “ritual of verification” is particularly important here.

Fair trade coffees offer a minimum floor price to be paid to growers, although the willingness of consumers to pay the required premium is a limiting factor to market expansion (Renard, 2003). Fair trade prioritises forms of social embeddedness which afford an equitable distribution of income between supply chain actors. Whatmore and Thorne (1997), and Rice (2001) argue that fair trade coffee networks are analytically distinctive from conventional forms of commerce, due to a particular mode of ordering of

connectivity (a belief in fairness) between different actors throughout the network. Importantly, fair trade producers are dependent on very specific institutional settings, which require their collective enrolment in farmer co-operatives to participate. In some countries (such as Indonesia), where co-operative organisation has historic connotations of corruption and nepotism, the willingness of farmers to be involved is seriously affected. In addition, many fair-trade producers have initially benefited from international development programs. Differential access to such support has produced spatially uneven outcomes, with a current bias towards Latin American growers over those in Africa and Asia¹⁵.

Fair trade networks are in principle, based on non-hierarchical relationships between supply chain actors, and their endurance depends on the ability to strengthen the network through consolidating commitment to social agency (Whatmore and Thorne, 1997). However, the expansion of fair trade networks are still affected by the same economic restrictions that apply to mainstream traders, as expressed by the Fair Trade Coordinator at Global Exchange,

The register is currently overwhelmed with producer groups applying for inscription in the coffee register, as the coffee prices are (currently) very low. Unfortunately, the demand for Fair Trade coffee is not growing at the same speed as the supply. Therefore, new group(s) are only inscribed if there is a specific demand for the coffee that has not already been fulfilled by another producer groups in the register (Schweisguth, 2002: pers comm).

Of specific relevance to this thesis is the differentiation of geographically distinct coffee products. The use of geographic identities in the global coffee trade has a long history, and has received a renewed emphasis within the specialty sector. Geographical embeddedness is fundamental to the widespread practice (not restricted to coffee) of using place names to associate quality with locality. The assumption here is that coffee grown in a specific locality will retain certain quality attributes reflecting the physical and human geography of the growing environment. In this context, quality is a function of geographical embeddedness. A key contribution of this thesis is to examine the ability of producers to establish product differentiation in consuming markets as a function of this embeddedness. The tensions between the quality attributes of horizontal embeddedness and powerful vertical coordination are expanded as major themes in Part IV.

¹⁵ The major country suppliers of fair trade coffee are (in decreasing volume) Mexico, Peru, Colombia, Nicaragua, and Guatemala (Lewin et al., 2004).

3.3 The Role of Institutions in the Global Coffee Sector

The importance of coffee to millions of farmers, national governments, processors, traders, retailers and consumers around the world make the commodity a worthy case for which to examine agri-food globalisation. However, over and above this, coffee is worthy of investigation because it possesses some specificities that shed particular light on the fate and fortunes of agricultural producers in the global economy. In an address to the International Coffee Organisation (ICO), Bates (2001) stressed the significance of coffee in its impact on academic scholarship, and the shaping of certain fields of learning and intellectual traditions. Bates argued that coffee-related literatures have impacted significantly on the study of local histories, political science, political economy, dependency theory and modern economics. Recent studies on the role of institutions in the global coffee sector have proven to be particularly insightful for analyses of agri-food globalisation. Structural changes within the global coffee industry since 1989 provide an especially appropriate context for such an analysis.

Closely aligned with theories of embeddedness are the perspectives of New Institutional Economics (NIE), which have arisen in modern economics largely in response to recognition that there was a lack of understanding of 'externalities' as the source of market failure. Granovetter (1985) argues for a distinction between embeddedness, as understood by economic sociology, and the ideas of NIE. The distinction lies in the belief that institutions in NIE are understood as a functional response to economic problems, whilst embeddedness considers social structures themselves as central to economic activity. Brinton and Nee (1998) maintain that Granovetter's analysis of embeddedness focuses on essentially informal social norms, whilst new institutionalism argues for an increased recognition of the role of formal norms. It is not the intension of this thesis to enter debates on the distinction between these fields of inquiry, nor to attempt to apply a NIE framework of analysis to the coffee commodity chain. Rather, it is important to acknowledge theoretical developments in NIE as analogous to embeddedness, insofar as social structures (whether formalised or social, causative or symptomatic) are engaged in a constant dialectic relationship with the economic.

Bardhan (1989: 3), writing on NIE, points out that,

we often apply the simple 'laws' of market supply and demand without being fully conscious of the complex of institutions on which contracts in actual markets crucially depend.

Here, institutions are the “social rules, conventions, and other elements of the structural framework of social interaction” (Bardhan, 1989: 3). According to this school of thought, various social institutions, including the use of contracts in explaining information costs and legal systems in protecting property rights, are central to the study of markets. Moreover, the increased reliance on impersonal (and globalised) exchange brings the role of institutions to the forefront of economic analysis, as a way to reduce uncertainty and solve problems of coordination (Nee and Ingram, 1998).

The role of institutions has particular resonance in the context of the current coffee crisis, as the ability of neo-liberal economic policy to address an imbalance of supply and demand in the world coffee market is brought into question. Since 1989, global trade in green coffee has operated within a climate of minimal state intervention, dictated for the most part by the directives of an open market. Neo-classical economics maintains that the invisible hand of the market will result in the efficient allocation of resources to productive activities and the stabilisation of any short-term discrepancies in supply and demand. Some industry actors blame the ICA quota regime as “the single most damaging cause at the root of the coffee glut” (Neumann, 2003: 1). In this context, the current crisis in the industry is a manifestation of necessary growing pains, however unpleasant they currently appear to be. According to this perspective, any return to state intervention would undermine necessary restructuring and setback years of innovative developments that “broke loose in the shortest periods of time” following the ICA regime (Neumann, 2003: 2).

However, current coffee prices are commonly below the costs of production (exceptionally so if the full costs of environmental degradation and unpaid family labour are included) and yet to date we have not witnessed any large-scale reduction in production. Vietnam and Brazil in particular have rapidly expanded production in recent years. The inability of price signals to influence decision-making processes at the farmer level, and correct market imbalance, suggests a need to reorganise economic market theory. In the case of a tree crop such as coffee, the lag time from planting through to production partly explains this inability. Stiglitz (1986; 1989) provides a “theory of rural organisation’ to help explain various social phenomena observed in farming communities across developing countries. A central tenet of this theory is that whilst peasants act rationally, imperfect information results in the persistence of seemingly inefficient

institutions. Access to and control over information is critical here, and the role of social institutions is paramount in facilitating and regulating information exchange.

Talbot (2002a) has further demonstrated the importance of institutions, such as the futures market, in conveying information amongst privileged actors in the global coffee industry. Access to vital information here facilitates informed decision-making, which importantly can minimise exposure to financial risk. Needless to say, access to such strategies remains predominately the domain of consuming-country actors. Accordingly, Lewin et al. (2004: 95) argue that,

the integration and participation of smallholders, and the poorest, requires that more attention be paid to strengthening organisational and managerial capacities of institutions such as trade associations and cooperatives.

NIE has been particularly useful in analyses of the ability of international commodity agreements to resist corporate governance during their operative years (Bates, 1997; Maizels et al., 1997; Talbot, 1997). The following discussion on the role of the ICAs provides a highly relevant and illustrative example of how institutional arrangements influence economic relationships.

Institutions are as political as they are social. Evidence for the role of politics in the coffee economy is found at both the national and international level. Love (2001) has shown that whilst the marketing structure of the auction system in Ethiopia may involve high transaction costs, the institutional arrangements are of central importance to the maintenance of entrenched power structures in that country. Love thus questions the ability of NIE alone to explain the contribution of political and cultural factors in shaping industry structures, and argues for an explanation that requires the integration of insights from political economy. Similarly, Bates (1997) has demonstrated how political institutions dictated the establishment of, negotiation of quotas within, and eventual demise of, ICO quota regulation.

Cold War geopolitics provided the initial impetus for consuming country acquiescence in the ICAs (Bates, 1997). Whilst the first ICA was negotiated in 1962, the implementation of supply retention and destruction schemes to prevent price collapse has a long history. The valorisation of coffee, involving the destruction of enormous amounts of Brazilian coffee, occurred in 1906-1907, 1918 and again in 1922 (Ukers, 1935). The debate over the benefits of such market intervention is equally as long, with Ukers (1935: 458) claiming “the principle of valorisation is generally conceded to be economically

unsound, because it encourages overproduction”. Popular opinion on the relative merits of such institutional intervention oscillates between its role in correcting market externalities and its contribution to trade distortion and systemic inefficiencies.

There is, once again, currently very little support for re-negotiation of international commodity agreements, and it is a common belief that these agreements failed (Akiyama et al., 2003; Neumann, 2003; Petit, 2003). However, as pointed out by Gilbert (1996: 16), “[except for tin] no other commodity agreement collapsed - instead, they lapsed”. Indeed, there is widespread agreement in the literature that the ICAs were successful in achieving their primary objectives of price stability and equitable income distribution (Talbot, 1996; Bates, 1997; Maizels et al., 1997; van Dijk et al., 1998; Ponte, 2002a; Lewin et al., 2004). Such a view seems to prevail even amongst those observers who do not otherwise support their re-introduction. Their demise, it appears, was ultimately political.

The ICAs were, however, unsuccessful in achieving equilibrium between production and consumption, and massive stockpiles built up in both exporting and importing countries. Gilbert (1996) shows how rigidity in the supply of particular grades, producing country squabbling over quotas, an uncertain domestic policy in Brazil, and consuming country disinterest in supporting ‘price distortion’ were responsible for the abolition of export quotas. This inability to negotiate a further ‘economic clause’ has resulted in depressed prices in the short term with direct exposure to the vagaries of the world market severely affecting the lives of coffee growers around the world. Whilst some NGOs support the one-off destruction of stockpiles, they are apparently unwilling to promote the use of supply retention schemes as a policy option (Oxfam, 2003). In consideration of the extent and depth of the current crisis, Robbins (2003) argues that, whilst difficulties will undoubtedly arise, supply retention should be revisited as a viable long-term strategy. A recent UNCTAD report also argues that,

despite widespread scepticism regarding the efficacy of international commodity agreements, it should be possible to revisit these (UNCTAD, 2003: 56).

The recent ICO Coffee Quality-Improvement Program (ICO, 2002) has reinforced the role of this institutional actor as a primary influence in the global coffee industry. The program aims to remove low quality coffee from international trade in an attempt to reduce supply and thereby improve prices. Whilst the results of the initiative are still uncertain at this stage, research conducted by Bennett and Godoy (1992) offers a note of caution. In Indonesia, a government restriction on the export of low-grade coffee actually

resulted in an overall decline in the quality of exports. Low-grade coffee is often generated as a by-product of the sortation process, which produces higher quality coffee. By nullifying the economic value of this lower-grade coffee in the export market, exporters consequently re-mixed the lower grade coffee with the high grade, thereby reducing the quality and value of the latter. Bennett and Godoy (1992: 99) conclude that,

attempts to improve quality by fiat, good will, or trade policies are unlikely to succeed unless local or world market factors which inhibit farmers from upgrading quality are understood and, if possible, removed.

Of fundamental concern here is their finding that existing price premiums simply aren't sufficient to encourage quality enhancement, as, sometimes conflicting, price signals (sent to farmers) jeopardise any attempt to improve quality. The Gourmet Coffee Project (ICO et al., 2000) likewise identified market inelasticities as an underlying constraint to high quality production being rewarded appropriately.

Associated with the dominance of a liberalised trade regime, national coffee marketing boards have been dismantled and many export sectors opened to foreign investment. In Indonesia, the number of domestic coffee exporters declined from over two hundred in 1998 to just forty in 2000, whilst remaining exporters are increasingly unable to compete with highly capitalised foreign buyers with access to low-interest bank loans (ANTARA, 2002a; ANTARA, 2002b). Despite improved efficiency, shortening the coffee network has removed the buffering capacity of regulatory bodies, such that growers are exposed in an increasingly direct way to the uncertainties of world commodity markets. Temu et al. (2001: 219) have shown how,

the success of domestic market liberalisation in developing agricultural recovery in Africa depends on the ability of institutions to evolve and perform as market structures change.

The dissolution of national marketing boards has often been the result of external pressures from agencies such as the International Monetary Fund (IMF) and the World Bank, as part of structural adjustment programs to improve efficiency (van Dijk et al., 1998). Whilst the record of marketing boards across Africa was mixed, their dismantling under structural adjustment programs in the 1990s has, on the whole, exposed producers to falling global prices and has not had the desired effect (UNCTAD, 2003). UNCTAD advocates the need to increase institutional capacity and the role of the state in the commodity sector in Africa rather than encourage further dismantling of state marketing boards (UNCTAD, 2003).

Various social institutions, such as contracts, futures trading and certification schemes continue to perform essential functions within the global coffee economy. The selective dismantling of both national and global institutional arrangements has been partial, and should not be viewed as an unavoidable consequence of globalisation processes. Ultimately, these are political outcomes, and acknowledgement of the centrality of social institutions to economic activity avoids a narrow focus on neo-liberal inevitability.

3.4 Conclusions: Sites of Inquiry

The analysis of trends toward the re-regulation of global food provisioning systems in accordance with shifting quality criteria requires highly specific tools of inquiry. GCCs provide an effective theoretical platform from which to explore these issues with a focus on commodity specific dynamics occurring across national arenas of production and consumption. GCC approaches emphasise governance structures and the ability of particular actors (usually TNCs) to drive particular forms of coordination through the supply chain. However, I would argue that the approach has tended to deflate the explicit role of institutions in regulating the potential of corporate actors to drive individual chains. Emerging perceptions of what constitutes quality in global commodity chains are now effecting massive changes to these same governance structures, and are resulting in a corresponding need to integrate the process of quality construction and control within GCC analysis.

Quality is frequently contextualised by the embeddedness of production within cultural, ecological and geographical settings (Murdoch et al., 2000). However, the ability of embeddedness to transform the political economy of agri-food production and trade requires greater scrutiny (Goodman, 2003). This thesis argues for the greater integration of the burgeoning fields of economic sociology and political-economy inspired GCC in order to tease out recent developments in the re-regulation of agri-food systems. In particular, the concept of embeddedness requires greater theoretical refinement to be more practically useful to the conceptualisation of agri-food change. The role of social institutions (both formal and informal) in mediating this development is critical. An analysis of the continuum between cultural embeddedness and formal institutional regulation deserves heightened recognition and integration within GCC studies. This thesis offers an initial exploration into what form such a theoretical synthesis may assume.

PART II: BACKGROUND

This thesis presents a case-study of coffee production on the island of Sulawesi in Eastern Indonesia, and traces the supply chains into international sites of consumption. Part II presents the contextual setting of this research. This is achieved first by a geographical overview of the coffee-growing districts of South Sulawesi (Chapter Four), followed by an analysis of the coffee supply chains which link local production with global consumption (Chapter Five).

4 THE GEOGRAPHICAL DIVERSITY OF SOUTH SULAWESI

There is an assumption held throughout the global coffee industry that coffee beans grown in different regions of the world will differ in their essential taste characteristics. The widespread use of place-related product identities by various actors along the coffee supply chain reinforces this assumption, and is particularly popular in the marketing of single-origin coffees within the specialty coffee sector. Given this importance, a detailed assessment of South Sulawesi's physical and human geography provides a vital component of this thesis. This chapter follows a loosely historical overlaying of biophysical, socio-cultural, and economic influences that have combined to set the prevailing characteristics of the coffee growing landscape across South Sulawesi. This geographical setting is fundamental to discerning the particular manner in which coffee production is embedded within rural space across the province. This landscape is remarkably diverse in terms of topography, soil types, climate, agricultural systems and cultural organisation. The Toraja region in particular exhibits a unique combination of cultural and physical characteristics which, as will be demonstrated later in the thesis, allow the specific construction of quality associations for the coffee grown therein.

4.1 The Natural Setting

The assessment of how coffee is embedded in the social and environmental landscape of South Sulawesi must commence with an appraisal of landscape evolution, with particular reference to the geological processes that created soil formations critical to coffee cultivation. This section describes the physical environmental conditions on the peninsula, with an emphasis on the upland environments where *arabica* coffee production is concentrated, linking the physical characteristics of each region with how they interact with coffee cultivation.

4.1.1 TOPOGRAPHY AND LANDFORM

The island of Sulawesi has an extremely complex geological history involving repetitive collisions between fragments of the ancient landmass of Gondwana¹⁶. The western section, including the southern peninsula, derived from a fragment separating from Gondwana at least 200 million years ago, and was suspended by tectonic inactivity just

¹⁶ The following discussion on the geological history of South Sulawesi is taken from Audley-Charles (1981).

south of the equator. Continental rifting during the late Tertiary period was accompanied by the generation of major fault lines that were responsible for intense volcanism and mountain building on the western portion of Sulawesi. This portion was then finally struck by the eastern section of the island about five million years ago. The present shape of Sulawesi thus resembles a distorted octopus, with long tentacles radiating out from a central region and each arm animated with the rugged topography of steep mountain chains. The southern peninsula is situated parallel to, and east of, the deep Makassar Strait and extends into the Java Sea.

The Latimojong Mountains are located in the northern parts of the southern peninsula (Figure 4-1) and include the administrative *kabupaten* of Tana Toraja, Mamasa, Enrekang, Luwu Utara and Mamuju. This region is underlain by a metamorphic rock material known as the Latimojong Formation, outcropping in small areas along the western limits of Toraja, Mamasa, and Luwu Utara. Marine sediments, sandstone, shales, and cherts were deposited throughout the region during the tertiary period including the spectacular limestone karsts of southern Toraja and Enrekang (Bappeda, 1998). There is no current volcanic activity in this region, although the tectonic activity mentioned above deformed the existing sedimentary layers during the Miocene. Repetitive tectonic collisions have created a series of parallel fold mountains in the Latimojong range. The heavily folded sedimentary layers are clearly evident in Enrekang (Plate 4-1), where little volcanic parent material is found. Volcanic activity deposited molten lava (basalt and andesite) in the north and western regions of Toraja, demonstrated so spectacularly in the volcanic rocks strewn across rice fields on the slopes of Mount Sesean (Plate 4-2).

The central section of the peninsula consists of fertile alluvial plains used primarily for rice growing, and includes the shallow and heavily silted Lake Tempe (Figure 4-1). One of the world's most extensive karst formations runs along the western coast of this central region, including the Bantimurung waterfall and Nature Reserve at Maros. This location was made famous by the British naturalist Alfred Russell Wallace in the nineteenth century, whose observations of the amazing diversity of butterflies found there led to his seminal paper on evolutionary theory. More recently, these limestone deposits have formed the basis for two cement factories, which supply the needs of all of eastern Indonesia and contribute to export earnings. An extinct volcano with the twin peaks of Mount Lompobattang and Mount Bawakaraeng (subsequently referred to as Mount Bawakaraeng) dominates the southern tip of the peninsula, rising abruptly out of

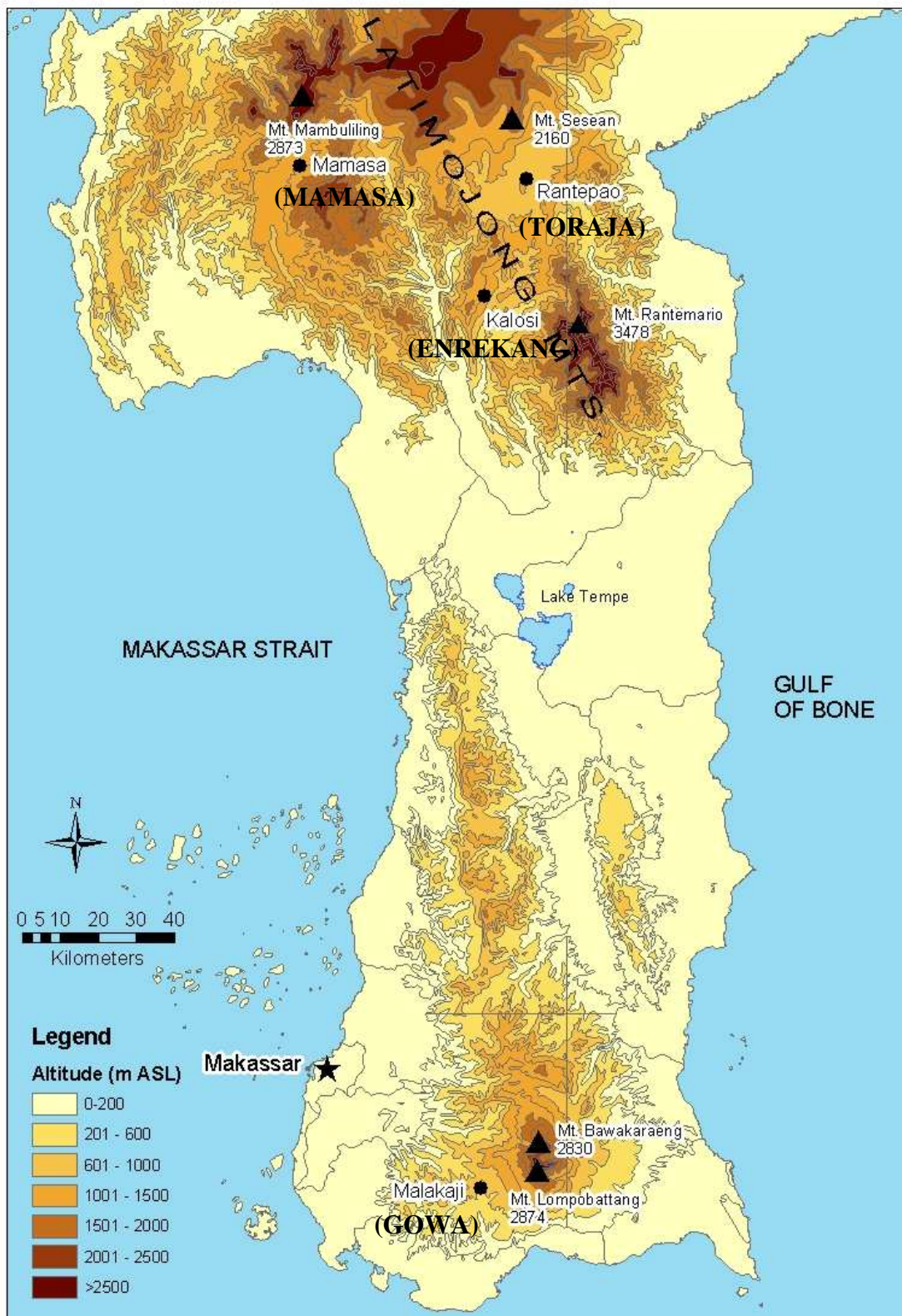


Figure 4-1 South Sulawesi: topography



Plate 4-1 Folded sedimentary layers and limestone are common features of the geological landscape in Enrekang



Plate 4-2 Basalt boulders are strewn across the rice fields in northern Toraja

the coastal plain. This volcanic cone mountain contrasts with the heavily folded Latimojong Mountains to the north. Six administrative *kabupaten* radiate from these peaks to the coast and the soil in most areas is rich in volcanic material.

The north-south orientated folds in the Latimojong Mountains have created a number of parallel valleys in which human habitation is concentrated. In Toraja, permanently settled village hamlets are found in these valleys, up to altitudes of 2,000 metres ASL. A ring of particularly high ridges, constituting a formidable physical and cultural barrier, surrounds this *kabupaten*. Toraja is dominated by a broad upland valley at an altitude of 900 metres ASL, through which the Sa'dan River meanders along extensive rice-growing lands below steep terraces. The Toraja people are sometimes known as the Sa'dan Toraja to differentiate them from related ethnic groups in the Latimojong Mountains. An even broader valley is located to the west of Toraja, within the remote Mamasa *Kabupaten*, separated from Toraja by a three-day walk over mountain passes exceeding 2,000 metres ASL. The main access road to Mamasa approaches the valley from the west-coast town of Polewali. The Mamasa River meets the Sa'dan and Masupu Rivers, both flowing from Toraja, in the steep gorges of Enrekang *Kabupaten* and then continues onward to the coastal plains. Enrekang is a transitional region between the coastal plains and the Latimojong Mountains, distinguished by fast-flowing rivers, steep slopes and deep ravines.

There are two main access routes to the Toraja region, from the south and from the east. From the south, the main road from Makassar follows a ridge through Enrekang above the lower Sa'dan River to the town of Makale, whilst from the Gulf of Bone at Palopo in the east, a steep road winds through a mountain pass to Rantepao. The southeast sub-districts of Toraja adjoin the Latimojong Nature Reserve and the summit of Mount Rantemario, which at over 3,478 metres ASL is the highest peak on Sulawesi (Bakosortanal, 1991b). This rugged topography and natural fortification has contributed to the historic isolation and cultural distinctiveness of the Torajan people, whilst restricting the success of hostile invading parties.

Altitude is perhaps the most fundamentally important physical attribute affecting coffee cultivation in South Sulawesi, due to its influence on climate. At altitudes lower than 900 metres ASL, *arabica* coffee is highly susceptible to leaf rust, and even between 900-

1,200 metres ASL, productivity substantially declines in the absence of expensive foliar fungicide sprays. It is less imperative to maintain shade trees over coffee at higher altitudes, and in some areas of Enrekang and Mamasa, shade trees are dispensed of altogether.

The ripening process is significantly extended when coffee is grown at higher altitudes, and requires a full eight (and sometimes nine) months above 1,600 metres ASL rather than the normal seven months at around 1,000 metres ASL. It is this lengthier ripening process that both local and international industry actors believe contributes to the development of more intense flavours in coffee grown at high altitudes. Due to prevailing topographic conditions, the densely inhabited upland valleys of Toraja support extensive agricultural lands suitable for coffee growing. A large part of these lands are found at altitudes in excess of 1,200 metres ASL, which ensures that a greater portion of total coffee production in Toraja occurs at high altitudes, compared with other regions of Sulawesi.

The complex geological history of Sulawesi has contributed to the formation of a range of soil types, with important implications for coffee cultivation. Whilst soil types vary considerably across Sulawesi over relatively short distances, a few general observations can be made. Podzolic soils cover seventy-six percent of Toraja, and are defined by a clayey texture and well-developed profile. They are formed from quartz sands and acidic volcanic tuffs, and have been subject to considerable weathering due to high rainfall (BAPPEDA, 1998). The fertility of podzolic soils varies considerably from low to moderate depending on parent material, humus covering and soil depth.

The area surrounding Mount Bawakaraeng in the south generally possesses deep, fertile soils due to their volcanic origin. Soils within the heavily cleared Mamasa Valley are shallow, sandy and generally nutrient deficient. Enrekang is a geologically complex region, with serious erosion and denudation on the slopes contrasting with valley bottoms where alluvial material has accumulated to provide relatively fertile conditions. The soils in southern Toraja show similar characteristics to those in neighbouring Enrekang, whilst volcanic parent material in the north has contributed to slightly improved soils. The soils in the central regions of Pinrang, Wajo, Sengkang and Sidenreng are generally composed of alluvium with high fertility. The heterogeneous mosaic of soil types found across South Sulawesi has historically been an important factor affecting settlement patterns and

population distribution. Long established villages in the highlands are frequently associated with relatively fertile local soils. Coffee cultivation at these sites is greatly assisted by the reduced need for application of expensive fertilisers to maintain productivity.

Whilst the soils on the whole are relatively fertile, considerable erosion resulting from high rainfall and steep topography significantly affects soil fertility. Soil loss due to erosion has bequeathed a very thin layering of topsoil that is entirely lost in some areas of Enrekang and Mamasa (Plate 4-3). Human activity has further eroded the topsoils of the region, through deforestation for fuelwood, construction materials, logging and conversion to agriculture; inappropriate road construction; irresponsible soil and gravel extraction; and poor agricultural techniques. Landslides, such as the one shown in Plate 4-4, frequently limit access to remote villages, and the increased incidence and intensity of flooding are attributable to excessive soil erosion. This contrasts with traditional soil management practices. The Dutch agricultural adviser, Paerels (1949) commented, whilst visiting the coffee lands of Toraja in the 1930s, that traditional soil management efforts were particularly impressive. These included collection of forest humus to regenerate lost topsoil, extensive use of organic manures and the construction of stone terraces on steep slopes. Whilst some of these practices have subsequently been lost in modern day Toraja, soil conservation efforts appear to be more widely adhered to in Toraja, compared to other coffee growing districts in South Sulawesi. The ability of farmers to wisely manage existing soil resources is an important determinant of the long-term sustainability of coffee cultivation.

Whilst a direct link between soil type and the development of particular taste characteristics in coffee has yet to be proven, anecdotal evidence from both local and international industry actors suggest that soil does play an effectual role. If soils are an important characteristic determining the taste profile of coffee, then we can expect enormous variety in the quality, or at least the taste of coffee grown across South Sulawesi.

4.1.2 THE ASIAN MONSOON

The proximity of South Sulawesi to the equator ensures that temperatures are mostly unaffected by seasonal changes, and are instead a function of altitude and, to a lesser



Plate 4-3 Soil erosion has continued unabated at this road cutting in Mamasa



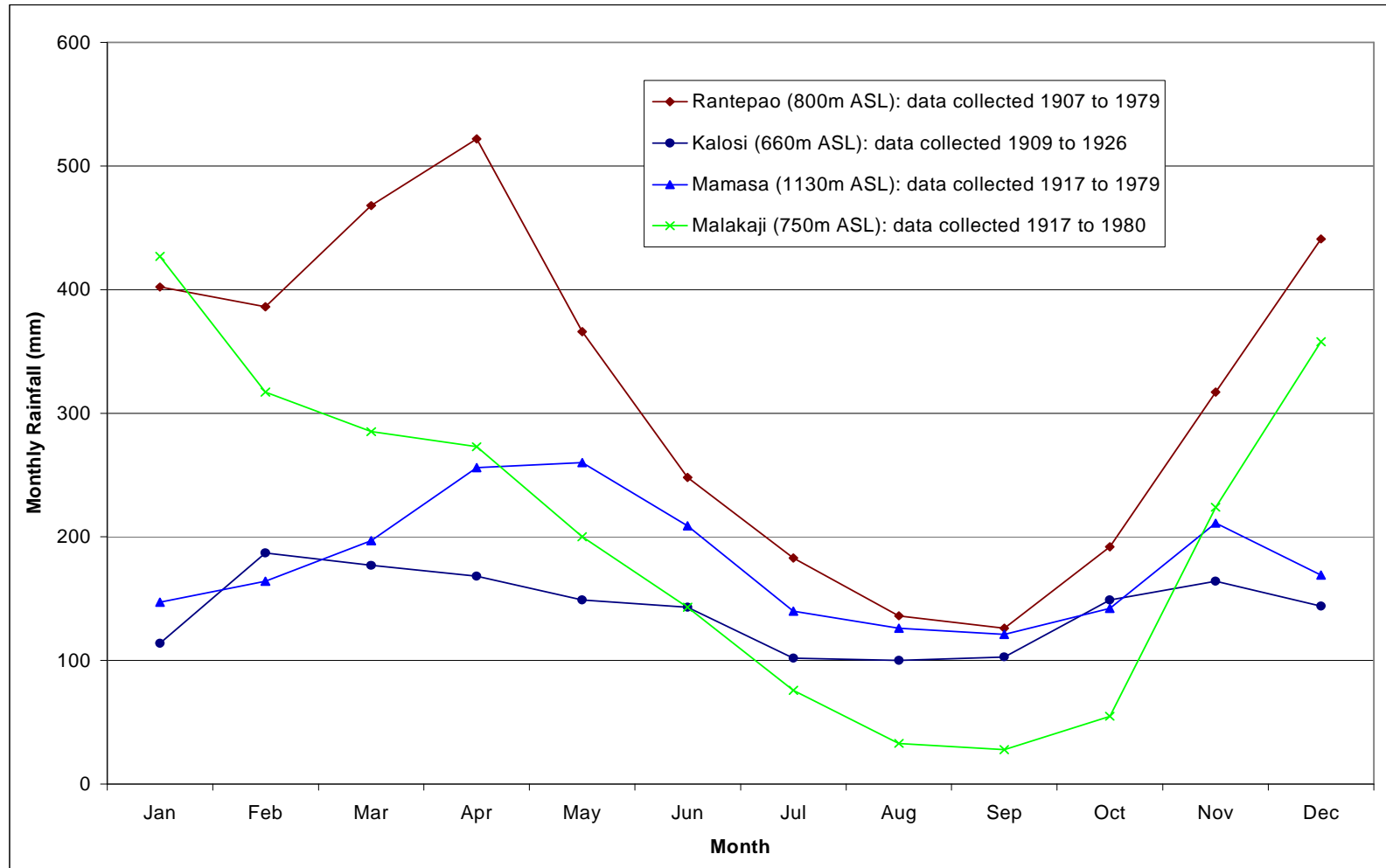
Plate 4-4 Landslides such as this occurrence in northern Toraja, are common in the Latimojong Mountains

extent, prevailing weather conditions. All the coffee-growing regions, which are situated between 1,000-2,000 metres ASL, experience mild temperatures throughout the year. Annual average minimum and maximum temperatures at the coffee-growing centre of Pangalla (1,300metres ASL) are between fourteen and twenty-four degrees Centigrade. In the more remote northern mountain villages, such as Pulu-Pulu at 1,900 metres ASL, temperatures may fall to less than ten degrees Centigrade in the morning, but never low enough to cause frosting.

Like much of the Indonesian archipelago, rainfall patterns on the southern peninsula of Sulawesi are dominated by the tropical Asian monsoon. During the Southern Hemisphere summer, high temperatures over Australia cause low-pressure development, which draws air down from mainland Asia. This northwest monsoon picks up moisture across the South China and Java Seas, with heavy tropical rains common along the west coast of Sulawesi from December through to April. As the direction of the prevailing wind shifts to the south, due to the presence of high-pressure cells above Australia during the southern winter, the southern monsoon dominates. Strong and steady winds carry dry air from across the Australian continent with little rainfall.

The dry season in South Sulawesi usually persists from June until October, although intermittent showers in the Latimojong Mountains are not uncommon during this period. Topographic conditions on Sulawesi result in significant local variation in rainfall. The southern tip and east coast of the peninsula is effectively in a rain-shadow during the northwestern monsoon. The east coast receives its heaviest rains during April and May, whilst the southern tip experiences an extended dry season from April through to November. Figure 4-2 shows how Malakaji in the south experiences the sharpest seasonal differences, whilst the central position of Rantepao in Toraja receives the highest year round rainfall.

Arabica coffee requires a period of water stress to induce flowering potential, which is realised after brief exposure to sufficient moisture, usually in the form of out-of-season rains or thick morning cloud cover. At this stage the flower is in the so-called 'little candle phase', where tiny green buds sprout from the nodes of primary producing branches. Further rains are then required to open the buds to produce the sweetly



Source: (de Jager et al., 1984)

Figure 4-2 Annual rainfall variation in four coffee regions of South Sulawesi

aromatic, jasmine-like, star-shaped flowers. Excessive rainfall directly following this initial flowering will physically damage the flower and destroy the plants' potential to produce fruit for the following harvest. *Arabica* coffee is then self-pollinating. These conditions are usually fulfilled in Toraja during the latter part of the dry season, when in September or October the coffee plantations bloom in a field of white flower. The process of fruit development usually takes seven months, increasing to eight and even nine months on plantations found at higher altitudes, such that the primary harvest takes place in May, June and July in Toraja. The most important factors affecting the coffee harvest are the weather conditions of the previous dry season, helping to predict the time, duration and size of the harvest. The clearly discernible annual rainfall distribution in places like Malakaji, results in a clearly defined harvest period. In contrast, year-round rainfall in Toraja often leads to simultaneous flowering and fruit maturity on the same tree, and a more extended harvest period.

4.1.3 NATURAL FORESTS

Due to their elevation above sea level, most of the coffee-growing regions would have been previously covered in lower and upper montane forest, with sub-alpine vegetation found on the extreme peaks. Much of this natural vegetation has been subsequently modified by human habitation. The largest tract of remaining natural forest on the peninsula is a region that includes the northern parts of Toraja, extending into Mamuju, Mamasa, Luwu Utara and on to the Province of Central Sulawesi (Figure 4-3). The lowland forests of South Sulawesi are for the most part already severely degraded and survive in pockets across the Mamuju and Luwu Utara. With the exception of the Bantimurung Nature Reserve, the central region of the peninsula from Enrekang through to Mount Bawakaraeng has been severely deforested.

Whilst the wildlife of Sulawesi appears to represent a unique blend of Australasian and Asian fauna, the origin and development of its fauna remains an evolutionary enigma. The great antiquity of several evolutionary lineages found on the island, does however, correlate with the geological evidence to suggest an especially long period of isolation where lack of competition and predation permitted the forces of nature to retain genetic traits lost elsewhere. The great nineteenth century naturalist and founding father of biogeography, Alfred Wallace (1869: 277), commented in reference to the natural productions of Sulawesi, that,

Its position is such that it could receive immigrants from every side more readily than Java, yet in proportion to the species which inhabit it far fewer seem derived from other islands, while far more are altogether peculiar to it; and a considerable number of its animal forms are so remarkable, as to find no close allies in any other part of the world.

These unique animal forms include the babirusa or ‘pig-deer’, the lemur-like tarsier family, the marsupial cuscus, tailless macaque, the flightless maleo bird, and the mountain anoa (taxonomically grouped somewhere between an ox, a buffalo and an antelope). Whilst there is apparently no direct relationship between the existence of these animals and the production of coffee¹⁷, it is not uncommon for the marketing of Sulawesi coffee to include associations between the rare endemic fauna and the similarly rare and unique coffee. Plate 4-5 displays the strange half-animal, half-human image used by the Starbucks Coffee Company to represent Sulawesi coffee.

Due to the high altitude requirements for arabica coffee cultivation, it is common for coffee plantations to exist directly adjacent to (and sometimes within) remaining tracts of natural vegetation (Figure 4-3). Land-use conflicts between coffee growers and the Department of Forestry are routine occurrences, and deforestation due to coffee expansion is the most noticeable in the Mamasa *Valley*. Whilst carefully managed coffee cultivated under shade can potentially constitute an effective perennial buffer crop around natural areas, it is not uncommon for coffee growers to contribute to substantial land degradation in South Sulawesi. According to national law, the forest boundary represents the uppermost limit of coffee cultivation, and the area planted with coffee is often delineated and restricted by this limit. The extended history of human habitation in the highland valleys of Toraja has meant that forest boundaries have often been set at considerably higher altitudes than is common in other areas of Sulawesi.

4.2 Peopling the Peninsula

4.2.1 EARLY HUMAN SETTLEMENT

Whilst the Toraja and related ethnic groups currently living in the Latimojong Mountains are widely considered to be the indigenous inhabitants of South Sulawesi, it is likely that they were preceded by the earlier arrival of Australoid, and so-called proto-Malay

¹⁷ The ability of the *luwak* (a civet-like animal) on Java and Sumatra to add value to coffee by ingesting the fruit, completing initial processing in their gut, and depositing the bean in their faeces, presents an apparent exception! ‘Luak coffee’ is frequently the most expensive coffee available in the international gourmet market.

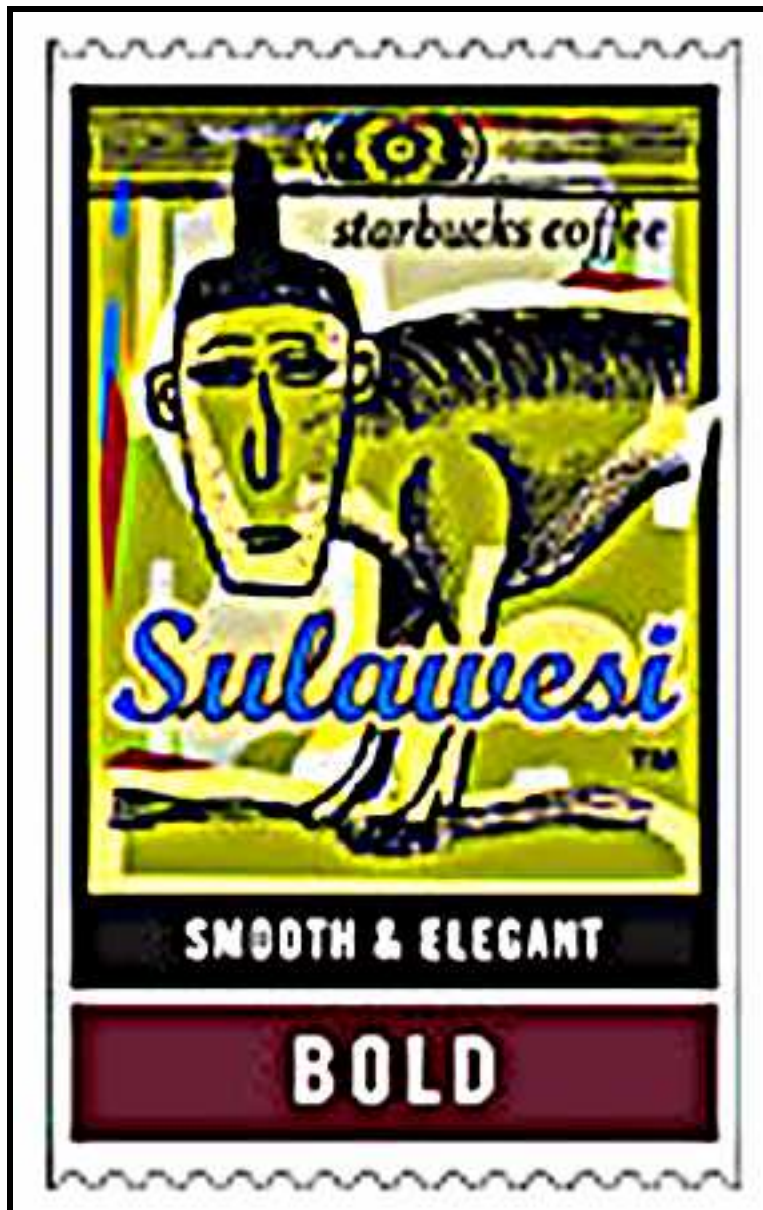


Plate 4-5 Unidentified animal image used by the Starbucks Coffee Company to promote Sulawesi coffee

peoples. Unlike the islands of western Indonesia, no Indian-influenced stone inscriptions have been found on Sulawesi that would provide insights into the pre-historic development of its people. Combinations of archaeological evidence (mortuary remains), comparative linguistics and reading of available religious-literary texts are used to piece together a probable history. The earliest signs of human settlement in Sulawesi date back some 40,000 years (Pelras, 1996), with various remains of this early stone-age culture having been excavated in the Maros area. These first human inhabitants were probably grouped together in small hunter-gatherer bands to hunt game such as anoa, pigs and cuscus.

The first major agricultural transition was the shift towards swidden rice farming, which is still practiced in the Seko Valley north of Toraja, and in Mamasa. Areas of forest are cleared, usually burnt and planted with annual food crops, such as corn and hill rice. After two or three years of production, the swiddens are left in fallow for the next ten to fifteen years to allow forest regeneration before the plot is cleared again for renewed planting. Assuming fallow periods are long enough to ensure adequate soil nutrient renewal, a shifting cycle of clearing, planting and regeneration can sustain a small community within a defined area. However, this farming practice appears to have contributed to serious denudation in the central sections of the peninsula, southern Toraja and Mamasa as population densities increased above a critical level. Almost the entire Mamasa Valley is now devoid of natural vegetation up to within a few kilometres of the catchment watershed, and most of the area below this is now unproductive grassland. New swathes of primary forest are being cleared on the steep slopes remaining within the catchment and in forested areas located in adjoining catchments.

4.2.2 ETHNIC DIVERSITY

The province of South Sulawesi is home to at least seven indigenous ethnic groups¹⁸ (Figure 4-4). These peoples speak at least four clearly distinct languages, each consisting of numerous dialects and sub-dialects. The most populous group on the peninsula are the Bugis people, who inhabit the lowland districts of the central plains, parts of the hill country further south and are settled throughout the Luwu plain. Early Bugis courts such as Luwu, Bone, Wajo and Sidenreng provide unique examples of non-Indianised state

¹⁸ There are also established non-indigenous communities of ethnic Chinese, Balinese and Javanese migrants in some areas of South Sulawesi.



Figure 4-3 South Sulawesi: land use and vegetation

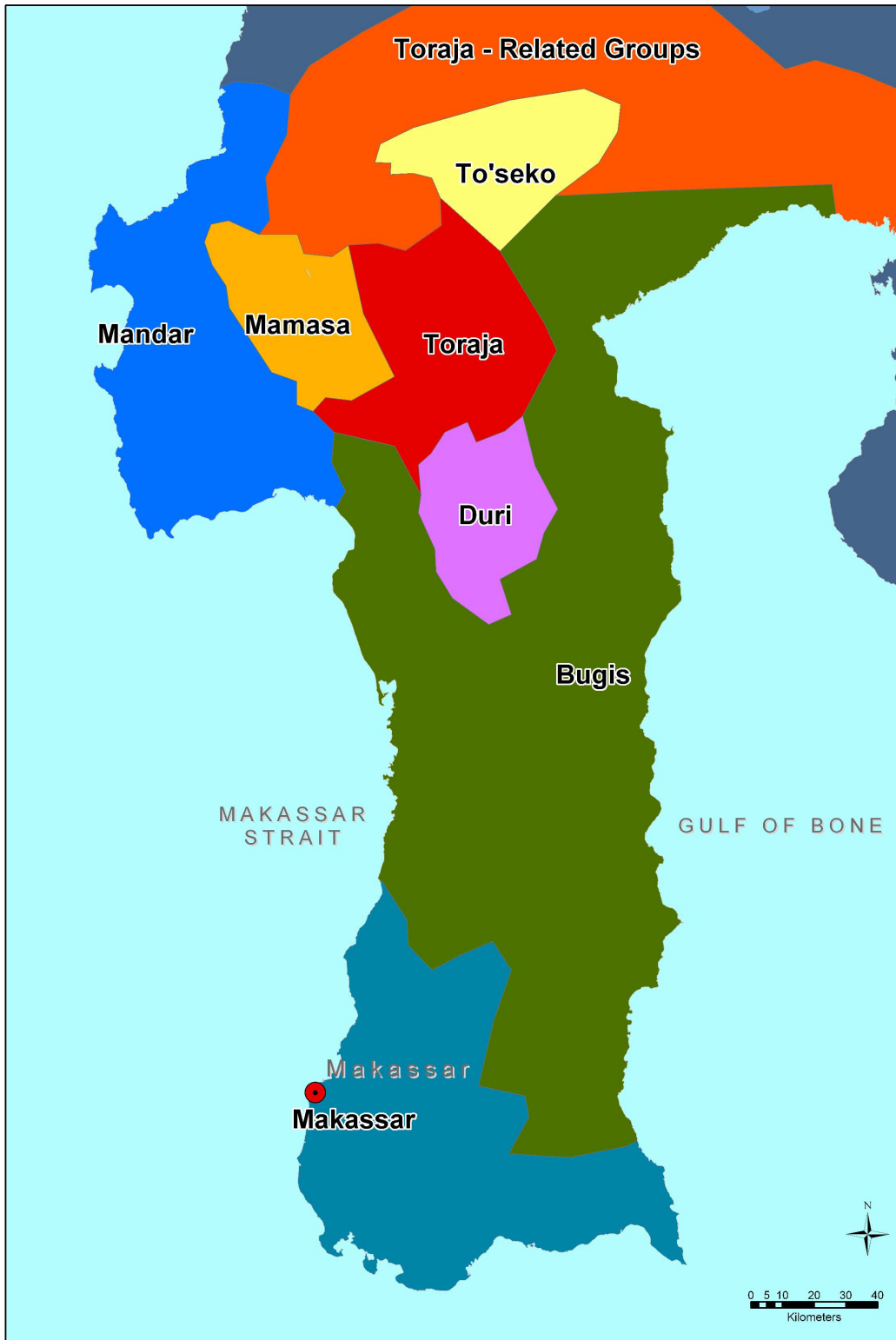


Figure 4-4 South Sulawesi: major ethnic groups

formation in Indonesia (Pelras, 1996). The development of an indigenous script, written on *lontar* leaves, produced major socio-religious epics such as *La Galligo*. Whilst the Bugis have been popularly portrayed as a seafaring people, they are in essence agriculturalists who only in recent centuries have actively migrated on ships to colonise new lands. This propensity to migrate has resulted in large Bugis settlements being established on Java, Kalimantan, the Philippines, New Guinea and the Maluku Islands. The Bugis are a versatile people, with a reputation as fierce warriors and a highly developed sense of shame (*sirri*), which has been known to manifest itself in extreme violence.

The next largest ethnic group are the Makassar who, sharing a strong Muslim identity with the Bugis, are often confused or hybridised as 'Bugis-Makassar'. In actuality, the Bugis and Makassar languages are distinct and mutually unintelligible, and their historic development has been divergent, albeit interrelated. The first fully-fledged kingdom on the peninsula, with a complex bureaucracy and internal designation of authority, emerged at the Makassan court of Gowa in the early sixteenth century (Gervaise, 1971). The growth and prosperity of this city-state was due to its integration with international trade networks and its location on the main maritime trade route to the Spice Islands of the eastern archipelago. The city flourished during the sixteenth and seventeenth century as an international entrepot of trade until yielding to a Dutch trading monopoly in 1667. Surplus rice produced on the peninsula was an important early trade commodity, and was complemented with the export of mangoes, coconuts, bananas sandalwood (from Palu), dammar resins and other forest products (Pelras, 1996). Ethnic Makassans now grow *arabica* coffee in the districts around Mount Bawakaraeng. Makassar, also known as Ujung Pandang, was henceforth an important Dutch colonial outpost and today is the largest city in eastern Indonesia, and is the provincial capital of South Sulawesi.

During this earlier period of global integration, the Makassans (along with the Bugis) began to develop the navigational and boat-building skills that would later earn them a reputation as the archipelago's foremost maritime traders. Other maritime ethnic groups include the Mandar people, Muslims living on the western coast of the peninsula north of Pare-Pare, and the reclusive Bajoe seafarers (also known somewhat inaccurately as 'sea gypsies').

Various ethnic groups, all speaking a Toraja-related language and previously all grouped together as ‘Toraja’, live in the Latimojong Mountains in the north of the peninsula. Only those groups living in the Sa’dan River catchment have now claimed for themselves the identity of ‘Toraja’. The Duri people in Enrekang often align themselves culturally with the Bugis due to their adherence to Islam, despite having closer linguistic links to the Toraja. The Duri were probably the first people to adopt coffee cultivation on the peninsula, and have retained an important role as growers and traders in the current regional coffee economy. Another two ethnic groups, the Mamasa and To’seko, consider themselves more intimately related with the Toraja due to shared cultural traits and adherence to Christianity. All of these groups in the Latimojong Mountains cultivate *arabica* coffee.

4.2.3 LIFE IN THE TORAJA HIGHLANDS

Pelras (1996) believes that people speaking a proto-South Sulawesi language arrived on the west coast of Sulawesi at the mouth of the Sa’dan River, near current day Pare-Pare, between 5000 and 500 BC. From here, the people now speaking Bugis and Makassar migrated to the south, whilst the Toraja ventured north into the Latimojong Mountains. Based on genealogies of up to thirty-four generations in the Mengkendek area, Bigalke (1981) suggests that settlement by the direct descendants of contemporary Torajans had occurred in the southern districts by at least 700 to 900 years ago. The traditional belief system of the Torajan people incorporates complex resource management strategies that suggest a long history of co-evolution and adaptation with the local environment.

4.2.3.1 The Way of the Ancestors and Contemporary Culture

In many ways, Torajan culture and way of life embody remnants of a belief system that would have spread throughout the proto-South Sulawesi speaking people of the peninsula in the pre-Islamic period. Prior to Dutch colonisation, the Torajans had no specific word for religion, although the concept of *aluk*, or ‘the way’, fused together beliefs, traditions, rituals, and lifestyle. The belief system is now known in Toraja as *Aluk To’dolo* or ‘way of the ancestors’. According to the belief system, interactions amongst people, as well as between people and the natural world, and between people and the spirit worlds are governed by numerous (there are said to be 7,777) *pemali* (taboos or prohibitions) and *aluk* (laws or ways of living) (Interview 1, Appendix B). Maintenance of harmony in the cosmos necessitates the performance of rituals related to almost every aspect of daily life

in an attempt to placate the complex array of gods known to the Toraja. A central concept of the belief system is harmony between human existence, the animal kingdom and the plant world (*tallu lolona*), which along with the implementation of the various prohibitions constitutes a holistic environmental management regime (Interview 1, Appendix B).

The *Aluk To'dolo* belief system is characterised by the performance of opposing, and yet mutually reinforcing, ceremonial activities associated respectively with the fertility rites of *rambu tuka* and the *rambu solo'* funeral rites. *Rambu tuka* rituals are life-giving (smoke-rising) and frequently involve a spiritual summoning or physical offering made to any number of relevant gods (Plate 4-6). *Rambu tuka* ritual is commonly associated with the rice cycle, births, weddings, or the construction of the traditional *tongkonan* kinship houses or rice barns. The converse set of ceremonial obligations is the chain of funeral and burial rites that comprise the realm of *rambu solo'* (Plate 4-7). The far greater cultural significance and visibility of *rambu solo'* in contemporary Torajan society, has led many Indonesian observers to comment on how the Torajans “live for death”.

Dutch Protestant missionaries arrived in Toraja in 1912 and, after encountering initial resistance¹⁹, were eventually successful in establishing Christianity as the dominant religion in the highlands. By 2001, seventy-two percent of the population in Toraja were Protestant, seventeen percent Catholic, a further six percent Islam, and less than five percent officially remained *Aluk To'dolo* adherents (BPS, 2002d). Toraja and neighbouring Mamasa are the only two majority Christian *kabupaten* in South Sulawesi. However, the process of Christianisation in Toraja has been characterised by the accommodation of indigenous *aluk* beliefs, resulting in a syncretic blend of Christianity and tradition. Striking an appropriate balance between ancient ritual and the new religion is an ongoing process of compromise in Toraja, with the eventual concessions constituting contemporary Torajan culture.

¹⁹ Attempts to ban the important death rituals culminated in plans for a rebellion and in 1915 a Dutch priest was speared to death as a result. A more cautious and accommodating approach by the missionaries, with a focus on education, health and the lure of social mobility through the administration, was more successful in gaining the trust of the Torajans, slowly resulting in a number of conversions. However, by the end of the colonial period, only ten percent of Torajans had embraced Christianity (Volkman, 1985), and it was only the effects of Islamic insurgents in the 1950s and the imposition of Indonesian state ideology (whereby only monotheistic religions were acknowledged) that finally lead to widespread conversions.



Plate 4-6 A *pa gellu* dancer performs at a *rambu tuka* house initiation ceremony, Tondon



Plate 4-7 The *ma badong* chant is a homage to the deceased during a *rambu solo* funeral ceremony, Sa'dan

The chain of *rambu solo*' rituals performed for the funeral of a high ranking noble culminates in a week long festival held in temporary bamboo villages specifically constructed for the event, and necessitates the sacrifice of ever-inflating numbers of buffalo and pigs. Exorbitant prices are now paid for the highly prized *Tedong saleko* (albino buffalo)²⁰, and the maintenance of social prestige through ceremonial participation is increasingly burdensome to the Toraja, and commonly results in personal indebtedness. In addition to direct financial debt, friends and relatives often contribute to the ceremony, by way of livestock or other social or material assistance, with the expectation that their gift will be repaid at a future ceremony. Such gifts are publicly announced, acknowledged and carefully recorded by the affected parties so that their subsequent repayment is assured at the risk of social ostracism. Complex networks of indebtedness act to solidify social relationships and reinforce bonds that tie the community together. The opening of new debts is frequently performed in the name of small children to ensure the continuation of relationships and ceremonial participation in future generations. This dense set of obligations and relationships associated with *rambu solo*' is widely perceived by the Toraja as serving important social functions, namely the re-distribution of wealth (embodied in meat) in society and facilitating *gotong royong* cooperation²¹.

The social expectation to contribute at these ceremonies has apparently stimulated large numbers of Toraja to conduct *merantau* across Southeast Asia. *Merantau* is the Malay term used to connote the journey made by young men and women away from their homeland in search of wealth, fame and fortune, and usually implies a maintained link with the homeland and a longing to return in their retirement. Waves of Torajan migrants have left Sulawesi to work in places such as the mineral rich provinces of Irian Jaya and Kalimantan, Jakarta, or overseas in Singapore, Malaysia, Hong Kong and Australia. Many Toraja are willing to undergo substantial hardship during *merantau* in an attempt to accumulate financial resources that are regularly re-injected into the ceremonial cycle in Toraja. With limited opportunities to accumulate wealth in Toraja itself, these ceremonial remittances play an important role in maintaining the regional economy and

²⁰ One such buffalo cost eighty million Rupiah (9,000 US dollars) at the Bolu market in August, 2003.

²¹ *Gotong Royong* is the concept of mutual work assistance much esteemed across Indonesia.

have been significant contributors to the grossly inflated ceremonial stakes witnessed today.

Some of the most uniquely enduring images confronted in Toraja are the ghostly faces of the *tau-tau* (Plate 4-8), wooden effigies of the dead that guard the entrances to limestone caves which function as vast burial chambers. The *tau-tau* represent intermediaries between the realm of the living and the afterworld, with one hand outstretched to assist the living and the other upturned in anticipation of continued homage by their descendants. The effigies are considered to embody the soul of the deceased and represent the most outwardly palpable manifestation of the system of ancestor worship that is integral to *Aluk To'dolo* beliefs. Despite official condemnation by the Protestant Church of Toraja, their use continues and is arguably encouraged by the centrality of the *tau-tau* to the local tourism industry²².

The sweeping roofs of the *tongkonan*, aligned invariably along a north-south axis, are found in every village hamlet across Toraja, and each can be traced back to its ancestral founders. The *tongkonan* themselves are timber-framed structures constructed on heavy wooden piles with timber joinery that eliminate the need for nails. It is difficult to avoid exaggeration when discussing the importance of the *tongkonan* as a cultural identity marker for Torajans, which provide an intense sense of belonging for Torajans. Through marriage, an individual can potentially claim membership to numerous *tongkonan*, although association is generally limited by an individual's ability to participate in their upkeep and allied ceremonial commitments (Interview 2, Appendix B). *Tongkonan* images are widely used in both the domestic and international coffee industries to support marketing material that emphasises cultural and/or place associations.

Intricately carved wooden panels on the *tongkonan* exhibit a diverse array of pictographic geometric designs (Plate 4-9), each containing an esoteric significance correlating with ancient philosophies (Interview 3, Appendix B). The structural

²² The worldwide acclaim afforded by the tourism industry has resulted in a burgeoning international trade in the *tau-tau*. Whilst the theft and sale of their 'ancestors' is abominable to most Torajans, it is undoubtedly a lucrative venture for others and has led to the unfortunate situation of many *tau-tau* peering out over the landscape through security grill protection.



Plate 4-8 *Tau-tau* effigies of the dead stare out over the landscape, Rante Lemo



Plate 4-9 Both the *tongkonan* and rice barns are intricately carved with pictographs, Tondon

components and geographic alignment of the *tongkonan* represent a microcosm of traditional belief systems²³.

The construction of a new *tongkonan*, its renovation, or the construction of the corresponding rice barns (*alang*) necessitates the performance of various *rambu tuka* rituals. These rituals require the involvement and financial contribution of all members of the *tongkonan* kinship group to reaffirm association, irrespective of current residence. The vast area of dry lands, gardens, bamboo, fruit, cash crop and timber groves are customarily owned communally by members of a particular *tongkonan*. Complex kinship networks in conjunction with the extent of ceremonial participation determine access and usage rights to these *tongkonan* lands.

The unique cultural heritage of Toraja has attracted notable interest in the international community. It has been the subject of two articles in *National Geographic Magazine* (Williams, 1940; Meyer and Meyer, 1972), a number of documentary films (Marion, 1992), ethnographic research (Nooy-Palm, 1979; Volkman, 1985; Hollan and Wellencamp, 1996; Adams, 1997; Tsintjilonis, 2000) and popular literature (Wilcox, 1949). This largely academic interest was accompanied by international tourism beginning in the 1970s, which together presented a rather dramatic and romanticised view of Torajan culture. Cultural images have been widely appropriated within both the international and domestic coffee industries, where they are applied to signify the singularity and uniqueness of coffee grown in the area.

4.2.3.2 Wet-rice Society

According to *La Galligo* mythology, the first grains of rice in Sulawesi were of divine origin, descending from the upperworld together with the creation spirit *Lakipadada*, and were later personified by the female deity *Indo' pare* in Toraja (Interview 3, Appendix B). Agricultural rites for both the Bugis and Toraja are restricted to rice alone, and in Toraja the rice cycle is considered sacred and associated with numerous *rambu tuka*

²³ The area under the house (encased by wooden stilts where buffaloes are usually tethered) is the realm of the 'lower beings', whereas the main living quarters are the realm of humans, and the uplifted roof points toward the heavens and the abode of the ancestors and gods. A corresponding tripartite division of the house exists along a north-south axis. The northern room, *Sali* represents the benevolent gods of the northern skies and is used to store heirlooms and precious objects; the *dapo* is the hearth and source of human sustenance in the central section; and the southern room is where the deceased wait prior to burial. Facing south, this room is a reminder of the journey south to *puya*, the transitional afterworld that mirrors life on earth before the final ascent back to the gods. (Kis-Jovak et al., 1988)

fertility rites. Overall, South Sulawesi has for centuries produced a rice surplus, with the central Bugis plains of Wajo, Pinrang and Soppeng particularly productive. This surplus has been crucial to the expansion of trade with other rice-deficit regions of the archipelago.

In Toraja, wet-rice agriculture (*sawah*) is thought by Sarira (1996) to have been introduced during the fifteenth century under the influence of the Javanese Majapahit Empire through Hindu intermediaries in Luwu. A complex chain of rituals are performed during the release of the seed for sowing, transplantation, the yellowing stage, harvest, drying, and storage (van der Veen, 1965). The rice pounding ritual (*ma'lambuk*) is a rhythmic observance, that is performed during both *rambu tuka* and *rambu solo*' ceremonies (Plate 4-10).

Rice fields were traditionally owned by the nobility in Toraja, who would store rice for years in elaborate rice barns as an outward display of wealth and prosperity. Much of the wider community would be beholden to the nobility for the provision of rice, and effectively enrolled for generations in unpaid labour. Inheritance of rice fields is determined according to tradition by the relative degree of participation by descendants of the deceased during their funeral rites. Due to the complexity and uncertainty of land ownership in Toraja, which effectively removes much of the land from the real estate market, prices paid for certified parcels are comparable with those in Makassar, and even with those in Jakarta (Interview 42, Appendix B).

4.2.3.3 Village Forest-Gardens

Torajan houses are clustered into village hamlets (*tondok*), each consisting of up to maybe five or six *tongkonan* houses facing up to a dozen *alang* rice-barns (Plate 4-11). Although Bugis-style stilt houses are now intermixed with these more traditional structures, the *tondok* layout arrangement, with a large communal yard area surrounded by dwellings and dense growth, remains. Each *tondok* supports an average of perhaps five families, and are scattered within short distance of each other (a hundred metres or so) in this densely populated rural environment.

The immediate surrounds of the house-yard are characterised by the diverse planting of annual food and commodity crops known as *pa'lak tobanua*. Common species found in the *pa'lak tobanua* are locally consumed food products such as sweet potatoes, chillies, long beans, cassava, gingers and bananas. Increasingly these systems are also composed



Plate 4-10 *Ma lambuk* rice pounding ritual at Kete Kesu village



Plate 4-11 The Torajan village hamlet consists of a row of *tongkonan* houses facing a row of *alang* rice-barns, and surrounded by the *pa lak to tallang*, Tondon

of various agricultural commodities produced for market, dominated by coffee (*robusta* and *arabica*), cocoa, cloves, vanilla, passionfruit and tamarillo.

Surrounding the entire *tondok* are tall tree and bamboo forest-gardens, known as *pa'lak to'tallang*, which constitute a productive agroforestry system. These gardens are a characteristic feature of Torajan agroecology. Direct fertilisation of both these garden types with animal manure from pig and buffalo pens occurs where hilltop settlement patterns persist. The *pa'lak to'tallang* commonly consists of bamboo, fruit trees such as durian, *kalosi* (betel nut), jackfruit, *aren* (used for palm wine and sugar) and avocado, and timber species such as she-oaks, *uru*, nato, *bangga* and pine. So ubiquitous are these community forests across Toraja, that they give the deceptive impression of constituting remnants of natural forest. A survey of these forest gardens in the Tondon area of Toraja identified more than a hundred species of plant being utilised by the community.

The distinctive *tondok* settlement pattern, integrated with adjacent agricultural production systems, facilitated the development of small coffee holdings within the understorey of the *pa'lak to'tallang* and *pa'lak tobanua* garden plots across Toraja. Due to its pre-colonial introduction (discussed in Chapter Six), coffee cultivation adapted to pre-existing agroecological conditions in a uniquely Torajan way. Production management is ultimately the responsibility of the extended family group, where members are enrolled into productive labour through obligations and responsibilities according to various kinship relationships. As the first significant cash crop grown by Torajan society, coffee has historically played an important role in the village economy. However, coffee cultivation remains a single component within a complex agroecology otherwise dominated by subsistence production.

4.2.3.4 The Buffalo Economy

The ceremonial exchange, sacrifice and consumption of pork and buffalo meat have reached unparalleled degrees of extravagance in Toraja. Physical isolation and hostile relations with lowland Muslim courts were apparently conducive to the development of intricate networks of political allegiances, a remarkably hierarchical social system and the prioritisation of social prestige attained through ceremonial participation. Any economic surplus accrued by members of the community, whether through rice, later coffee and more recently remittances, is inevitably re-injected into ceremonial sacrifice

and converted to social prestige and influence. Buffaloes are the symbolic and material nucleus of Torajan society and customs.

Buffalo bulls (and to a lesser extent cows) are bought and sold in Toraja at exorbitant prices for the sole purpose of becoming sacrificial offerings during funeral rites. The number of buffaloes sacrificed at a single funeral has dramatically escalated in recent decades to several hundred in the Tondon region of eastern Toraja. This is largely in response to alternative income sources now available to emigre Torajans. With the increasing demand for sacrificial buffaloes, Toraja now relies on buffalo imports from other areas of Indonesia, as far away as Jakarta, Timor and Flores²⁴ (Interview 2, Appendix B). Buffaloes are valued based on the aesthetics of skin markings, horn type and size, body size and shape. One informant cites as many as eight types of aesthetic categories for identifying buffaloes (Interview 3, Appendix B). In Toraja, buffaloes continue to be used as a defacto currency, particularly in the valuation of *sawah*, and financial wealth is frequently perceived to be culturally meaningful only if translated into buffalo flesh for ceremonial sacrifice. Thompson (2000) equates the Torajan buffalo economy with a stock market, where investments made into the ceremonial cycle commonly outperform bank interest and stay ahead of inflation. In this respect, it is not surprising that many Torajans have greater faith in the ‘buffalo stock market’ than national banks, ensuring that wealth is circulated within Torajan society through the ceremonial cycle.

4.3 Conclusion

The southern peninsula of Sulawesi exhibits a high degree of geographical diversity. This chapter has shown how existing geographies have been shaped by a combination of geological forces, cultural development, agricultural change, and historical vagaries. The overlaying of these diverse and seminal influences has provided a mosaic of production environments into which coffee cultivation has been implanted. The Toraja region is distinctive amongst these environments due to the unique cultural traits of this highland community. These characteristics assume particular significance in the marketing of single-origin coffee for the specialty sector, where the ability to ‘tell a story’ becomes essential for constructing quality associations. The Toraja region is further distinguished

²⁴ A few local buffalo traders have even indicated an interest in the horn shape of the ‘Crocodile Dundee’ water buffaloes of Northern Australia, known in Toraja as *Tedong Ballian*.

by relatively dense rural populations living at high altitudes. As a result, the coffee grown in this region is slow ripening and therefore believed to possess more intense flavours.

The interaction between coffee production and distinct local geographies constitutes the geographical embeddedness of production. The association between geographical embeddedness and quality is critical to understanding the unfolding supply chain restructuring that is occurring within the Sulawesi coffee network.

5 AN OVERVIEW OF SULAWESI COFFEE CHAINS

The geographical diversity described in the previous chapter gives rise to a complex arrangement of social actors in the Sulawesi coffee sector. There is no single ‘Sulawesi coffee supply chain’, but rather a collection of different chains. These chains are separated in varied ways by: physical geography, ethnic and social distinctions in the human population, and the diverse operations and structures of corporate entities. Local traders and exporters embedded within the Sulawesi context are increasingly interlinked, and often competing, with multinational coffee companies, particularly those from the US and Japan. This produces a multitude of processes by which the fruit of the coffee tree is transformed from rural origins in highland Sulawesi into a (predominantly) gourmet beverage for final consumption in affluent markets. This chapter provides an overview of these processes, prior to the more detailed assessment in Part III of the embedding of coffee production across Sulawesi.

In some instances, highly capitalised actors have vertically integrated their activities to encompass more than one node in the supply chain. Key Coffee of Japan is even fully integrated from plantation through to retail outlets. In other instances, individual nodes are bypassed, such as the direct sale of coffee by commercial estates to importers (Sulutco Jaya to Coficom), and of exporters directly to roasting firms (Megahputra Sejahtera to Starbucks, and Sulawesi Beans to UCC Ueshima).

Common interests held by individuals occupying a particular node are infrequently expressed through collective action. The Association of Indonesian Coffee Exporters (AEKI) represents the interests of exporters in Indonesia, whilst the Specialty Coffee Association of America (SCAA), the All Japan Coffee Association (AJCA), and the Europe Coffee Federation (ECF) are examples of influential organisations representing consuming country actors. Whilst the influence of AEKI has declined in recent years, the roles of consuming country organisations appear to have become more pronounced. Notwithstanding these examples, vertical relationships between individual actors have assumed prominence in the Sulawesi coffee supply chains and tend to exert a stronger influence than horizontal solidarity. Requirements for traceability along the supply chains, associated with efficient communications and accurate information flows, tend to prioritise these vertical relationships over collective action.

Figure 5-1 provides a schematic flow chart of trade routes for *arabica* coffee from the four major producing *kabupaten* of South Sulawesi (Toraja, Enrekang, Mamasa, and Gowa) through to the five international markets (Japan, US, Europe, Singapore and Australia). The chart takes the 2,970 tonnes of *arabica* coffee exported from Makassar in 2003 as a starting point, and shows the trade contribution (expressed in percentages) of producing regions, exporters and importers, and major end-markets. The extraordinary complexity of this diagram underlines the highly fragmented, uncoordinated and (largely) untraceable characteristics that currently define Sulawesi coffee chains. The coffee grown in each region is colour-coded to show the range of local origins offered to most international buyers where strict traceability measures are not enforced. Instances of vertical integration are apparent on the right side of the chart, coinciding with attempts to secure access to coffee grown in Toraja. It may be helpful to refer back to this Figure during the discussion in this chapter and at other times in this thesis.

5.1 Key Actors in the Sulawesi coffee chains

In general terms, the Sulawesi coffee supply chains are hinged around relationships between six sets of actors. These are the growers, village traders, processor/exporters, green bean traders (importers), roasters, and retailers. The activities performed by each set of actors are examined in the following discussion, with an emphasis on identifying key institutional and corporate actors operating at each node.

5.1.1 COFFEE CULTIVATION IN SOUTH SULAWESI

There are two distinct regions of coffee production in South Sulawesi. The principal growing region is in the Latimojong Mountains to the north, consisting of the three administrative *kabupaten* of Tana Toraja, Enrekang, and Mamasa²⁵. A secondary region is located on the southern tip of the peninsula in the *kabupaten* of Gowa, Sinjai and Bantaeng that radiate out from the twin volcanic peaks of Mount Lompobattang and Mount Bawakaraeng (Figure 5-2). Of these two regions, coffee production in the northern region has a longer history, is deeply entrenched within local culture and agroecology, and is generally believed by traders, exporters and importers to produce a superior quality coffee.

²⁵ The Mamasa people recently formed a *Kabupaten* in 2002, breaking away from their previous inclusion within the *Kabupaten* of Polewali-Mamasa. Much of the district-level data presented in this thesis however still uses the old administrative boundaries.

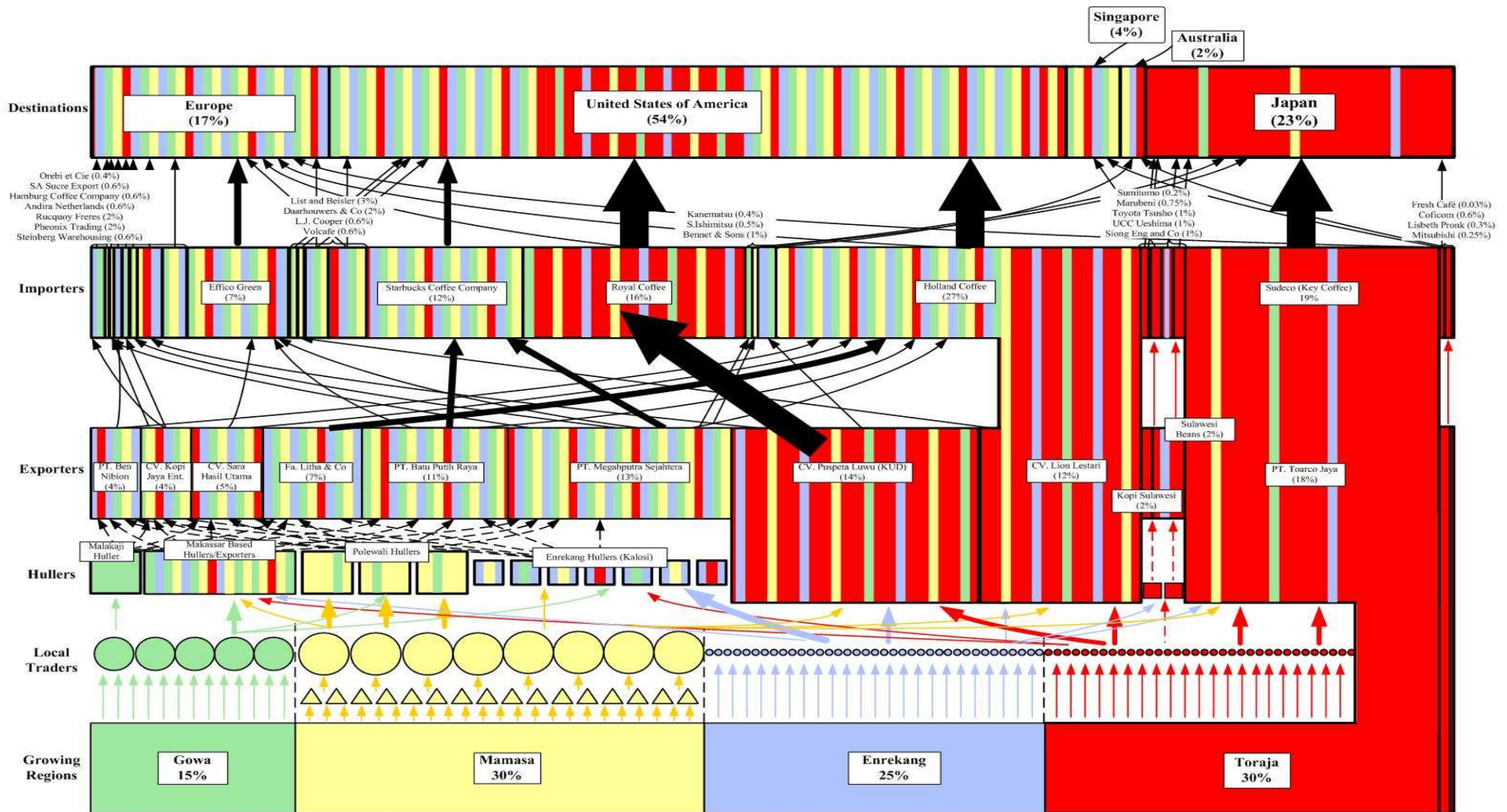


Figure 5-1 Export-oriented trade flows of *arabica* coffee from South Sulawesi²⁶

²⁶ Large arrows indicate trade flows greater than 400 tonnes, medium arrows between 100 and 400 tonnes, small arrows are less than 100 tonnes, and dashed arrows indicate unverified trade flow.

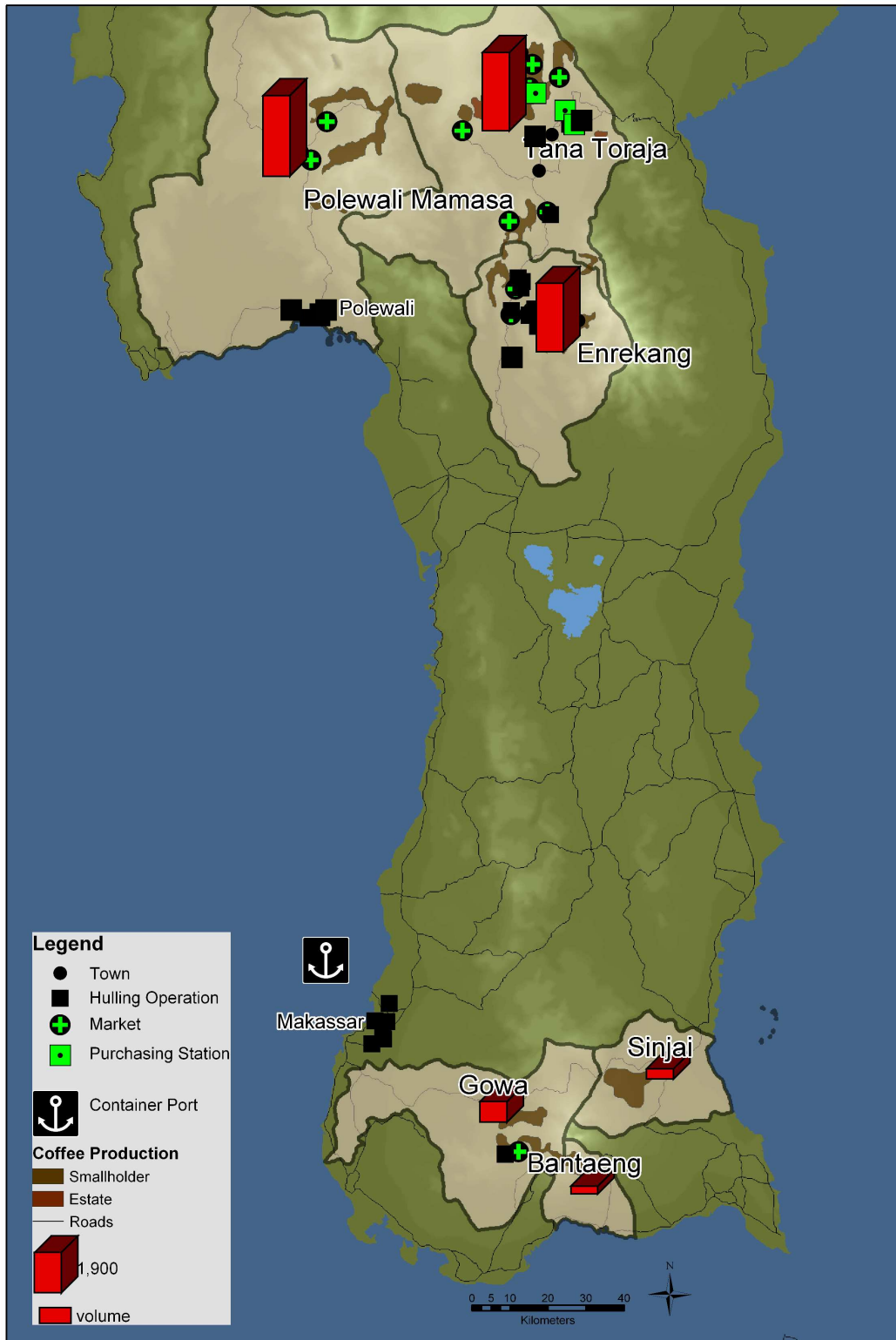


Figure 5-2 Coffee production across South Sulawesi

Table 5-1 shows production estimates and extent of farmer involvement for the four main *arabica*-producing *kabupaten* in South Sulawesi. Whilst each of the three *kabupaten* in the northern Latimojong region are equally productive, Tana Toraja has emerged as the origin of what is perceived by many industry actors to be the highest quality coffee in the region. The embeddedness of coffee production spaces within Tana Toraja is discussed in Chapter Seven, whilst all other major producing regions are discussed in Chapter Eight.

<i>Kabupaten</i>	Estimated Production (t)	Number of Farmers	Average Yield Per Farmer Per Year
Polewali-Mamasa	3,703	15,824	234
Tana Toraja	3,590	29,873	120
Enrekang	3,143	16,215	194
Gowa	943	1,334	707
Other regions	1,858	11,158	166
Total	13,237	74,404	178

Source: (BPS, 2002c)

Table 5-1 Estimated production and number of farmers involved in *arabica* coffee production across South Sulawesi in 2001

Traditional smallholder farmers grow the vast majority of South Sulawesi coffee. It is estimated that there are more than 74,000 smallholders in the various production centres of South Sulawesi (BPS, 2002c). Whilst total estimated *arabica* production across the province is as much as 13,237 tonnes²⁷, average individual yields are only 178 kilograms per farmer per year (BPS, 2002c). There are also several commercial estates in Toraja producing a combined total of approximately 300 tonnes, and who generally sell directly to international buyers. Furthermore, the Toarco Jaya estate is vertically integrated with

²⁷ This production estimate far exceeds the actual green bean exports of 2,970 tonnes in 2003, and as domestic consumption of *arabica* coffee is insignificant in Sulawesi, this inflated figure may be using either red cherries or parchment coffee as the unit of measurement. No unit is provided with the data. As such, these estimates represent relative, rather than absolute, production levels. A more realistic figure for green beans, based on field observations and industry sources, is approximately 4,000 tonnes.

the global operations of Key Coffee in Japan. Estate production in Sulawesi thereby bypasses the dynamics of local trade networks.

Collective organisation at the grower level is not currently effectual in exerting any real influence on supply chain dynamics, nor has it been able to effect political influence due to the largely marginalised state of the growing communities. However, an Association of Indonesian Coffee Farmers (APKI) does exist, positioning itself in opposition to the representation of exporters through AEKI. The only presence of the association encountered in Sulawesi was evident in Enrekang, where an active member was proposing the collective retention of parchment coffee at the farm level to pressure a price increase from local mills.

Virtually all *arabica* coffee in South Sulawesi is processed using the so-called wet method²⁸ (Figure 5-3). Smallholder coffee growers in South Sulawesi commonly process the cherry into semi-wet parchment coffee. The first step following the harvest (Plate 5-1) involves removing the fleshy skin of the fruit or pulping (Plate 5-2). In northern Toraja, much of the coffee is ‘fully-washed’, which means the pulped coffee is fermented in buckets, plastic bags, or sacks for one to two nights prior to washing the parchment. This process facilitates the removal of the mucilaginous layer surrounding the inner parchment. Semi-washed coffee is immediately dried following pulping, or perhaps washed and/or rubbed to remove the mucilage.

All coffee is initially dried in the parchment for any time between three hours up to a full day (Plate 5-3), at which time it can be considered ‘semi-wet parchment coffee’ with a moisture content of approximately thirty-five percent. It is in this state that coffee is commonly traded at the village level across South Sulawesi. There are substantial differences in coffee production systems across the region, in terms of varieties grown, use of agrochemicals, presence of shade trees, site management, harvesting methods and on-farm processing of the cherry. These differences will become apparent in Part III, where local production systems are described in relation to their embeddedness within geographic space.

²⁸ The ‘dry method’ is widely applied in Sulawesi for *robusta* coffee, as it is across Indonesia, and for some *arabica* coffee in countries such as Brazil and Ethiopia. This method involves the immediate and thorough sun-drying of the cherry for up to three weeks prior to hulling, which then removes both the dried pulp and the inner parchment from the green bean.

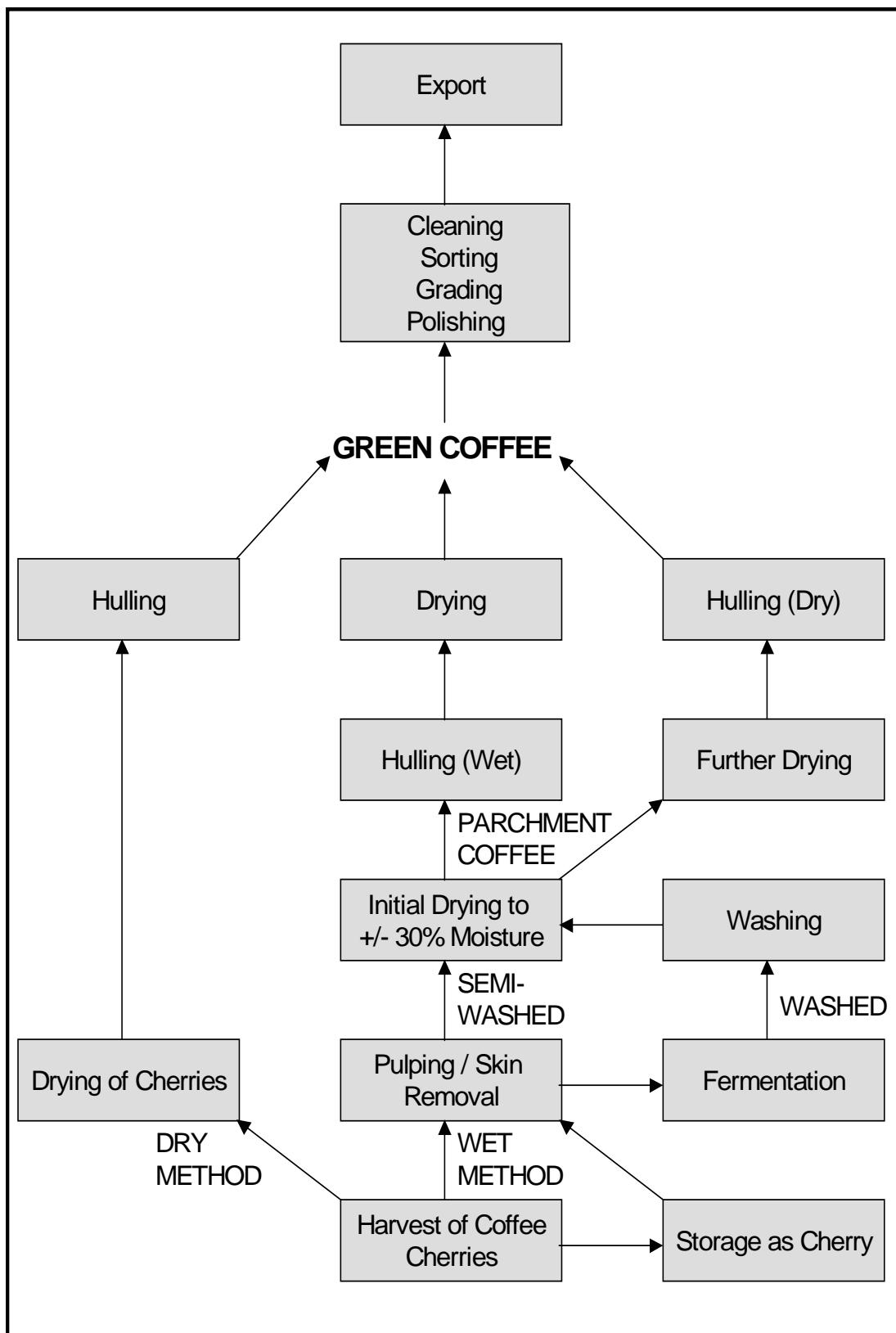


Figure 5-3 Pre-export coffee processing methods in Sulawesi



Plate 5-1 Harvesting coffee in the Mamasa Valley

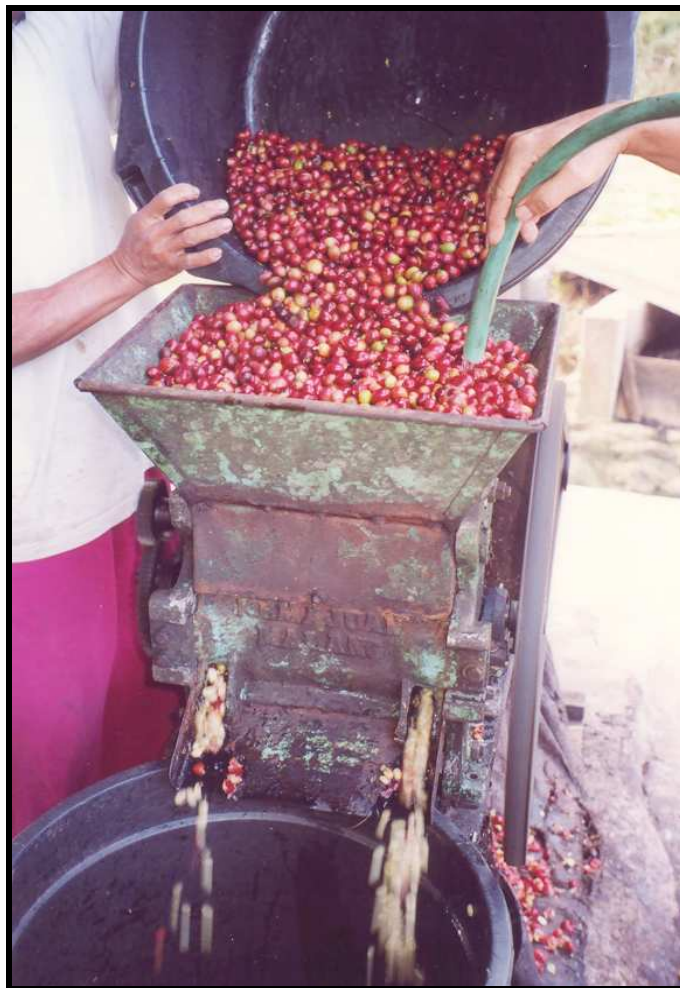


Plate 5-2 Removing the fleshy skin by pulping, Bumi Permata Allo Estate, Toraja

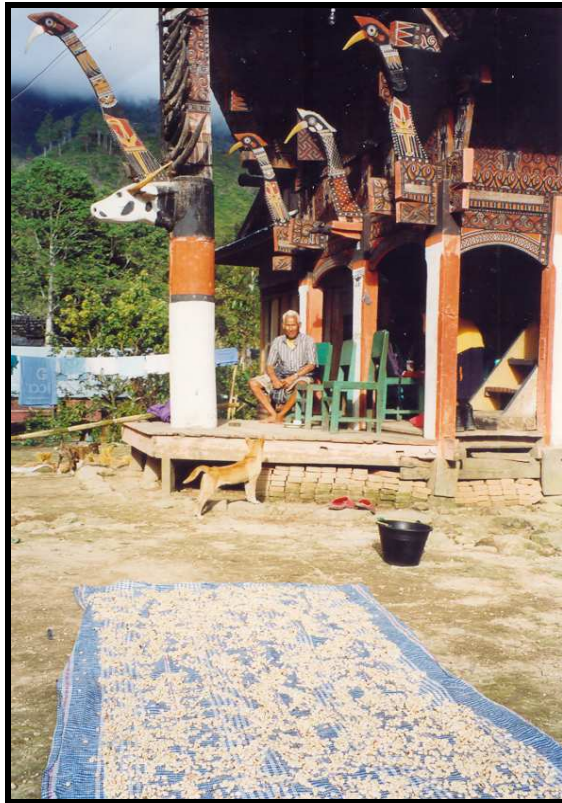


Plate 5-3 Sun-drying the coffee in Toraja, Barrupu Village



Plate 5-4 Coffee is traded as semi-wet parchment coffee at local markets, Sapan market in Toraja

5.1.2 LOCAL TRADE NETWORKS

Thousands of local coffee traders operate across Sulawesi, many of whom are also involved in the maintenance of their own coffee trees. These local traders possess an intimate knowledge of the way coffee production is embedded within local geographic contexts. This knowledge has critical importance for the regulation of quality attributes in the provincial coffee industry. Coffee enters local trade networks as semi-wet parchment (Plate 5-4), and is subsequently sold in this condition to one of the many processing plants (mills) located across the region.

Hulling machines (Plate 5-5) are then required to remove the hard white husk (also known as the parchment or hull) that surrounds the green bean. It is common in Sulawesi for coffee to be 'wet-hulled' prior to sun-drying, although Toarco Jaya and a number of estates in Toraja will dry the parchment fully, store the coffee in warehouses, and dry-hull upon request for export (Figure 5-3). It is generally believed that extended storing of coffee in the parchment is preferable to storage as green coffee, in order to maintain freshness (Clifford and Willson, 1985). Carefully cured coffee may even be sold at a premium price in the international market, as 'aged coffee'. For wet-hulled parchment coffee, the green coffee must then be dried to a moisture content of approximately twelve percent (Plate 5-6), and sold soon after.

The investment in a hulling machine is the first major capital expense along the coffee supply chain, resulting in substantial consolidation at this stage of the Sulawesi coffee supply chain (Figure 5-1). The parchment coffee is either sold directly to miller-exporters, or sold to local mill operators, who then sell to exporters. Figure 5-1 shows how the former (direct) system is dominant in Toraja. A particularly high number of hulling operations are located in Enrekang (at the town of Kalosi), many of which employ scouts to collect parchment coffee directly from growers. The resulting dense trading networks and availability of working capital for growers in Enrekang contrasts sharply with the Mamasa valley, where there are no local hulling operations. In Mamasa, growers carry their coffee considerable distances to centralised markets, where the parchment coffee is sold to 'scalpers' (see Chapter Eight) and on to larger local traders. These traders then transport the parchment coffee out of the *kabupaten* to Polewali for hulling.



Plate 5-5 Hulling operations are the first substantial capital investment in Sulawesi coffee chains, Toraja Prince huller near Rantepao



Plate 5-6 The green beans are then re-dried prior to export

The location, spatial concentration and sourcing strategies of the mills (and whether the mills export themselves or act as provincial traders) have a powerful influence on the regulation of coffee quality in Sulawesi. Defects and evidence of poor initial processing are more discernible in parchment coffee than green beans. Discolouration of the parchment will quickly reveal the existence of mould, delayed pulping, or premature harvesting. The parchment also tends to absorb and retain foul odours more so than the green bean. Therefore, the degree to which processing mills maintain control standards is paramount to the final quality of the coffee.

5.1.3 THE SITE OF EXPORT

Whilst some exporters purchase parchment coffee and perform the hulling operations themselves, most purchase green beans that have already been hulled in the growing regions. Once in the form of green beans, the only additional processing required before export involves the removal of extraneous matter such as sticks, stones and parchment (cleaning); the separation of unhealthy or damaged beans (sorting); grouping together according to bean size (grading); and the optional removal of the flaky silverskin (polishing). These activities generally involve the use of expensive processing equipment (Plate 5-7). In addition to mechanical processing, all exporters in Sulawesi employ large numbers of manual labourers to hand sort the coffee and remove defective beans. The green beans are then (generally) packed in sixty kilogram jute bags (Plate 5-8), which are printed with an identifying mark (usually a geographic identity) such as ‘Kalosi’ or ‘Toraja’.

During the ICAs, AEKI held a highly influential role in the distribution of quotas to individual exporters. This role has changed significantly in recent years, and the organisation has evolved into a vehicle for information exchange amongst exporters and as an industry lobby group for policy change at the national level. A government decree allows AEKI to levy a mandatory export duty. The association then allocates resources to programs aimed to increase domestic productivity, improve global market access and negotiate with other exporting countries on possible supply retention strategies (ANTARA, 2002b; Wilundari, 2004). AEKI strategies generally reflect the dominance of *robusta* production and export in the Indonesian coffee industry, and are focused on the major production centres of Java and Sumatra.



Plate 5-7 Processing equipment to improve green bean quality prior to export, KUD processing plant, Toraja



Plate 5-8 The green coffee is packed in sixty kilogram bags awaiting export

The number of domestic coffee exporters in Sulawesi has steadily declined over the last decade, despite the ever-increasing volumes of *arabica* coffee being exported from the region (Interview 6, Appendix B). Of the fifty-nine companies registered with AEKI as coffee exporters (AEKI, 2003), only thirteen actively exported in 2003 (Appendix E). This decline has contributed to a situation where the site of export is now the most consolidated node along the entire supply chain. This is primarily due to two reasons. First, many domestic exporters have been unable to compete with highly capitalised foreign actors with direct investment in processing and exporting operations, with the latter having access to low interest loans and international marketing networks. Secondly, the increased centrality of accurate information flows and the need to maintain long-term relationships between exporters and importers have competitively selected particular firms over others. Restructuring within the site of export, and emerging forms of coordination, is taken up in Chapter Ten as a response to consumer driven demands for quality.

All coffee exported from Sulawesi is traded through the container port in Makassar. Most of the thirteen exporting firms active in 2003 are also located in Makassar (Table 5-2), and these exporters account for more than half the volume of total exports from Sulawesi. The remaining exporters are based in Toraja in an apparent attempt to source the coffee grown in this particular district.

The conventional mode of operations for exporters is to own processing equipment and warehouses located only in Makassar, and not to actively source coffee themselves from the growing regions, but to generally trade large volumes of both *arabica* and *robusta* coffee. Such exporters rely on provincial traders to supply them with green beans, which makes it practically impossible to identify and authenticate the local district where the coffee was grown. Smaller amounts of coffee are also supplied to exporters as ‘tied supply’, where exporters provide working capital to provincial traders to actively collect coffee on their behalf from particular growing regions. Whilst some exporters are prepared to selectively source coffee from particular growing regions, many also consider the practice of mixing different local origins prior to export an important strategy for economic survival (Interview 51, Appendix B).

Higher prices in Toraja result in substantial inter-regional trading prior to export, as local traders attempt to profit from spatially differentiated prices. For most exporters, green

coffee is principally a bulk commodity, in which quality characteristics are determined by the presence of physical defects in the green bean, without recourse to cupping (a process of sensory evaluation described below) or geographic origins. As such, it is practically impossible for international buyers to currently confirm the local origin of production and consequently ascertain the conditions under which the coffee was grown. This has important consequences which will be emphasised and expanded later in Part IV of this thesis.

Table 5-2 lists all exporters of *arabica* coffee in 2003, showing volumes traded and prices received. The largest single exporter from Sulawesi in 2003 was PT Toarco Jaya (henceforth referred to as Toarco), which operates a plantation and mill in Toraja and sells directly to its parent company in Japan (Key Coffee). The Toarco plantation is said to be the world's largest plantation owned and managed by a single, integrated coffee company (USDA, 2001). The second highest volume exporter in 2003 was CV Puspeta Luwu-KUD²⁹ (henceforth referred to as the KUD), a joint venture with a fifty-one percent share held by Cooperative Business International (CBI) of the US. This joint venture operates a processing plant in the Toraja region, which it established in 1997, and exports primarily to the US market.

A number of exporting firms are located in Makassar, the highest volume trader of which is the ethnic Chinese conglomerate PT Megahputra Sejahtera. Others include CV Batu Putih, Fa Litha & Co, CV Sari Hasil Utama, CV Kopi Jaya and PT Ben Nibion. The operational strategies of these companies are remarkably similar, and their inability to verify geographic origins appears to contribute to their exclusion from the high-end international market. Few trade solely in coffee, and most are diversified commodity traders. In 2003, CV Lion Lestari commenced local purchasing and processing activities, and immediately established itself as one of the major players in the export of Sulawesi coffee. The company was established by a German expatriate and a local partner, and subsequently entered into a joint venture partnership with the largest single international buyer of Sulawesi coffee, the Holland Coffee Group. Two smaller volume traders (CV Kopi Sulawesi and CV Sulawesi Beans) supply the lucrative, niche Japanese coffee market at prices significantly higher than other Makassar-based exporters. Two

²⁹ However, the KUD exported more *arabica* coffee than any other exporter during the previous year, 2002 (922 tonnes).

commercial plantations in Toraja (PT Hasil Bumi Indonesia and PT Solutco Jaya) exported small volumes of their estate-grown beans at premium prices.

Recent and ongoing restructuring at the site of export-import, in response to increased traceability demands throughout the supply chain, is examined as a key issue in Chapter Ten. In broad terms, exporters are increasingly developing intimate relationships with both their suppliers and with the international market. Accurate transmission of quality requirements from consumer to producer, and of features of geographic embeddedness from producer to consumer, is emerging as a defining feature of these relationships. Vertical integration and long-term, mutual trust-based associations between international green bean traders and local exporters are gradually replacing conventional export-import trade relationships. Demands for geographically authentic coffee from particular producing regions in Sulawesi (driven predominantly by international actors) are similarly prioritising export operations where product traceability is feasible.

Exporter		Volume (Kg)	Price (\$US/kg)
<i>Toraja-based</i>			
1	PT Toarco Jaya	552,040	3.32
2	CV Puspeta Luwu (KUD)	538,200	1.91
3	PT Solutco Jaya (Estate)	24,000	3.24
4	PT Hasil Bumi Indonesia (Estate)	9,750	2.99
<i>Makassar-based</i>			
5	PT Megahputra Sejahtera	486,500	1.97
6	CV Lion Lestari	353,280	1.82
7	PT Batu Putih Raya	319,500	1.82
8	Fa Litha & Co	216,000	1.65
9	CV Sari Hasil Utama	156,000	1.83
10	CV Kopi Jaya Enterprises	109,500	1.91
11	PT Ben Nibion	109,000	1.70
12	CV Sulawesi Beans	71,100	3.79
13	CV Kopi Sulawesi	26,100	3.05
TOTAL		2,970,970	Average = 2.19

Source: Original ICO Certificates of Origin and Export Notifications sighted by the author (refer to Appendix E for complete export data base)

Table 5-2 Arabica exporting firms from Sulawesi during 2003

Vertical linkages with the global market are increasing in importance at the expense of previously influential horizontal relationships, notably the declining role of AEKI. This government mandated organisation still levies a thirty Rupiah per kilogram ‘voluntary’ payment on every shipment of coffee leaving Indonesia, and yet it is struggling to re-establish institutional significance since the 1989 dissolution of the international quota system. The role of state intervention along Sulawesi coffee chains is not as active as in Java, where government-owned plantations are responsible for the majority of *arabica* exports (Interview 39, Appendix B). In the Sulawesi coffee sector, extension activities are limited, subsidies are unknown, and no other readily apparent institutional support is provided to the industry.

5.1.4 INTERNATIONAL IMPORTERS

During 2003, twenty-nine international coffee traders from nine countries across Europe, America and Asia bought green coffee beans from the port of Makassar in South Sulawesi (Table 5-3 and Appendix E). The foremost destination was the USA, comprising fifty-four percent of all *arabica* exports, followed by Japan (twenty-three percent). The European market absorbed another seventeen percent, with the port of Antwerp in Belgium handling the bulk of these shipments. Smaller amounts were exported to Singapore (six percent) and Australia (two percent). All coffee sold to Europe, the US and Australia is sold ‘Free On Board’ (FOB), with exporters responsible for arranging export clearance and handling costs only, and the buyer responsible for freight costs. In contrast, all coffee exported to Japan is sold as ‘Cost, Insurance and Freight’ (CIF), with the exporter accepting responsibility for transport costs.

The use of geographic identities for individual shipments varies considerably depending on consuming country preferences. The ‘Kalosi’ trade identity for Sulawesi coffee is preferred by European buyers, whilst both the ‘Kalosi’ and ‘Toraja’ trade names are popular in the US market, and the Japanese market primarily associates the ‘Toraja’ name with Sulawesi coffee (Table 5-3 and Appendix F). The international buyer requests the particular identity to be printed on bags of green beans, which is also specified in ICO and other export documentation. This identity is rarely determined by the local exporter (Interview 28, Appendix B). Despite the implicit association between geographic origins and bean characteristics, there is generally no direct relationship between actual local origins and the use of geographic identities.

Country	Importing Company	Volume (kg)	Price (US\$/kg)	Geographical Identity
<i>United States</i>	Holland Coffee	676,480	1.73	Kalosi
	Royal Coffee	466,200	1.93	Toraja
	Starbucks Coffee Company	342,000	1.83	Kalosi
	List & Beisler	51,000	1.60	Kalosi
	Daarhouwers & Co	36,000	1.93	Kalosi
	L.J. Cooper	18,000	1.77	Kalosi
	Volcafe	18,000	2.00	Kalosi
	Total	1,607,680	1.80 Avg	
<i>Japan</i>	Sudeco (Key Coffee)	552,040	3.32	Toraja
	UCC Ueshima	30,000	3.80	Toraja
	Toyota Tsusho	26,700	4.23	Toraja (Mamasa/Kalosi)
	Marubeni	24,000	3.47	Kalosi Toraja
	S.Ishimitsu ³⁰	13,500	3.00	Toraja
	Kanematsu	12,000	4.10	Kalosi
	Mitsubishi	9,000	1.90	Kalosi
	Sumitomo	6,000	3.66	Kalosi
	Total	673,240	3.39 Avg	
<i>Europe</i>	Efico Green Coffee	216,300	1.87	Kalosi
	Pheonix Trading	54,000	1.82	Kalosi
	Rucquoy Freres	54,000	1.92	Kalosi
	Holland Coffee	49,500	1.75	Kalosi
	List & Beisler	33,000	1.64	Kalosi Toraja
	Andira Netherlands	18,000	2.05	Kalosi
	Hamburg Coffee Company	18,000	1.85	Kalosi
	Royal Coffee	18,000	1.95	Toraja
	Daarhouwers & Co	18,000	1.93	Kalosi
	SA Sucre Export	18,000	1.86	Kalosi
	Orebi et Cie	12,000	2.25	Toraja
	Lisbeth Pronk	8,750	3.13	Toraja
	Total	517,550	1.86 Avg	
<i>Australia</i>	Bennet & Sons	36,000	1.80	Toraja
	Coficom	18,000	3.09	Kalosi Toraja
<i>Singapore</i>	Holland Coffee	71,000	2.27	Mandheling
	Siong Eng and Co	30,000	1.90	Kalosi Toraja
	Steinberg Warehousing	16,500	2.37	Kalosi Toraja
	Fresh Café	1,000	1.75	Toraja
	Total (Australia and Singapore)	172,500	2.07 Avg	
	TOTAL IMPORTS	2,970,970	2.19 Avg	

Source: Original ICO Certificates of Origin and Export Notifications sighted by author.
(Refer to Appendix E for complete export data base)

Table 5-3 International buyers of Sulawesi coffee (2003)

³⁰ S. Ishimitsu also imported 513,000 of *robusta* coffee from Sulawesi into Japan at an average price of eighty US cents per kilogram in 2003.

A small minority of international buyers are familiar with the various growing districts of Sulawesi, although most place orders upon receiving an acceptable sample in their offices in Hamburg, Antwerp, Oakland, Tokyo or New York, without ever visiting Sulawesi. As most green bean traders invariably source coffee from dozens of producing regions across the globe, most cannot afford the time or expense to visit the growing districts. An important exception is Holland Coffee, whose representatives have made at least three visits a year to Sulawesi in recent years (Interview 88, Appendix B). Instead, green bean traders rely primarily on their ability to cup-test samples of coffee (cupping) to assess coffee quality. This is the first node along the Sulawesi supply chain (with the exception of Toarco) where coffee is cupped as a standard industrial practice, and all major importers are equipped with a specialised cupping room (Plate 5-9). The Executive Director of the SCAA describes the process of cupping as,

a method of systematically evaluating the aroma and taste characteristics of a sample of coffee beans. A prescribed manner of brewing and a specific series of steps lead to a complete sensory evaluation of the coffee cupper's olfaction, gustation and mouthfeel sensations (Lingle, 1993: 2).

The relationship between importers and exporters is a notoriously fragile one, and is customarily marred by a lack of mutual trust. Exporters in Sulawesi readily accuse the international buyers of maintaining an excessive downward pressure on prices and cite the high retail prices of Sulawesi coffee in overseas markets as evidence of unjust trading practices. For their part, importers complain of inconsistent quality, the mixing of geographically desired coffees with inferior origins, and a concern for short-term profit rather than a long-term commitment to quality. This atmosphere of mistrust is frequently exacerbated by cultural differences between the ethnic Indonesian exporters and the European/American buyers. In reference to Sumatran coffee, one importer (who wished to remain anonymous) bluntly stated:

The Acehnese are a stupid people. Either they don't have any brains or they don't know how to use them,

and on the Indonesian people in general:

Come on, you know what I mean. You can't trust any of them. They don't have the ability to think past the present, blinded by their desire for short term profits.

Amidst this lack of mutual trust and cultural divergence, trade relationships based around shared ethnicity are emerging as a feature of the international trade in Sulawesi coffee.

The vertical integration of Key Coffee ensures that their trade is conducted between ethnic Japanese actors. The Japanese partner of the Makassar-based owner of Sulawesi Beans, the next most important supplier of the Japanese market, manages the marketing component of their operations (Interview 79, Appendix B). The European directors of Holland Coffee have established a joint-venture with the German owner of Lion Lestari. The involvement of US-based CBI in the KUD processing plant appears to contribute to enhanced trust by their major US buyers (Interview 96, Appendix B). At least two European buyers use a Dutch intermediary agent based in Indonesia (Matahari Global Trading) to oversee deals with Sulawesi exporters (Interviews 90 and 94, Appendix B). The increasing centrality of efficient information exchange and trust-based relationships in the specialty coffee sector appear to be a contributing factor here in this development³¹.

The global trade in green coffee as a bulk commodity is controlled by just a few multi-commodity transnational trading firms (Talbot, 1996; van Dijk et al., 1998; Ponte, 2002a; Talbot, 2002b). However, of the five largest global coffee traders (controlling forty percent of total trade), only the Neumann Gruppe³² and Volcafe imported Sulawesi coffee during 2003. The importing firms listed in Table 5-3 are mostly specialised coffee importers, who concentrate on supplying the growing specialty roasting sector. The major importers into the US market are Holland Coffee and Royal Coffee, (together accounting for seventy-one percent of imports into that country), with the Starbucks Coffee Company directly importing a further twenty-one percent in 2003³³. The smaller European market relies on a more diversified array of importers (Table 5-3), with Efico Green Coffee of Belgium responsible for forty-two percent of European imports.

The Key Coffee affiliate, the Sulawesi Development Company (Sudeco), has consistently imported the majority of Sulawesi coffee entering the Japanese market (Table 5-4). However in 2002, the company's share was reduced to forty-nine percent due a dramatic

³¹ The issues raised here potentially open a much larger question about the role of ethnicity and race in the conduct of commercial life. It would be dangerous to extrapolate from the insights reported here in the form of a broader conclusion on this question. However, the central point here is that, in the South Sulawesi context at least, shared ethnicity appears to be an important variable shaping supply chain structures.

³² The almost negligible volumes (less than one tonne) imported by the InterAmerican division of the Neumann Gruppe are not included in the export data presented in Table 5-3. This unconventional trade is discussed further in Chapter Ten.

³³ However, according to one importer, Starbucks continues to rely on specialist importers for the bulk of their Sulawesi coffee requirements (Interview 93, Appendix B).



Plate 5-9 Cupping room at Efico Green Coffee, Antwerp



Plate 5-10 Café cocktails in Amsterdam

increase in imports by Brooks Coffee³⁴. The company's dominant position within this market is attributable to considerable investment in the Sulawesi coffee industry, and the ownership of exclusive property rights over the 'Toraja' identity for roasted beans in Japan (see discussion in Chapter Ten). Other importers into Japan included the country's largest integrated coffee company UCC Ueshima, and a number of large commodity traders such as Marubeni, Mitsubishi, Sumtomo and Toyota Tsusho, all of which were willing to pay remarkably high prices for Sulawesi coffee (Table 5-3).

Year	Sudeco (Key Coffee) Imports (kg)	Percentage of Total Imports to Japan
1999	585,500	86
2000	563,640	70
2001	594,900	78
2002	586,489	49
2003	552,040	83

Sources: (Appendix E; Toarco, 2000; Toarco, 2001; Toarco, 2002)

Table 5-4 Share of Japanese market held by Key Coffee (1999-2003)

Green bean traders are increasingly required to supply information to roasters concerning the conditions under which coffee is grown in producing countries. Previously, importers may have ventured as far as Makassar to buy their coffee. In recent years some traders have shown an increased interest to survey for themselves the growing districts of the Sulawesi highlands. Information supplied by Royal Coffee to the US market (Royal, 2004) includes whether the coffee was: procured from cooperatively organised farmers, grown and processed on one estate, registered as Fair Trade coffee, privately verified as shade-grown, or shade-certified by an external organisation. A further claim made by a major European importer is that,

Every coffee shipment is carefully tracked from the coffee farm to delivery and invoicing (Efico, 2003).

The apparent divergence between such claims and the reality of accurately tracing production and trade networks in Sulawesi will be discussed later in this thesis. However,

³⁴ This smaller company however, did not actively source Sulawesi coffee in 2003 (Appendix E).

a trend towards traceability is converging from various directions and may be powerful enough to enforce new sets of trade relationships. An important aspect of this trend is the need to obtain detailed and verifiable information concerning the environmental and social conditions under which coffee is grown. This drive is resulting in a restructured set of Sulawesi coffee supply chains (as discussed in Chapter Ten), and importers are increasingly required to act as the chief purveyor of this information.

5.1.5 RECONSTRUCTED ROASTER IDENTITIES

The popular identity of consumer coffee products is frequently recognised to be related to the brand reputation held by roasting companies. It is these roasting identities that are also considered to be key markers of product quality for many consumers. In the mainstream coffee market, roasting identities are rarely associated with the geographic or agricultural origins of the coffee. Rather, roasting companies operating at local scales, such as Douwe Egberts in Holland, Rombouts in Belgium, and Folgers and Hills Brothers in the US, have established the dominance of their brand names in sites of coffee consumption. Although there has been considerable consolidation within the roasting sector due to various acquisitions and mergers, local or national identities remain important to loyal customers due to a sense of product familiarity.

Perhaps the first significant departure from local roasting identities was prompted by the popularity of espresso bar culture in many consuming markets. Italian-style coffee was soon perceived by many coffee drinkers to be the essence of quality coffee, and Italian-based roasting companies such as Lavazza, Segafredo Zanetti and Illy Coffee have begun to dominate the retail café market of many consuming countries. An important link has been established between Italian espresso bar culture and the growing specialty coffee industry. The amalgamation of espresso-style cafes with powerful roaster-branding initiatives has led more recently to the internationalisation of a number of (primarily) US-based roaster-retailer chain stores such as StarbucksTM, Gloria JeansTM, and The Coffee Bean & Tea LeafTM. As pointed out by Ponte (2002a: 1110), “One of the characteristics of specialty coffee is that it means different things to different people”.

One unexpected outcome of this internationalisation of roasting identities has been an accompanying interest in geographically distinct (single-origin) coffees. Starbucks offers more than a dozen such single-origin coffees, usually marketed along with romantic place-related imagery such as the ‘Komodo Dragon Blend’ from Indonesia. Sulawesi

coffee has earned a reputation within such roasting spaces as a rare and unique origin³⁵. The use of cultural imagery in the marketing of Sulawesi coffee is a common tool used by these roasters, as it is with many other single-origin coffees.

Specialty roasting companies use very specific geographical imagery to market Sulawesi coffee and, through their marketing material, have advanced common misconceptions about the origins of the 'Kalosi' and 'Toraja' geographic identities as popular trade names:

The coffee formerly known as Celebes Kalossi ...but let's not call it that anymore. Kalossi was the colonial Dutch name for the Toraja region (Sweet Maria's Coffee).

Kalossi is the small town in central Sulawesi which serves as the collection point for the coffee and Toraja is the mountainous area in which the coffee is grown (CoffeeAM).

Toraja and Kalosi are in fact two distinct geographic entities, and very little Toraja-grown coffee is now traded through the township of Kalosi. Whilst (it is assumed) that these misrepresentations are not deliberate attempts to mislead consumers, they suggest a current lack of understanding of local production and trade dynamics in Sulawesi. Roasting firms combine the information provided by importers on growing environments with their own reconstructed geographies of production to create a marketing image for consumers. Geographic information is transmitted by communication networks running parallel to the coffee supply chain, but not necessarily along the chain itself. On their website, one roaster in the US describes Toraja as an,

incredible mystical densely forested region with weird giant bats hanging from trees, and ancestral homes shaped like ships (don't be impressed ...I watch the Discovery Channel) (Sweet Maria's Coffee).

The use of Sulawesi coffee by roasters tends to vary considerably across consumer markets. A Key Coffee representative (Interview 69, Appendix B) considers it unlikely that any Sulawesi *arabica* coffee would be blended with other origins in Japan. Roasters there emphasise its geographic origins to obtain the substantial price premium associated with this place-informed gourmet product. In contrast, the largest European buyer of Sulawesi coffee (Efico Green Coffee) believes that most European roasting firms use

³⁵ Some roaster websites offering Sulawesi coffee include: <http://www.neighborscoffee.com>, <http://www.lcafe.com>, <http://www.coffeeAM.com>, <http://www.starbucks.com>, <http://www.peets.com>, <http://www.sweetmarias.com>, <http://www.allegrocoffee.com>, www.iaccoffee.com

Sulawesi coffee almost exclusively in blends, due to the presence of a “rare combination of very heavy body and little to no acidity” (Interview 94, Appendix B).

In general terms, the promotion of single-origin coffees is relatively undeveloped in the European market, where roaster identities (using blends) remain dominant. In the US, the specialty coffee sector has developed a greater interest in single-origin coffees. A major importer of Sulawesi coffee to both the European and US markets (Interview 93, Appendix B) believes that the difference between the development of the specialty sector in these two markets is due to the diverging coffee cultures on which each has developed. This importer believes that a relatively high quality of coffee was traditionally consumed in Europe compared to very poor quality coffee consumed in the US, so that the US sector has had a greater opportunity to promote specialty coffee as distinctive in terms of quality.

The ability of roasting firms to maintain the largest profit margins of any actor along the supply chain (Talbot, 1997) resides in the importance of market identities, and the quality information and purported knowledge held by these actors. Roasters are eager to describe their profession as an art and the process itself to be akin to some esoteric form of alchemy (Lingle, 1993). In a more prosaic sense, roasters take the rather dull green seeds and transform them into aromatic, chocolate-brown coffee beans ready for consumption.

The roasting process itself can take any time between ten minutes in modern industrial roasters to many hours by more traditional methods. Any number of variables such as the intensity of heat, type of heat source, duration of roasting, use of convectional heating, type of cooling and the degree of roast (light or dark) are said to influence the final taste characteristics of the coffee. It is the role of the roaster to understand the specific cup properties of each origin and roast the beans in such a way that accentuates desired characteristics. Carefully selected combinations of particular origins are then blended together to create the desired taste. Roasters are able to consistently present consumers with relatively standard taste profile in their trademark blends by continually adjusting the various combinations of each origin based on changing cup characteristics. This blending process is essential to achieve standardisation in an otherwise variable agricultural product subject to the vagaries of weather, fluctuations in availability and other environmental and social determinants.

In commodity chain analyses of the coffee industry, roasters are often identified as key actors (Talbot, 1996; Ponte, 2002a) driving governance systems throughout the chain. Ponte (2002a) has identified four indicators of increasing ‘drivenness’ by roasters in the coffee supply chain. Firstly, roasters are setting new minimum volume requirements for the inclusion of particular origins in blends. Secondly, technological advances have reduced their dependence on diverse origins for blending requirements. Thirdly, roasters have shifted to supplier-managed inventories. Finally, retail margins for coffee have been maintained at low levels. The extent to which governance structures in the specialty sector, as reflected by the Sulawesi industry, diverge from these wider industry trends will be addressed further in Chapter Ten.

5.1.6 CONSUMING ORIGINS

In general terms, the volume of coffee consumed worldwide has increased very slowly over the last few decades, at just over one percent per annum, with some mature markets in Western Europe experiencing stagnating consumption (Lewin et al., 2004). Far greater consumption growth potential exists within the producing countries themselves and in the new emerging markets of Eastern Europe, China and parts of Asia. Despite limited overall growth, the mature markets have experienced substantial internal product differentiation with consumers drinking more value-added coffee products. The SCAA concludes that,

In short, consumers are not drinking *more* coffee, but they are just choosing to drink *better* coffee (SCAA, 1999: 4).

The increase in consumption of generally higher quality *arabica* coffees and increasing product differentiation within the sector is presented by some as a ‘specialty revolution’ (Pendergrast, 2001). The specialty coffee sector is now the fastest growing segment of the global coffee industry (Ponte, 2002a), and specialty beverage retailers (cafes, carts, roaster-retailers and bars/kiosks) were the most rapidly expanding distribution channel during the late 1990s (SCAA, 1999). However as argued by Fitter and Kaplinsky (2001), this differentiation has simultaneously led to a process of power concentration in importing countries and power deconcentration in producing countries. Whilst elsewhere there is ongoing debate on what constitutes specialty coffee, the SCAA appears to associate specialty coffee with espresso bar culture:

In 1998 there were 108 million Americans, or 47% of the population, drinking espresso, cappuccino, latte, or iced/cold coffees, as compared with 1997 which

showed that 80 million Americans, or 35% of the population, consumed these types of coffee beverages - an increase of 28 million drinkers in just one year. The greatest penetration by these specialty coffee beverages is among Generation X'ers (SCAA, 1999: 3).

Correspondingly, Ponte (2002a: 1112) points out that “the ‘latte revolution’ may have more to do with milk (latte) than with coffee”, due to the low coffee content of many specialty coffee ‘experiences’. Indeed, perceived quality within these specialty (out-of-home) consumption spaces is more frequently a product of the way the beverage is brewed and presented rather than intrinsic qualities of the bean or even the style of roasting. The SCAA (1999) does however offer a “Conceptual Evolution of Today’s Consumer Tastes Toward Coffee”, in which they perceive increased connoisseurship to be linked to the decreased use of milk and eventual appreciation of single-origin coffee.

Coffee consumption can be broadly categorised into home (supermarket and grocery purchases) and out-of-home drinking (café and restaurant). The majority of coffee sales in the US are made through the former, with sixty-two percent of coffee drinkers buying traditional coffee products in supermarkets (NCA, 2002). However, in terms of total market value in the US, there was less distinction between these categories, as supermarket and grocery sales accounted for fifty-one percent, and the out-of-home sector forty-nine percent of total value during 1998 (SCAA, 1999). Furthermore, for the consumption of ‘gourmet’ coffee products, only thirty-six percent are purchased in supermarkets and grocery stores (NCA, 2003). The turn to specialty coffee would suggest that the role of supermarkets is not as pivotal in the supply chain as is the case for other mass-produced food products.

Notwithstanding the recent growth in multinational roaster-retailers and global roasting identities, sites of coffee consumption continue to resist these homogenising forces at the local, national and continental scale. Northern European café culture contrasts with the ‘coffee-to-go’, take-away style of coffee drinking common in the US. Large roaster-retailers offering an array of coffee products dominate the US market, but have not (yet) been able to penetrate many European markets (with the notable exception of the United Kingdom). Increasing differentiation at the site of consumption has led to the emergence of innovative café concepts, such as the café ‘cocktails’ offered in Amsterdam

(Plate 5-10), with names such as *Violet Volcano*, *Blue Orchid*, *Latin Lover*, *Casa Nova* and *Light My Fire*³⁶.

Japanese consumption demonstrates even greater heterogeneity, with the success of many US-style retail chains taking place alongside traditional Japanese coffee shops. Another apparent paradox is that Japan purchases some of the world's most expensive single-origin coffees, whilst also leading the world in the development of canned and instant coffees. Pre-brewed 'liquid' coffee accounts for about one-third of the entire Japanese coffee market (Ueshima, 2001). Unlike Americans, Japanese consumers do not buy 'coffee to go', rarely consuming food or drinks as they walk down the street or drive to work. More than half of all coffee in Japan is consumed at home (ICO, 1999).

A substantial price premium is paid for Sulawesi coffee in the Japanese market as a reflection of the particular niche market position occupied there by this origin. All Sulawesi *arabica* is consumed at selected sites within the specialty coffee sector, where it is offered as a single-origin coffee, or less commonly, used in specialty blends. The market recognition of 'Toraja' coffee in Japan allows the roasted beans to be sold for upward of forty-five US dollars per kilogram (Interview 69, Appendix B). However, premium prices are not restricted to the niche Japanese market. In both the US and European markets, Sulawesi coffee has emerged as the ultimate gourmet coffee product sold at even higher retail prices. Roasted 'Aged Sulawesi Peaberry' is sold at Peets Coffee and Tea in Berkeley for 132 US dollars per kilogram (Interview 97, Appendix B). Green beans of 'Kopi Tongkonan Toraja' are sold for fifty US dollars per kilogram by Interamerican Coffee in Hamburg (Interview 89, Appendix B).

5.2 Division of Income along the Supply chains

The distribution of economic benefits between actors is an important empirical consideration in the analysis of any global commodity chain. The Sulawesi coffee supply chains are constituted through the coordination of the six sets of actors discussed in the previous section. Table 5-5 indicates the division of income between growers, local traders, exporters, importers and roasters along these chains through the calculation of average prices, and range of prices, paid for coffee at each node in the chains³⁷. Whilst each individual chain possesses quite singular characteristics, with prices ranging widely

³⁶ These are espresso coffee drinks presented in a cocktail-bar environment.

³⁷ Values presented in this table are taken from fieldwork observations, and are indicative estimates only.

at each site, an overall distribution of gains emerges from this presentation. This analysis does not attempt to definitively calculate operating costs at each node, and so does not accurately reflect actual profit accumulated by each actor. Indeed, many roasters are quick to point out that their overhead costs are considerable. The primary costs incurred at each node are, however, modestly indicated in this analysis. The distribution of income simply suggests sites where the greatest capacity for value-adding processes currently exists.

It is immediately apparent that the greatest portion of the final retail price is received by roasting firms located in consuming countries. For Sulawesi coffee, approximately eighty percent of value-added is retained by roasters. The relatively small turnover of some specialty roasters, however, does not facilitate the generation of economies of scale which may otherwise ensure high levels of profitability. Consolidation, and correspondingly high turnover, by both exporters and importers ensure reasonably high profits at these nodes despite slighter margins. The widest ranges of price paid at a single node also occur in the consuming countries, corresponding with the increased centrality of marketing, advertising and branding in these contexts. The ability of roasters in particular, to establish product differentiation through these processes is critical, and reflects their ability to impart quality associations on the product.

The estimates of surplus distribution along the Sulawesi commodity chains, indicated in Table 5-5, differ considerably from a similar calculation of the coffee value chain made by Rabobank International for the global industry (van Dijk et al., 1998). The Rabobank study also calculates average global prices at each node in the supply chain and the percentage of final consumer expenditure retained by each actor along the chain. As would be expected for a specialty coffee product, average consumer prices were found to be considerably higher for Sulawesi coffee (US\$20/kg) than the global average (US\$8.25/kg). However, the price level at the producer level in the Toraja region of Sulawesi (US\$1.2/kg) is lower than the Rabobank report's global average (US\$1.65/kg). The percentage of consumer expenditure retained by producers in Toraja is only six percent, compared with a global average of twenty percent. The Rabobank report's estimate was presumably based on data from the mid-1990s. Whilst it is possible that global price fluctuations may influence income distribution over time, such differences do not satisfactorily account for the significant discrepancies evident here.

Supply Chain Actor	GBE ³⁸ Average Price (US\$/kg)	Range of Prices (\$US/kg)	% Consumer Expenditure (Cumulative) ³⁹	Major Costs
Grower ⁴⁰				
Toraja	1.20	1.10-1.36	6.0	<ul style="list-style-type: none"> • Labour (paid, unpaid) • Agricultural inputs • Transport to market
Other Sulawesi	1.02	0.95-1.20	5.1	
Local Trader ⁴¹				
Toraja	1.31	1.10-1.67	6.6	<ul style="list-style-type: none"> • Transport • Labour (paid, unpaid) • Lease of hulling machine if sold in Makassar
Other Sulawesi	1.25	0.91-1.59	6.25	
Exporter ⁴²	2.20	1.50-5.50	11	<ul style="list-style-type: none"> • Capital costs of equipment • Labour • Warehousing and energy • Jute bags (packaging) • Permits, tax, fees
Importer ⁴³	4.00	2.10-8.50	20	<ul style="list-style-type: none"> • Shipping, customs and port handling • Warehousing • Marketing • Communications
Roaster retailer ⁴⁴ /				
Japan	31.50	22.50-40.00	100	<ul style="list-style-type: none"> • Advertising and branding • Factory or retail space • Energy • Packaging • Insurance
US	16.00	9.60-52.80		
Australia	22.0	21.50-28.00		
Average	20.00			

Table 5-5 Division of income amongst key actors in Sulawesi coffee supply chains (2003)

³⁸ GBE is the green bean equivalent.

³⁹ This value is taken as a percentage of US\$20/kg (the average international price).

⁴⁰ Grower level prices in Sulawesi are taken from local markets (Appendix B) where growers sell parchment coffee by the stacked litre (approximately three stacked litres equals one GBE).

⁴¹ Trader prices are taken from hulling plants / purchasing stations where parchment coffee is bought by the flat litre (3.5 flat litres is equal to one GBE).

⁴² Prices taken from export data set (Appendix E)

⁴³ Prices paid to importers taken from random interviews with importers and roasters, and from various importers offering lists

⁴⁴ The retail prices are limited to single-origin Sulawesi coffee, and do not include Sulawesi beans used in blends. These prices are taken from company websites, direct retail observations and Interview 84 (Appendix B). An eighty percent weight loss due to roasting has been incorporated into these values.

The relatively high prices for Sulawesi coffee in the international specialty sector have not been translated into improved prices at the producer level. Insofar as price levels reflect perceptions of quality, this analysis of the Sulawesi coffee value chain suggests that quality-related product differentiation is occurring in consuming countries, rather than at the site of production. The dominant role of marketing and brand management by roasters is undoubtedly a critical factor in this equation. Supply chain governance is critical to understanding the ability of individual actors to maintain control of strategic nodes. The ability of roasting firms to control the construction of quality in the Sulawesi coffee chains is a key feature of governance structures in this case study. A discussion on quality and its role in chain governance is examined in Part IV of this thesis.

5.3 Conclusion

The assemblages of actors meshed together by the Sulawesi coffee supply chains provide an illustration of the complexity of forces which link distant sites of production and consumption. These chains intersect a complex set of local dynamics in the various geographic locations where they touch down. Pre-export production and trade networks are particularly intricate and disparate, and yet, at the site of export these networks are condensed into thirteen exporters offering green beans to the international market. Nearly half the total volume of exports in 2003 was channeled through companies with majority foreign ownership. The increasing penetration of foreign capital into domestic trade networks is creating new forms of supply chain coordination across Sulawesi, and is intimately linked with quality control mechanisms.

Local geographies of production (real or imagined) maintain a presence throughout the entire supply chain, and constitute an important factor affecting trade relationships and the room to manoeuvre for each actor involved in the network. These geographies are frequently reconstructed by near consumption-end actors in an attempt to value-add and differentiate the coffee within increasingly fragmented sites of consumption. Despite quality associations in importing countries invoking local geographic imagery from Sulawesi, roasting companies continue to retain the bulk of final consumer expenditure. In the case of Sulawesi coffee, control over the processes of quality construction along the supply chain appears to provide substantial economic leverage. This relationship is explored in greater detail in part IV of this thesis.

PART III: COFFEE PRODUCTION IN SOUTH SULAWESI

Product differentiation in the specialty coffee sector is widely associated with the specificities of agricultural production and its embeddedness in geographic contexts. *Geographical embeddedness* is presented here as the totality of place-specific biophysical, socio-cultural, and economic influences on production processes. Chapter Six presents the embeddedness of coffee production in South Sulawesi as a historical process, shaped by patterns of indigenous trade, colonialism, the formation of the nation-state, and regional autonomy. The particular conditions of geographical embeddedness within the Toraja district are then presented (Chapter Seven) as distinct from other major coffee production centres in South Sulawesi (Chapter Eight).

6 EMBEDDEDNESS AS HISTORICAL PROCESS

Coffee cultivation and trade networks have co-evolved with the biogeographical and cultural settings described in Chapter Four. However, as this chapter emphasises, this has been a process involving a succession of changes and responses. The embedding of coffee production across South Sulawesi provides a fascinating narrative of how local geographies engage with commodity production over an extended period, to create new rural spaces. This perspective is critical because the notion of embeddedness is ultimately a product of history. It is a time-sensitive issue of ongoing interactions between ecological, social, political and economic events. The evolution of the diverse coffee production spaces found across Sulawesi, as a product of these interactions, is presented in its historical context in this chapter.

6.1 Indigenous Production and Trade

6.1.1 COFFEE IS BROUGHT TO THE INDIES

In his classic text, 'All About Coffee', first published in 1922, William Ukers suggests that in 1616, the Dutch first successfully smuggled a coffee plant out of Mocha (on the Arabian peninsula) to Holland, followed by planting in Ceylon in 1658. Cuttings from Malabar on the Indian Coast were later carried to Batavia in (the Island of) Java in 1696. Soon, a number of estates were established in the Preanger hills of West Java, which became the first major growing region outside Arabia. Coffee cultivation quickly spread to other Dutch colonies in the Indies, notably West Sumatra, Bali, Timor and Celebes (the Dutch name for Sulawesi). In Celebes, its cultivation was limited to Dutch strongholds in Makassar and Menado. Colonial cultivation is thought to have commenced in the area around Makassar by 1750. Coffee exports from the Indonesian Islands dominated world supply during the eighteenth century and up until the 1840s, at which time production was eclipsed by rapidly rising output in Brazil.

Prior to 1830, coffee production in the Indonesian Islands was limited primarily to government-owned plantations. Afterwards, cultivation within the indigenous community was encouraged through implementation of *culturstelsel*⁴⁵. A highly effective tool of colonial oppression, *culturstelsel* forced involuntary deliveries of coffee (and

⁴⁵ *Culturstelsel* literally translates from the Dutch as 'cultural system', but is often known in English as 'cultivation system'. The system was most influential during the period 1830-1870. Although, coffee had been grown under forced cultivation on Java before 1830 and the government continued to 'control' production and trade until 1918 (Ricklefs, 1993).

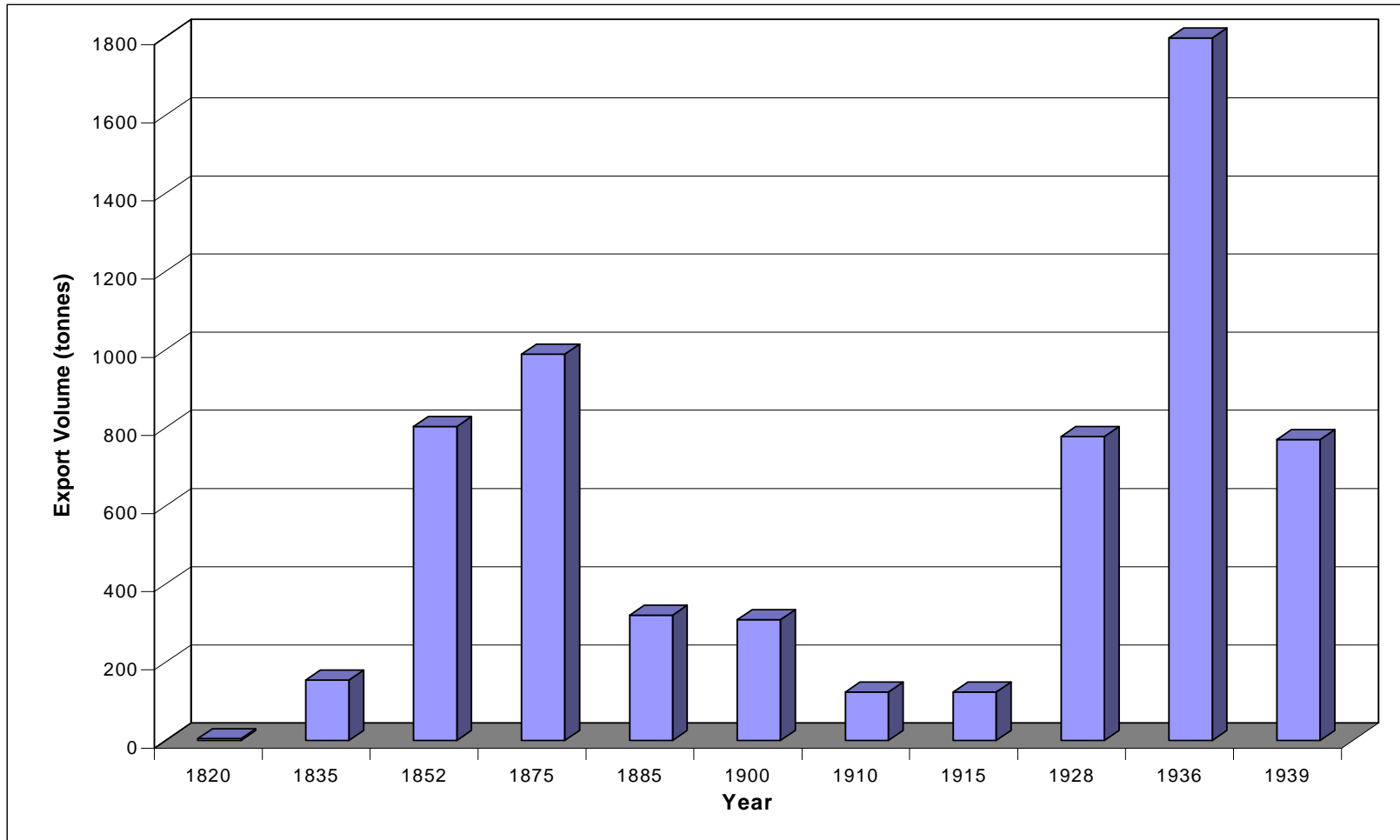
other agricultural commodities such as sugar and indigo) grown on village and appropriate 'wastelands' to government warehouses. Largely as a result of these policies, coffee exports from Java accounted for forty-three percent of Netherlands East Indies export value in 1870 (Furnivall, in Geertz, 1963). The Agrarian Law of 1870 opened Java to private enterprise and the number of estate plantations grew rapidly on both Java and Sumatra (Ricklefs, 1993). Geertz (1963) describes the initial confinement of coffee production to plantation enclaves on 'wastelands' on Java, and then eventually its rapid distribution as a smallholder crop throughout the outer islands, as a result of direct exposure to the post-1870 commercial economy.

6.1.2 COFFEE IN SOUTH SULAWESI

It was not until 1830, corresponding with the introduction of *culturstelsel* on Java, that the Dutch administration stimulated coffee production in Sulawesi, focusing on the area directly surrounding Makassar (Bigalke, 1981). By 1856 coffee was, together with rice, one of the chief commodities traded out of the region (Wallace, 1869). Figure 6-1 shows how exports of *arabica* coffee from Makassar grew rapidly during the nineteenth century to a peak of 989 tonnes in 1875⁴⁶, before leaf rust devastated much of the region's production (Ukers, 1935).

There are two theories on how coffee was introduced to the Latimojong Mountain region of South Sulawesi. It is possible that local trade associations introduced coffee from the Dutch estates near Makassar during the nineteenth century to the Latimojong Mountains further north. However, an alternative theory is that coffee was introduced to these areas at an earlier date by returning Muslim pilgrims. A Dutch planter in the 1920s claims to have encountered coffee trees in the western region of Toraja that were 200-300 years old (van Dijk, in Bigalke, 1981). If these estimates were correct, the origins of coffee cultivation in Toraja can be traced back to the seventeenth century, contemporaneous with or even pre-dating its introduction into Java. It is possible that lowland Muslim pilgrims of Bugis and Makassar ethnicity returning from the sacred *Haj* to Mecca were responsible for such an early introduction. Like modern-day pilgrims to Mecca from South Sulawesi, it is not exceptional that activities of commerce should be interwoven with faith. Any sea voyage to Mecca will pass the Yemen coast where the port of Mocha protected a monopoly in global coffee supply during the fifteenth and sixteenth centuries.

⁴⁶ In addition, an unreported volume would have been exported from the indigenous *prahu* ports of Pare-Pare and Palopo, and probably traded through Singapore (Touwen, 2001).



Sources: (Ukers, 1935; Paerels, 1949)

Figure 6-1 Exports of *arabica* coffee from Makassar port (selected years: 1820 to 1939)

Makassar's rise in the sixteenth century as the final point of call for ships bound for the spice islands in the Eastern archipelago attracted traders from India, Arabia and Europe. With all manner of trade taking place in the port, it is certainly plausible that coffee may have exchanged hands and been introduced to the peninsula at this time by way of non-European trade links. Bigalke (1981) suggests that the Torajan word for coffee, *kaa*, is derived from the Arabic, *qahwah*, rather than the Malay *kopi* or the Dutch *koffie*, adding support to the theory of an early introduction of coffee into Sulawesi from the Arab world.

In any case, coffee cultivation in these highland areas certainly pre-dates the colonial presence there. Moreover, this indigenous coffee, sold under the 'Boengie' trade name⁴⁷, developed a reputation for quality that the coffee grown around Makassar never attained. Bigalke (1981) believes that production initially spread from the Alla sub-district of Enrekang into Toraja in the mid nineteenth century, where substantial production began between 1873 and 1878. Importantly, this pre-colonial introduction to the Latimojong Mountains excluded colonial influence from the initial process of embedding coffee production within the highland societies and agricultural systems. In Toraja, local headmen dominated sites of primary production through a system of smallholder plantations managed by kinship clan groups, utilising a family (caste) related labour base (Crystal, 1995). In contrast to the forced cultivation of coffee elsewhere in Indonesia, coffee production in Toraja was integrated gradually into the existing social and agroecological setting. On Java, the establishment of estate plantations on 'waste-lands' at a considerable distance from existing villages required imported labour and imposed a foreign system of production upon the indigenous population (Geertz, 1963).

Coffee cultivation has substantial (seasonal) labour requirements, peaking during the establishment stage and the main harvest, such that the remoteness of plantations from existing centres of population carries significant disadvantages. In contrast, the integration of coffee cultivation into wider agroecological systems that include wet-rice production and the rearing of livestock, limit the impacts of highly seasonal labour demands in Toraja. Along with the Batak lands (including Mandheling and Lintong) and the Gayo plateau of North Sumatra, Toraja was, and remains, one of the few places in the

⁴⁷ Boengie was the name of a small trading port directly west of the Latimojong Mountains, from which *prahu* sailing vessels transported the coffee to Makassar for export until at least 1890 (Bigalke, 1981). Even after trade ceased to flow through this port, the 'Boengie' name continued to be used for at least another fifty years because of the strong market recognition of this name (Paerels, 1949).

Indonesian Archipelago with high population densities found above 1,000 metres ASL (Paerels, 1949). This geographic peculiarity, along with pre-colonial introduction, was an important factor that laid the foundations for a particular form of geographical embeddedness to evolve in Toraja.

The production of *arabica* coffee in the *pa'lak tobanua* surrounding village hamlets (described in Chapter Four) was intricately interwoven with the social and agroecological fabric of Torajan society. Commodity production adjacent to existing living areas did not result in geographic displacement and in the Torajan context, carried the additional benefit of being a low risk agricultural activity during a time of tribal insecurity. Spatial aspects of the local agroecological system ensured that village coffee gardens were regularly fertilised by livestock manure. The coffee tree itself filled an apparently empty ecological niche in the *pa'lak to'tallang* as an understory plant to the pre-existing fruit and timber trees grown by the Torajans. Even when coffee was later planted on new lands opened for the explicit purpose of coffee production, it never directly competed spatially with wet-rice cultivation. Coffee is commonly grown on sloping lands with good drainage, where rice cultivation is difficult. Proceeds from the coffee trade were translated locally as a tool to gain social prestige and power through ceremonial participation (Bigalke, 1981).

Indigenous production and trade, along with the prevailing high altitudes, also protected coffee cultivation in the Latimojong Mountains from the dramatic changes wrought to the industry elsewhere by the scourge of leaf rust (*hemelia vasatrix*). The destruction of coffee plantations across Ceylon, Java, Menado and Sumatra in the 1870s and 1880s, caused by the spread of leaf rust, severely affected East Indies' exports. The introduction of *robusta* varieties to Java, resistant to leaf rust, subsequently saved the industry there from total collapse, whilst the industry in Ceylon and Menado never recovered. However, the cup characteristics of *robusta* are distinct from *arabica*, and the comparatively harsh and bitter taste is unable to command the price premiums associated with the finer *arabicas*.

By the time leaf rust eventually affected the Latimojong region, ecological and technical knowledge regarding the disease and its management was vastly improved. The isolated enclaves of *arabica* production across Indonesia in places such as Toraja, Mandheling and Gayo have evolved into important specialty offerings amidst a national industry

otherwise known for its mass production of poorer quality *robusta* coffee. Following the dramatic reduction of *arabica* production across Indonesia caused by the disease, demand for the high quality *arabica* still produced in the Latimojong Mountains, and traded as ‘Boengie’ coffee, increased significantly. As the reputation of ‘Boengie’ coffee increased in the late nineteenth century, its cultivation was greatly expanded.

6.1.3 THE SULAWESI COFFEE WARS

Whilst coffee production evolved indigenously within the agroecological setting of Toraja, as the first agricultural product grown specifically for export markets, it also effected significant changes to Torajan society. Integration with global commodity markets lead to the re-shaping of power relations within Torajan society, provided the impetus for Bugis incursions into the highlands, and probably played a part in the final Dutch colonisation in the early twentieth century.

In the mid nineteenth century, petty traders from the Bugis courts of Sidenreng, Wajo, Luwu and Bone established a permanent presence near strategic market centres in the highlands to ensure control of the trade whilst supplying imported goods, such as finely woven cloth and silver coins, to the Torajans (Pelras, 1996). As the value of ‘Boengie’ coffee increased, petty trade gave way to organised syndicates with complex networks linking together highland production with Dutch and Chinese exporters in Makassar. The rival courts of Luwu on the east coast and Sidenreng, through Boengie on the west, competed intensely for control of the lucrative trade. The transport of large volumes of coffee was a risky undertaking that required the protection of armed guards to defend against ambush and theft of the precious cargo (Bigalke, 1981). The Sidenrengers had an established presence in the Duri regions of Enrekang, where they had long controlled the trade of locally-grown coffee, and in 1885 attempted to use military force to divert all coffee grown in Toraja west to Boengie. Whilst the campaign was directed largely against agents of Luwu in the highlands, Torajan villagers were violently intimidated and Torajan collective memory recalls a series of raids by the Sidenrengers (Interviews 1, 24, and 25, Appendix B). These raids were largely successful in diverting the trade through Duri middlemen west to Pare-Pare until after the consolidation of a Dutch administration in the highlands (Bigalke, 1981).

To improve the likelihood of delivery to the coast, lowland courts enlisted the assistance of influential Torajan leaders to divert production and trade into their respective

networks. The traditional system of clan leadership in Toraja organised around the *tondok* (localised settlement units) was soon amplified by the inflow of arms and wealth, developing into a culture of warlordism for control of the coffee trade. Pong Tiku⁴⁸ of Pangalla in the north emerged as the most powerful Torajan leader supplying the western trade route during this period. The coffee itself was transported as dry green beans on horseback, or alternatively carried individually by slave labourers, along narrow mountain paths to the coastal ports.

6.2 THE COLONIAL PERIOD AND INDEPENDENCE

6.2.1 *TO BALANDA*⁴⁹ IN THE HIGHLANDS

Initial Dutch attempts to establish a presence in the Latimojong highlands in 1905 followed shortly after the loss of *arabica* production, due to leaf rust, elsewhere in the East Indies. The desire to be in control of this important revenue source was perhaps a contributing factor to the final decision by the administration to occupy the highlands. The occupation also coincided with implementation of the so-called ethical policy, which effectively spread the colonial administration throughout the entire archipelago.

The ongoing ‘coffee wars’ between rival Bugis courts provided a pretext to Dutch intervention, with the uncertain political alliances created by the coffee trade allowing the administration to effectively drive a wedge between rival factions and subdue initial attempts at a unified resistance. Opposition to the Dutch invasion was strongest in the prime coffee growing region of Pangalla in the northwest mountains under the dominating leadership of coffee warlord Pong Tiku, who was able to purchase a significant supply of arms through proceeds gained by coffee cultivation (Bigalke, 1981). After months of guerilla warfare conducted on unfamiliar and difficult terrain, the military governor of Celebes personally lead the final successful assault against Pong Tiku in 1906, using explosives to obliterate his mountain forts.

A primary goal of the ethical policy was to improve the well-being of the Indonesian people, and an emphasis was placed on indigenous welfare, education and evangelism. The colonial presence and influence were far stronger in the non-Islamic districts of Toraja and Mamasa than in Muslim Enrekang. The first Dutch missionaries arrived shortly after the colonial administration in 1913, and began the burdensome task of

⁴⁸ Pong Tiku was canonised as a nationalist, revolutionary hero in 2002.

⁴⁹ *To'balanda* is a parochial Torajan form of *Belanda*, from the Malay rendering of *Hollanders*.

salvaging heathen souls. Many elderly Torajans actually retain fond memories of *Zaman Balanda* (the Dutch period) as a time of relative prosperity. It brought an uneasy peace to the violence-inflicted highlands, saw the abolition of the slave trade and the infrequent ritualistic headhunting at major funerals, and was a time when schools, monetarisation and a taxation system were established. Such was the lasting influence of nearly forty years of Dutch administration that all white-skinned foreigners continue to be called *to'balanda* by the Torajans.

The Dutch administration soon wrested control of the coffee trade through a system of taxes, market control, and export licensing (Paerels, 1949). Figure 6-1 suggests the loss of *arabica* production near Makassar due to leaf rust after 1875, and the subsequent growth in exports by the 1920s as the Dutch began to control and promote the expansion of coffee production in the highlands. The administration promoted preservation of the existing social structure and land ownership patterns, which allowed the nobility to sustain a stranglehold on the primary source of wealth generation. Coffee income was used to consolidate their social status through ceremonial extravagance. Only one significant Dutch-owned plantation was established in the thirty-three years of Dutch administration in Toraja. Located in near Bolokan village in the west, the site was subsequently abandoned during the Second World War only to be later recovered by the Surabaya-based Kapal Api group, which re-established a modern plantation in 1988.

Coffee was initially grown in small, unshaded plots around the *tongkonan* where it was fertilised by pigpens, buffalo stables and household waste (Interview 24, Appendix B). No specific taboos or rites are, or were, apparently associated with coffee production, except that villagers were to abstain from entering the plots during a *rambu solo*' funeral ceremony (Interview 24, Appendix B). This suggests that coffee production never attained the same status in cultural life as other agricultural activities such as the sacred rice cycle and the rearing of livestock, for which numerous taboos exist. Dutch extension officers introduced improved cultivation techniques, including the use of shade trees to protect the coffee, thus contributing to their increased longevity and overall productivity. Otherwise, production has remained remarkably unchanged since pre-colonial traditional production (Interview 24, Appendix B; Paerels, 1949).

The Dutch administration recognised the inherent value of a place-name and actively attempted to “protect the good name of ‘Boengie’ coffee” (Paerels, 1949) throughout the

colonial period. This was achieved through active monitoring and quality control measures enforced at local markets (Paerels, 1949). As one of the few remnant production sites of *arabica* coffee in Indonesia, the Dutch were interested in protecting production, and *robusta* cultivation was forbidden (Interview 12, Appendix B). The administration was also concerned that unscrupulous traders would extract excess profit along the supply chain, affecting the willingness of farmers to cultivate coffee. Transparency was encouraged and the latest coffee prices were wired from Makassar to the highlands and publicly posted in local market centres (Interview 12, Appendix B; Paerels, 1949). Ukers (1935) also uses the ‘Boengie’ identity to refer to coffee shipped out of Makassar, which he claims was mainly destined for the European market.

6.2.2 THE JAPANESE INTERLUDE

We were heartbroken to see that our coffee trees were full of fruit, but we were forced to watch the fruit turn black on the tree, because no-one was interested in buying the coffee. Only a few years before, we could buy a buffalo from the the coffee harvest (Interview 24, Appendix B).

In 1942, Japanese soldiers swept through Sulawesi and wrested political control from the Dutch for the remainder of the war in the Pacific. Dutch residents in Toraja were herded to a detention camp at Bolokan in West Toraja before being sent to more permanent camps elsewhere (Interview 54, Appendix B). Across the Indies, the Japanese were at first enthusiastically received as liberators and extolled as Asian leaders of the new era. However, as the harsh reality of the Japanese occupation emerged, many Torajans remember the period as a time of great deprivation, when all resources were secured for the benefit of the Japanese war machine (Interviews 24 and 54, Appendix B). Pigs, rice and salt were all in short supply, and there were no market demand or surviving trade networks to support local coffee production. The regional coffee industry effectively crashed during the Japanese occupation, as growers were more concerned with the immediate threat of famine than with commodity production. The Japanese surrender in 1945 was accepted locally by the Australian Armed Forces, who after a brief period of military control returned administrative control to the Dutch (Interview 3, Appendix B).

6.2.3 INDEPENDENCE AND REGIONAL INSTABILITY

After the Japanese surrender, a Toraja-based independence movement was quickly overwhelmed by the Dutch forces as they re-established administrative control of the highlands. Whilst the Dutch fought a bitter war of independence on Java, Sumatra and

other parts of the archipelago, Toraja was relatively unaffected by these developments for the period 1945 until 1949. Due primarily to the efforts of the Java-Sumatra based Indonesian revolutionary movement, the Dutch were expelled from the highlands in 1949 and the Torajans found themselves part of the Republic of Indonesia.

Under the flamboyant and charismatic leadership of President Sukarno, Indonesia experimented with parliamentary democracy, martial law, 'guided democracy', and a self-styled blend of religiously inspired socialism. Amidst severe economic, social and political challenges to the newborn republic, the centralised Jakartan government was also plagued by separatist rebellions in the provinces. Kahar Muzakkar had earlier lead the Indonesian Republican Army for the Preparation of the Liberation of Sulawesi, and coordinated all outer island guerilla groups during the War of Independence (Pelras, 1996). Following the Dutch retreat from Indonesia, the Indonesian National Army refused to cede to the demands of guerilla forces under Kahar's command to be integrated within the National Army. Kahar then lead a rebellion, which he aligned with the extremist Dharul Islam movement then spreading through rural West Java (Pelras, 1996). The Torajans instinctively felt marginalised and threatened by this religiously inspired movement, and sided with the nationalists in Jakarta during the rebellion.

The period from 1949 through to 1965 was characterised by bitter sectarian fighting across South Sulawesi, and is remembered well by the many Torajans who actively fought in the conflict. A common recollection is that of banding together to protect Toraja against raids by Muslim fighters (Interviews 3 and 24, Appendix B). In particular, many Torajans perceived the interference in local politics by Andi Sose, a Muslim leader from the neighbouring Enrekang with links to the nobility in South Toraja, as an overt attempt at Islamisation. Under the Dutch administration, Duri coffee traders from the market town of Kalosi in Enrekang had consolidated their role as traders between Toraja and exporters in Makassar. However, as tensions between Toraja coffee growers and Kalosi traders increased to open warfare, attempts to re-establish the regional coffee industry were once again frustrated.

6.3 THE NEW ORDER AND EXPORT EXPANSION

6.3.1 BOOMS AND BUSTS OF COMMODITY PRODUCTION

Following the abortive 1965 coup in Jakarta, the ambitious military general Suharto wrested political control of Indonesia away from Sukarno. The eventual result was tight

military control of the country through a highly centralised Jakarta government known as the New Order. Swift and decisive action was taken against any smouldering regionalist sentiments in the provinces. The Islamic-based uprising in South Sulawesi was immediately nullified and relative regional stability ensued, during which Suharto received substantial financial, moral and military backing from western leaders who sympathised with his severe anti-communist stance (Winters, 1996). With the encouragement of international financial institutions and multinational corporations, the regime implemented a series of reforms that would pave the way to economic recovery primarily through export growth and foreign investment. The policies were deemed a success as Indonesia changed its image as a dangerously xenophobic, poverty-stricken backwater, to the largest of Southeast Asia's newly industrialised 'tiger' economies (Hill, 1989).

Declining oil prices in the 1980s severely affected the value of Indonesian exports, and the government embarked on new round of economic reforms aimed at protecting domestic industries and diversifying the country's export base (Thee Kian Wie, 2002). Export-oriented commodity production characterised economic development in South Sulawesi during this period. A large-scale nickel mine was established in *Kabupaten* Luwu Utara in 1973, operated by the Canadian mining giant, Inco. In 2001, this single mine contributed to just over fifty percent of total export earnings from the Province (BPS, 2002c). Table 6-1 summarises the main export industries in South Sulawesi during 2001, indicating that commodity crops and fisheries are the second and third most important export industries respectively⁵⁰. The main highway approaching the container port in Makassar is lined for kilometres with warehouses storing large volumes of cocoa, coffee, cashews, cloves, pepper and fresh fish for export. The warehouses provide a vivid portrait of the vital role played by commodity production in the provincial economy. In terms of labour absorption, the role is even greater, considering the multitudinous smallholders involved in the primary production of these commodities.

Whilst coffee was the dominant agricultural commodity exported from Sulawesi during the nineteenth and early twentieth century, a series of commodity booms in the post-1965 era significantly altered the dynamics of the provincial economy. The tobacco boom of

⁵⁰ Note that these data are for the entire South Sulawesi Province. Coffee is a relatively small contributor at this scale, but as discussed in Section 6.3.3, it is a major component of local *Kabupaten* economies within the province.

the late 1960s, which was concentrated in the central Bugis plains around Soppeng, was displaced by the rapid expansion of clove plantations in the 1970s across the entire peninsula (Pelras, 1996). By the mid 1980s, massive overproduction, and the price distorting monopoly allocated to the Clove Marketing Board, led to the virtual collapse of the clove industry. During the 1990s, many farmers moved into the now dominant practices of cocoa production and shrimp pond farming (Table 6-1). The latest commodity fad to absorb Sulawesi has been vanilla cultivation, with the beans further processed in Java prior to export. Due to a global supply shortage during 2002 and 2003, raw vanilla prices in Sulawesi were more than one million Rupiah per kilogram⁵¹, and production had soared across the peninsula.

Industry	Export Value (\$US millions)	Main Components⁵²
Mining	\$401,307,459	<ul style="list-style-type: none"> • Nickel (100%)
Commodity Crops	\$162,577,823	<ul style="list-style-type: none"> • Cocoa seeds (89%) • Coffee (5%) • Cashews (3%)
Fisheries	\$122,820,249	<ul style="list-style-type: none"> • Shrimp (81%) • Fresh Fish (5%)
Processing Industries	\$110,976,826	<ul style="list-style-type: none"> • Cement • Cocoa butter • Plywood
Forest Products	\$1,662,798	<ul style="list-style-type: none"> • Damar resin
Food Crops	\$1,444,096	<ul style="list-style-type: none"> • Rice • Cassava
Livestock	\$125,000	<ul style="list-style-type: none"> • Butterflies (95%)
TOTAL	\$800,914,251	

Source: (Deperindag, 2002b)

Table 6-1 Total value of exports from South Sulawesi in 2001

Whilst there has been some local spatial variability in each of these commodity booms, the challenges facing diversification in the coffee growing districts are readily apparent. During 2002, coffee farmers in Toraja and Enrekang planted large areas of land with patchouli (known locally as *nilam*), although an inability to establish viable distilling operations in the area meant that farmers were unable to access a market. Other crops

⁵¹ Approximately 150 US dollars per kilogram

⁵² The contribution of each component to the relevant industry was available for some commodities, but not all, due to incomplete data available at the Department of Industry and Trade during the fieldwork period.

attempted (and largely unsuccessful) in South Sulawesi during 2002 and 2003 were a species of lemongrass (*serre*) used for cosmetics, and *siong*, a leafy herb used by Chinese buyers for confectionaries. The rapid financial success of vanilla growers in recent years has encouraged many coffee growers to diversify into its production. This boom is not limited to Sulawesi, and farmers in Java, Sumatra, Papua New Guinea, and India have also shifted to vanilla cultivation. The tiny global market for this commodity is expected to be thoroughly saturated in the coming years, as a result.

6.3.2 FOREIGN INVESTMENT IN TORAJA COFFEE

In an ironic twist of fate it was the Japanese, responsible for an earlier decline of the regional coffee industry during World War II, who were later responsible for prompting a revival of the industry in the 1970s. Kimura Coffee Co. Ltd (later to become Key Coffee) of Japan conducted their first field surveys of coffee production in Toraja during 1973, although the same company had previously imported Sulawesi coffee into Japan some forty years earlier, using the ‘Toraja’ name. Key Coffee has been a dominant economic force in the Sulawesi coffee industry since that time. In conjunction with two partners (commodity trader Toshoku Ltd, also from Japan, and the Indonesian firm, PT Utesco), Key Coffee formed a joint venture, PT Toarco Jaya (henceforth referred to as Toarco), to develop its local coffee interests. The ‘Toarco’ name is an acronym of ‘Toraja Arabica Coffee’, hinting at the importance of geography to their corporate development strategy. An estate and processing plant were established in Toraja, and the company attempts to purchase coffee grown exclusively within the Tana Toraja Kabupaten.

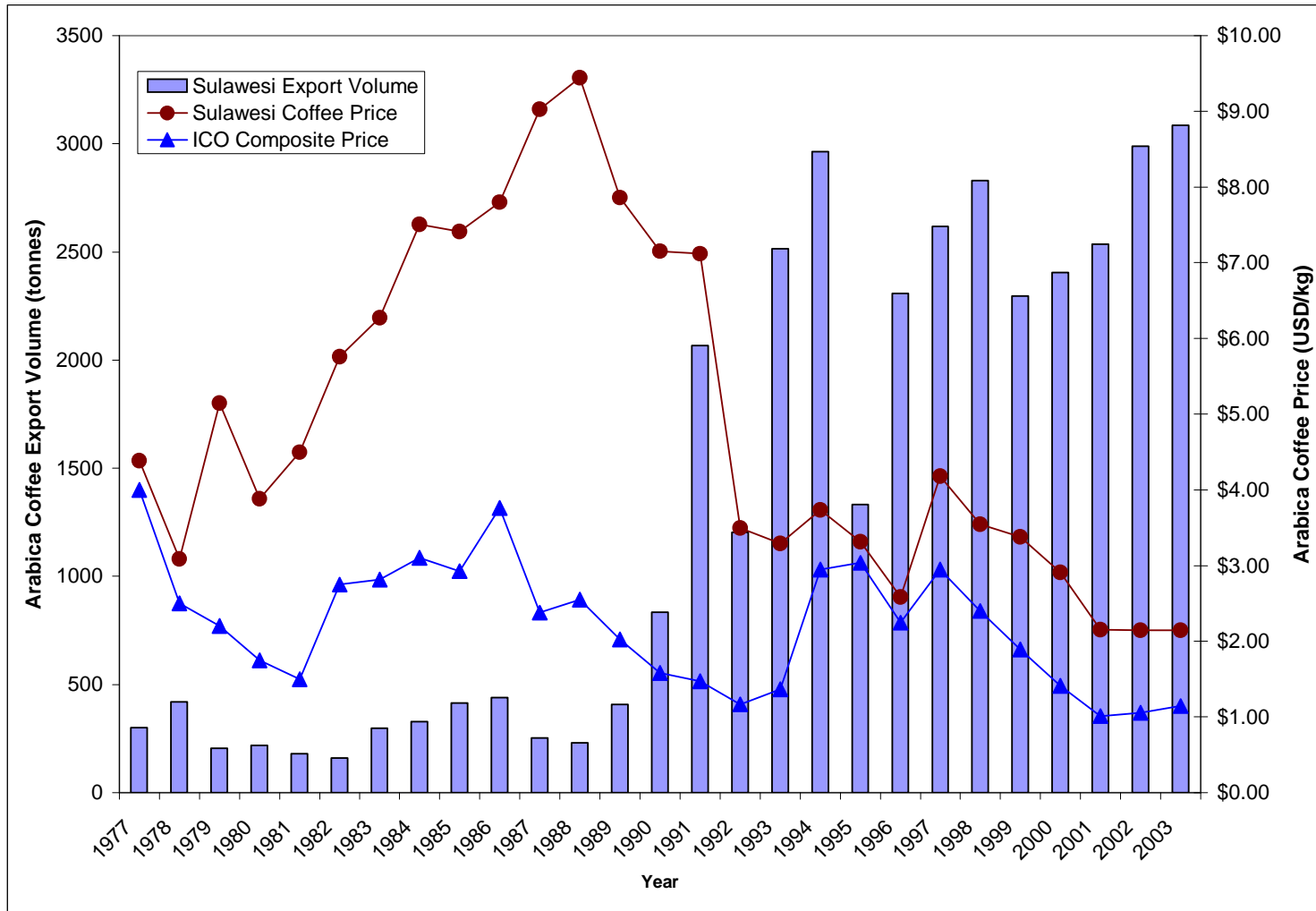
The company viewed their subsequent involvement in the Toraja coffee industry with religious passion, as a calling to revive a once-famous coffee, which had been “lost by the international market and was on the verge of extinction” (Key Coffee, 2001: 8). When Toarco began operations in Sulawesi, the coffee industry was at an all-time low with only 121 tonnes exported from Makassar in 1973 (BPS, 1974). The company believed that local processing methods were primitive and out of touch with the latest developments in the global coffee industry, and in dire need of improvement:

The local community considers traditional methods to be the only method [of cultivating and processing coffee]. As fellow Asians is it not a responsibility, suitable for the Japanese people, to revive the coffee plantations which remained in name only, together with the community? (Key Coffee, 2001: 8).

Whilst cultivation techniques appear to have changed little in Toraja since that time, the company has been successful in significantly altering processing techniques in northern Toraja, in accordance with their desires for a fully washed coffee. *Toarco Toraja Coffee* became the flagship product for Key Coffee, now the second largest coffee company in Japan. The popularisation of the previously unused ‘Toraja’ identity in the international coffee industry appears to have contributed to increased global demand for Sulawesi coffee, whilst significantly altering local supply chain dynamics.

During the operating years of the ICAs, Sulawesi exporters were allocated a relatively low quota by AEKI, resulting in an illusion of scarcity and particularly high international prices. Average prices paid for *arabica* coffee in Makassar oscillated between six and nine US dollars per kilogram during the period 1983 until 1991 (Figure 6-2), and were undoubtedly stimulated by the soaring Japanese demand. Meanwhile, the ‘other milds’ price indicator on the New York Exchange averaged between 1.65 and 3.04 US dollars per kilogram during the same period (ICO, 2004a).

The total volume of exports increased from 409 tonnes in 1989 to 2,067 tonnes in 1991 (Figure 6-2). The illusion of scarcity was shattered along with the prices after the last ICA in 1989. *Arabica* production expanded not only in Toraja, but also across Mamasa, Enrekang and Gowa in the early 1990s. During the period 1988-1992, seven nationally owned companies also obtained plantation leases across Toraja covering a combined area of 5,274 hectares (BPN, 1999). These estates are discussed in Chapter Seven. The establishment of a new coffee processing plant, or mill, in the Mengkendek sub-district of southern Toraja during 1998 challenged the previous near-monopoly held locally by Toarco. The plant is the result of a joint venture between US-based Collaborative Business International (CBI), a local village co-operative (KUD Sane), and a Sulawesi-based diversified agricultural trading company (CV Puspeta Luwu). This joint venture is subsequently referred to as the KUD. Prior to 1999, CV Puspeta Luwu operated a coffee processing plant near Palopo before moving their equipment to the current site. A substantial share of the Torajan production not absorbed by Toarco is purchased by the KUD, in addition to significant amounts of coffee traded from Enrekang and Mamasa. During the 2003 harvest, yet another highly capitalised international actor began to perform a significant role in the Sulawesi coffee industry (a joint venture between a local company and the Holland Coffee Group). The influence of these ventures and their sourcing policies on the local industry is discussed further in Chapter Ten.



Sources: BPS Sulsel Yearbooks (1977-2002), ICO (2004)

Figure 6-2 Volume and price of Sulawesi *arabica* coffee exports (1977-2002)

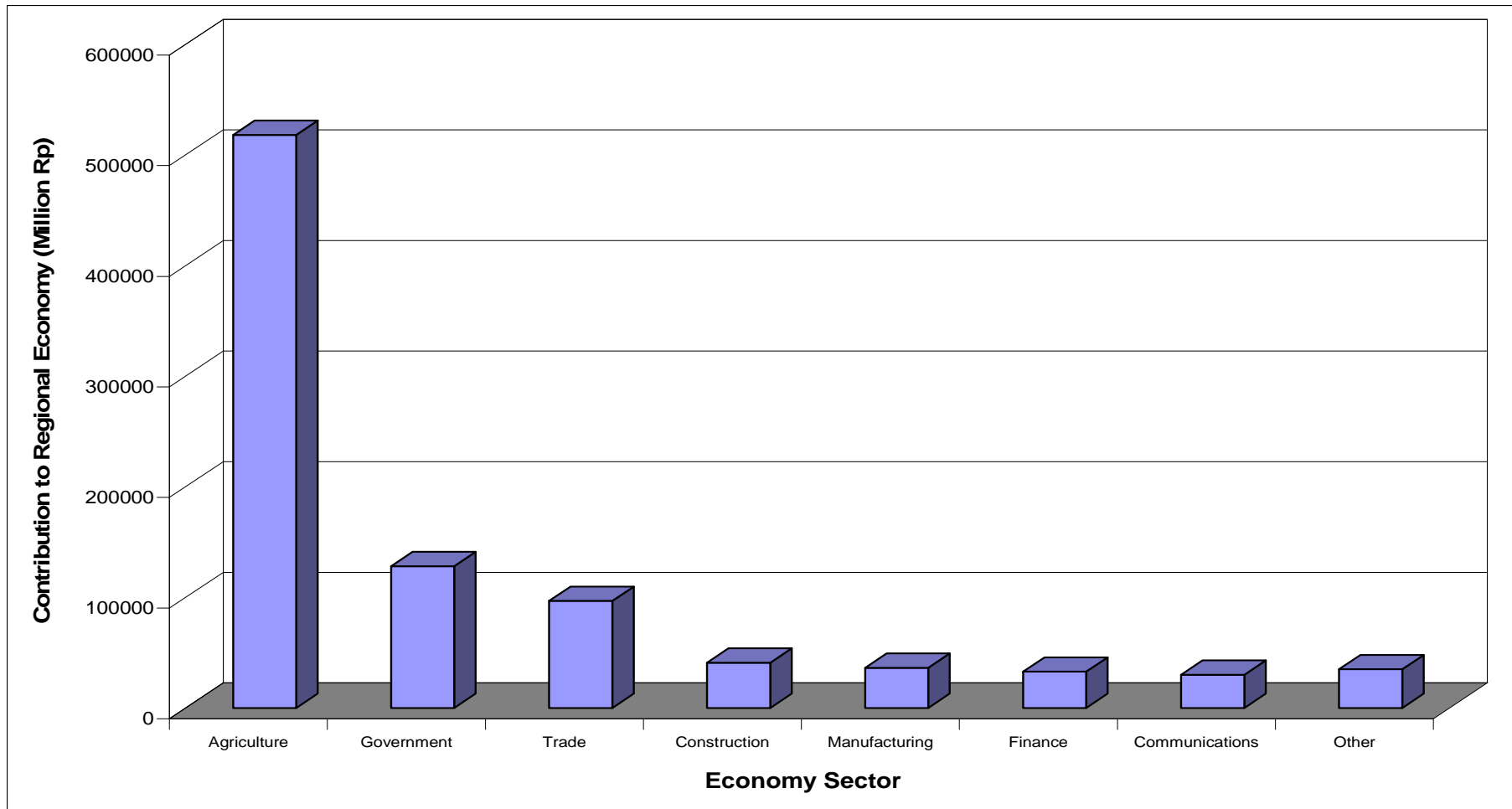
The subsequent loss of export market share by domestically-owned exporters is not unique to Sulawesi, with coffee exporters in Surabaya, Medan and Lampung all experiencing similar pressures (ANTARA, 1999). The inability of domestic firms to compete with highly capitalized foreign firms with powerful marketing networks in the major consuming countries is a dominant feature of coffee industry restructuring in Indonesia.

6.3.3 THE REGIONAL ECONOMY OF TANA TORAJA

Although *arabica* coffee is no longer the leading export commodity from South Sulawesi Province, it continues to dominate local economies in many of the highland regions where it is grown. This is particularly true in Tana Toraja where, as indicated in Figure 6-3 and Figure 6-4, coffee is second only to subsistence rice production in its importance to local livelihoods. More than 250,000 people (or sixty-three percent of the population) are involved in agriculture, some 30,000 of whom grow *arabica* coffee as their main source of income (BPS, 2002d).

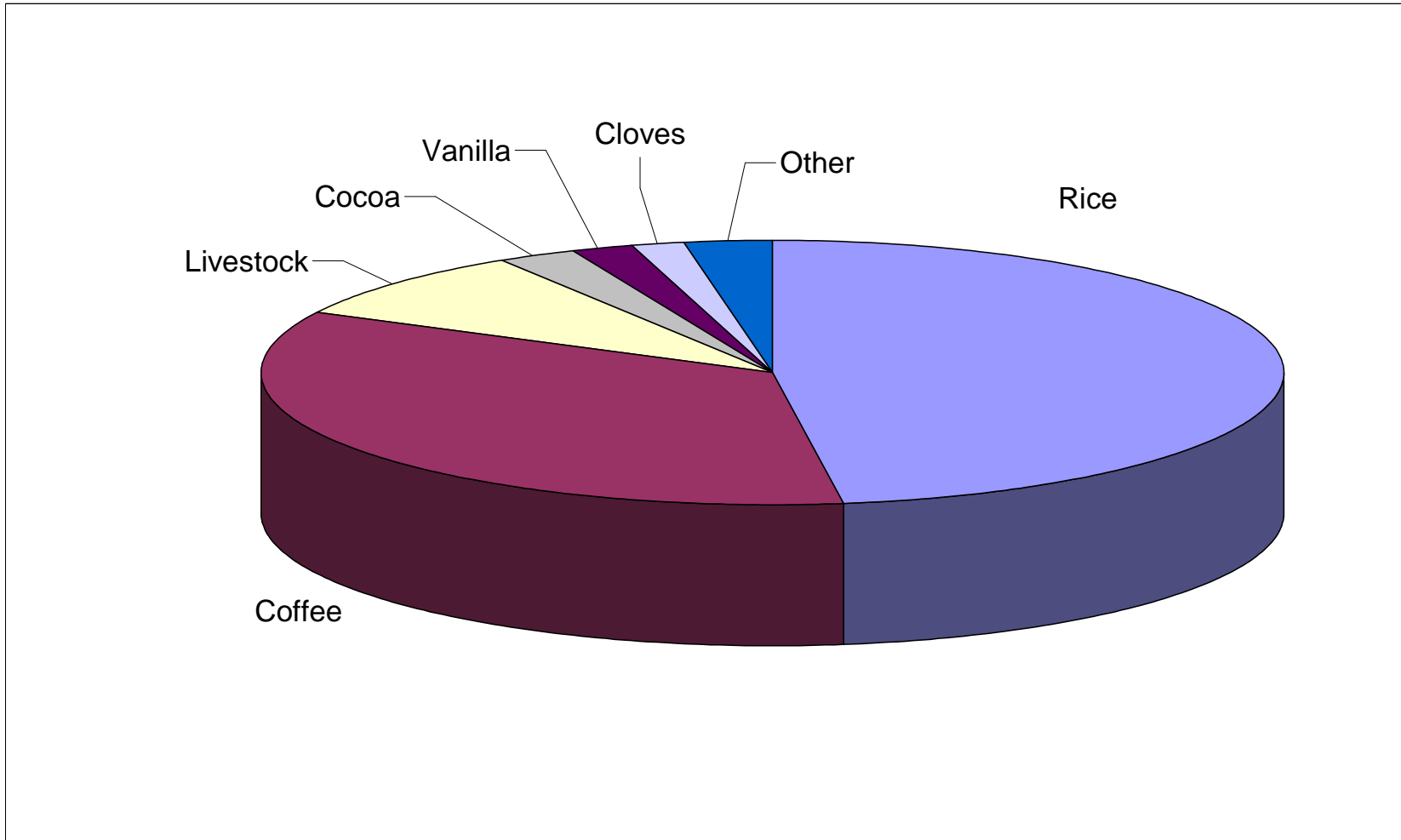
This dependence underlies the role of agriculture in driving the regional economy, notwithstanding frequent perceptions of a more diversified economic base because of tourism. Tourism was widely promoted as a planned development priority in the early 1970s. The funeral ceremony of a Sangalla 'King' in 1972 was extensively publicised and attended by hundreds of foreign tourists, including a British film crew, as well as being published in a feature article in the National Geographic Magazine (Meyer and Meyer, 1972). The number of international visitors increased to 15,325 in 1981 and 62,368 in 1997 (Interview 43, Appendix B) before the industry downturn prompted by Indonesia's ongoing political and financial crisis in 1997. The official number of foreign visitors to Toraja had halved to 37,129 in 2001 (BPS, 2002d). In 2001 the contribution of hotels and restaurants to Toraja's GDRP was only two percent, and travel agents contributed less than one percent (BPS, 2002b).

Moreover, tourism has not contributed significantly to improved living standards for the bulk of the Torajan population. Provincial economic statistics indicate that Tana Toraja has the second lowest per capita income of the twenty-five *kabupaten* in South Sulawesi (BPS, 2002b). Yet because of high visibility, there is a misinformed conclusion that Tana Toraja is a tourism economy. For example, a recent government report states that,



Source: BPS (2002)

Figure 6-3 Contribution of sectors to regional economy (GRDP) of Tana Toraja (2001)



Source: BPS (2002)

Figure 6-4 Relative contribution of agricultural activities to GDRP of Tana Toraja (2001)

Although the Tana Toraja Regency has the second lowest per capita GDRP in South Sulawesi, this does not mean that Tana Toraja is not prosperous. In fact quite the opposite, Tana Toraja is a major tourist destination leading to a high rate of economic development. However, because this growth has been accompanied by a high rate of population growth, the per capita GDRP is very low (BPS, 2002b: 22).

Whilst it is fundamentally true that Toraja is far more prosperous than the GDRP figures indicate, the government has wrongly attributed this to the tourism industry. The dramatic growth of tourism in the 1990s resulted in the construction of a number of expensive hotels in Toraja, to serve the primarily European clientele, who were often 'empty-nesters' searching for an exotic experience in relative comfort. International groups would arrive on pre-packaged tours booked in their home country frequently in collaboration with Makassar-based travel agencies, resulting in high levels of economic leakage from the regional economy (Neilson, 1999). Local travel agents, guides and hotel owners are quick to cite external factors such as *reformasi*, terrorist attacks in New York and Bali, SARS, and political instability as causes of the now seven-year slump in the tourism industry. However, the inability of the industry to bounce back after these incidents contrasts with the resilience of other destinations in Southeast Asia, and suggests the existence of local problems as well. A European tour operator cites a lack of innovation to expand on the same cultural attractions and packages of thirty years ago, and poor public amenity in the main support town of Rantepao, as important contributing factors limiting the potential growth of the industry (Interview 75, Appendix B).

Nevertheless, state planning and development initiatives, along with local NGOs and church groups, all continue to prioritise the tourism sector as a leading sector within the regional economy. This contrasts with the total lack of government financial support for the coffee industry available in the 2003 fiscal budget (PEMDA Tana Toraja, 2003). Perhaps this unbalanced policy focus is a result of the very important social consequences of tourism on the Torajan ethnic identity, and the development of cultural pride within the community (Volkman, 1985). The tourism industry thrives on images of the 'exotic' and 'primitive'. Primary tourist attractions have changed little over the last thirty years, and remain focused on the funeral rites, graves, *tau-tau* effigies, and the *tongkonan*. The international acclaim afforded by the tourism industry acted in concert with a cultural legitimacy afforded by various anthropological studies, to feed the development of a distinct ethnic identity for the Toraja.

Significantly more important than tourism, at least in an economic sense, are the monetary remittances of émigré Torajans, often injected indirectly as ceremonial investments. Torajan emigrants in popular destinations such as Jakarta, Malaysia, Papua, and Kalimantan routinely return a large portion of their income to Toraja, usually via this ceremonial cycle. It is extremely difficult to accurately ascertain the actual input to the local economy from remittances, although observations on an individual level suggest that a majority of Torajan households rely more on remittances than they do on locally derived income⁵³. The relatively low GDRP contrasts with a high level of social services, such as education and health, in Tana Toraja compared with other regions of South Sulawesi. This appears to be largely attributable to the influence of these ceremonial remittances on the economy and associated cultural factors.

6.4 REFORMASI AND THE POST-SUHARTO ERA

The Asian financial crisis in 1997 and the sudden withdrawal of huge amounts of foreign capital from the Indonesian economy triggered a train of political and social events that have dramatically changed the way of life for many Indonesians. This tumultuous period of change is known in Indonesia by the single word *reformasi*. *Reformasi* was initially a positive reform of political structures culminating in the resignation of President Suharto in 1998, following riots inspired by the IMF dictated reduction in fuel subsidies. The first democratic elections in Indonesia since 1955 were held in 1999 and despite the two populist leaders that followed, none have been capable of reigning in widespread corruption, violent regional conflicts and a deteriorating economy. At the time of writing, the recent (April 2004) general elections indicate strong support for traditional Suharto-era political organizations, such as the Golkar party and military figures with links to the New Order.

The IMF reform package following the financial crisis, with its insistence on maintaining high interest rates, liberalising capital markets and encouraging foreign investment, has only exacerbated existing economic difficulties and inequalities (Stiglitz, 2002). Whilst high interest rates were designed to attract foreign capital and repatriate local capital, the real effect has been widespread bankruptcy as local enterprise is systematically disadvantaged against multinational investors with access to low interest rates from

⁵³ Based on observations made in the Tondon region of Tana Toraja during numerous visits from February, 1998 until January, 2004.

foreign banks (Stiglitz, 2002). The increasing dominance of foreign companies at the expense of local exporters in the national coffee industry can be seen as an allied consequence of these reforms.

The massive devaluation of the Rupiah against the US dollar in 1997 and 1998 led to an initial boom for agricultural export producers, whose limited reliance on foreign origin inputs allowed them to most effectively capitalise on these relatively high prices. Across Sulawesi, export oriented farmers benefited from the windfall profits to be made from cocoa, shrimp, palm oil, and to a lesser extent coffee. With the Indonesian economy now reliant on petroleum imports to meet domestic needs, and with the increased costs of inputs associated with the manufacturing sector, agriculture is often touted as a vital future source of export earnings. The livelihoods of millions of Indonesian farmers are expected to become increasingly dependent on the fluctuating fortunes of the global commodity markets.

6.4.1 REGIONAL AUTONOMY

The reawakening of separatist unrest in many of the outer provinces of Indonesia forced the hand of government to pass the Regional Autonomy Law in 1999, which came into effect in 2001. The Law transferred substantial responsibility for political and economic management to the *kabupaten* level government, leaving the provincial level a mere administrative extension of the central government with very few real powers. In Tana Toraja, locally derived income through taxes and retributions amounted to less than five percent of total expenditure during 2001 (BPS, 2002a). This deficit was primarily addressed in 2001 by the 'general allocation fund' (DAU) distributed by the central government. There is however, increasing pressure for each *kabupaten* to generate its own income through increased taxation and retributions. In the coffee industry, where tight trade margins are already common, increased taxation is severely affecting the ability of coffee growers and traders to compete with growing regions in South America or Vietnam, where governments continue to subsidise production (Lewin et al., 2004). No less than five official taxes or retributions are paid by estate owners in Toraja to each of the *kabupaten*, provincial and central authorities before being able to export coffee from Sulawesi (Interview 71, Appendix B). Adding to the real costs of production, unofficial gratuitous payments are also expected to be paid to various government agencies at all sites throughout the trade network (Interview 71, Appendix B).

In the euphoria created by regional autonomy, administrative areas from the village level through to the provincial have broken away from previous geographic confines to establish new regional bureaucracies. The formation of new jurisdictional scales is usually the product of particular political or ethnic agendas, and is rarely informed by the economic viability of the new region. A potent example is the Mamasa Valley, which successfully detached itself from the long administrative association with the port town of Polewali. Despite the enormous operational and development costs in the region, contrasting with a regional economy entirely dependent on coffee production, the political desire for the Christian Mamasans to be autonomous from the Islamic Mandar centre at Polewali was triumphant. The challenges of enormous budget deficits in resource poor regions are resulting in poorly constructed economic policy and inappropriate taxation schemes, which are likely to only further inhibit economic recovery. The plethora of recently introduced taxes, and the threat of even more local revenue generation schemes evident in the Sulawesi coffee industry, have added to the financial difficulties faced by several domestic actors, to the apparent benefit of foreign investors.

It was envisaged that regional autonomy would allow regional administrators (presumably indigenous leaders) to implement appropriate development policy that would prevent local wealth generation being entirely syphoned off to central authorities. Some *kabupaten* in Sulawesi, such as Enrekang, have used regional autonomy as a tool for successfully implementing effective development strategies, whilst others, such as Tana Toraja and Mamasa, are struggling to overcome allegations of political and financial incompetence. The success of individual *kabupaten* is highly dependent on the character and integrity of the *Bupati* who, as administrative head, now wields unprecedented and wide-ranging political and economic power. Increasing institutional diversity across Indonesia is an expected outcome from this process. With regard to the coffee industry in Sulawesi, regional autonomy may offer an additional benefit. *Kabupaten* administrations appear to be better positioned to accentuate the unique characteristics of local production spaces. Regional autonomy potentially encourages the active protection of geographical identities associated with specific regional products, which can facilitate international market access.

6.5 Conclusion

The pre-colonial introduction of coffee cultivation to the Latimojong Mountains of Sulawesi, and the Toraja region in particular, facilitated a unique embedding of production spaces within the existing agroecological and social setting. Regions such as Toraja thus escaped the long lasting cultural impacts and agroecological change associated with communities affected by *culturstelsel* in Java (Geertz, 1963). Production in the Latimojong Mountains has emerged as an important centre of *arabica* coffee production within the Indonesian coffee economy, otherwise dominated by *robusta*.

The indigenously-controlled embedding of coffee production in the Latimojong Mountains was tempered by early interactions with global commodity systems and trade networks that linked sites of production with consumers in Europe. The evolution of coffee development across Sulawesi has been constantly directed by wider process embedding production within social and political spaces. Importantly, the historic use of particular geographic expressions as common trade names for Sulawesi coffee has been dictated by these same developments. 'Boengie', 'Celebes', 'Kalosi', and 'Toraja' have been used at different times, though rarely by producers themselves.

Arabica coffee exports from Makassar in 2003 were at their highest level ever and production has increased within traditional production centres, whilst extending to incorporate new *kabupaten*. The increasing prominence of agricultural exports to the national trade balance since 1997 has, arguably, contributed to this expansion. Despite being presented in international markets as a specialty product, Sulawesi coffee is grown within a wider (provincial-scale) economic environment of undifferentiated commodity production. Many exporters of coffee in Sulawesi are diversified commodity traders, active in the preparation and trade of cocoa, cashews, and cloves. With global demand for many of these primary commodities relatively stable, increased production seems to offer only limited potential for sustainable economic growth.

The spatially uneven development of commodity production over time in Sulawesi has resulted in locally-specific outcomes. The characteristics of each site of coffee production are still discernible as discrete manifestations of the historical processes that have contributed to the peculiarities of their embeddedness within geographic space. These processes are significant determinants of the heterogenous nature of current production spaces spread across South Sulawesi.

7 CONTEMPORARY COFFEE PRODUCTION IN TORAJA

Coffee production systems in the Toraja district are distinct within the various sites of primary production across South Sulawesi. The overlaying of biophysical, agroecological, cultural, political and economic influences has uniquely embedded coffee production within this geographic setting, and the nature of this geographical embeddedness has facilitated the construction of particular quality associations for the coffee grown in the area. The purpose of this chapter is to examine the distinguishing features of the coffee production systems of Toraja, and to thereby begin to articulate the connections between embeddedness and supply chain dynamics. This discussion is separated into two contrasting production systems: the smallholder cultivation that dominates total production, followed by the comparatively recent introduction of commercial coffee estates. Comparison of the two systems demonstrate how the embeddedness of smallholder production within the Torajan environment confers particular advantages that commercial estates have not, as yet, been able to emulate. Whilst the commercial estates initially implemented management practices that differed substantially from traditional smallholder cultivation, there is evidence that the estates are undergoing a process of adaptation within the Torajan environment. Increasingly, estate management is beginning to imitate the traditional production spaces of the village environment.

This discussion, furthermore, emphasises the heterogeneity of cultivation practices within the *kabupaten*. Administrative, cultural and religious commonality has helped construct a relatively coherent regional identity for the Torajan people. Whilst this identity has been subsequently applied to suggest the production of a distinctive coffee, the *kabupaten* cannot accurately be considered a homogenous growing region producing a standard quality product. Traditional village production differs considerably from estate cultivation. Even within smallholder production spaces, there are substantial differences in cultivation techniques, processing methods and market trading networks, which suggest that even the idea of ‘Torajan coffee’ could be considered a misnomer.

7.1 Smallholder Production Systems

The heart of smallholder *arabica* production in Toraja is in the northern coffee belt (Figure 7-1). A report by Toarco Jaya estimates that seventy percent of smallholder *arabica* production in the *kabupaten* originates from this northern belt (Iskandar, 2003).

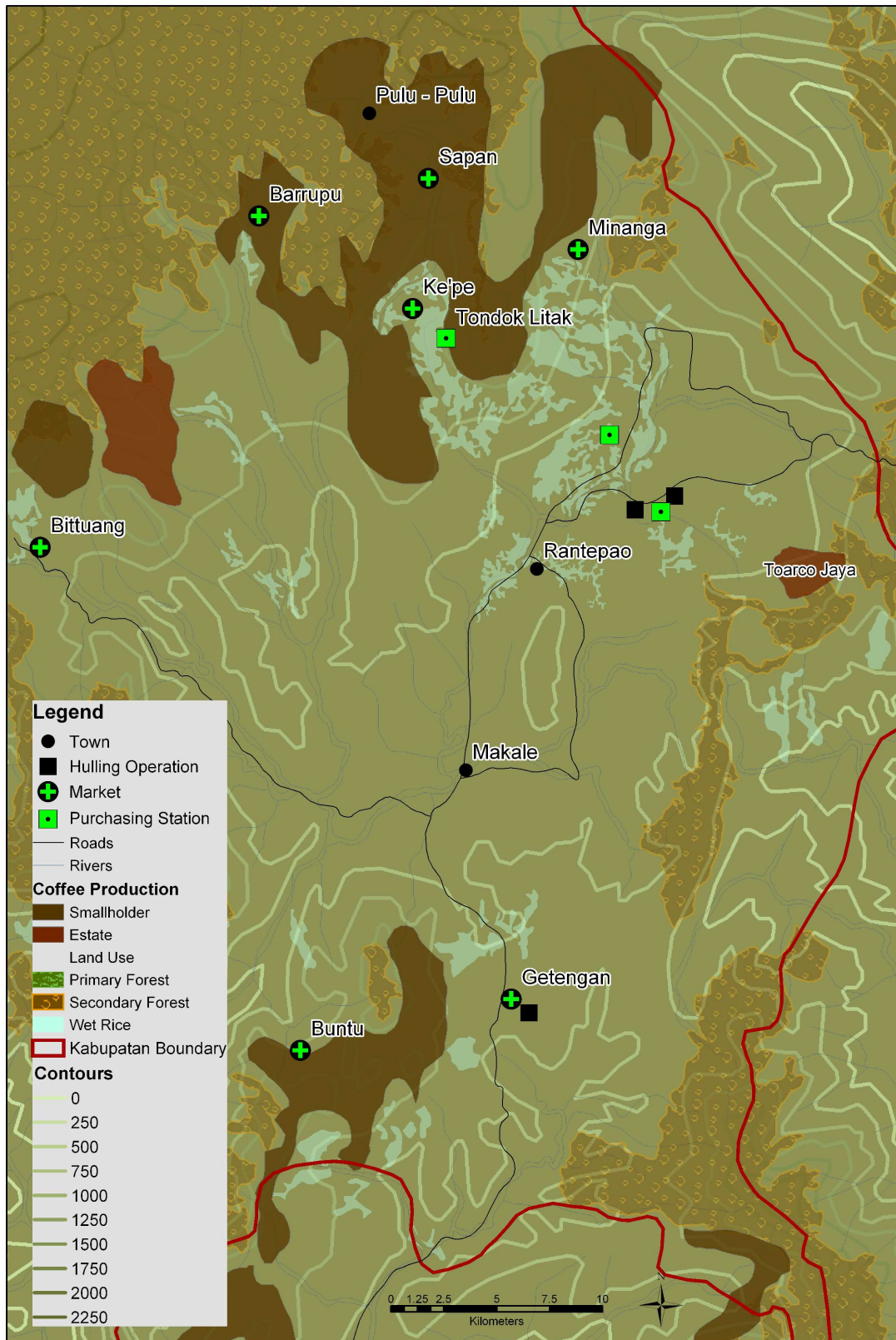


Figure 7-1 Coffee production spaces in Tana Toraja

A further twenty-seven percent is produced in a secondary production centre in the southern sub-districts, and finally there are small amounts grown in the western sub-district of Bittuang (Iskandar, 2003). The northern coffee belt possesses a long history of coffee cultivation and is considered by many to produce the highest quality coffee in Sulawesi (Interviews 10, 13, 20, 24, 31, 32, 71 and 85, Appendix B). Smallholdings dominate at these higher altitudes in production spaces deeply embedded within existing cultural and agroecological systems. The following discussion of smallholder cultivation concentrates on production spaces in the northern belt. In contrast, the southern production centre shares many cultural and natural affinities with the adjacent *Kabupaten Enrekang*, with coffee abundantly traded across this administrative boundary.

7.1.1 THE VILLAGE SETTING IN TORAJA

Three parallel valleys constitute the northern coffee belt, each with an associated market that serves as a collection point at Minanga, Sapan and Barrupu villages, in addition to a fourth central market at Ke'pe (Figure 7-1). Heavily forested mountains provide a formidable natural barrier to the north of these valleys, such that a high degree of geographical exclusivity is maintained in local trade networks. Toarco Jaya has established a permanent purchasing station four kilometres from Ke'pe market, strategically located to be accessible to coffee grown in all three of the northern valleys. The physical setting of the northern belt is unique amongst the coffee growing regions in Sulawesi in that geological uplifting has shaped river valleys that rise gradually to higher altitudes. This has allowed substantial village populations and associated coffee plots to be situated at altitudes between 1,500-2,000 metres ASL (Figure 4-1 and Figure 7-1). Although local soil conditions can vary considerably, the basaltic rock formations in the north are frequently associated with relatively fertile soils that have been leached but not heavily eroded (Interview 44, Appendix B; Bappeda, 1998).

In the northern coffee belt, the centrally located Sapan Valley includes the coffee-growing centre of Pulu-Pulu (Figure 7-1), said to produce the highest quality coffee in South Sulawesi⁵⁴. As the source of supposedly the best quality coffee in the region, this discussion of embeddedness begins at Pulu-Pulu.

⁵⁴ This belief is maintained by local traders, Toarco Jaya and the KUD, and is attributed to the high altitudes at which the coffee is grown.

Nearly two kilometres above sea level, the landscape in Pulu-Pulu is a mosaic of coffee plots, rain-fed rice fields, sweet potato patches and buffalo grazing lands (Plate 7-1). *Arabica* coffee is the only agricultural commodity cultivated in Pulu-Pulu⁵⁵. In this, and other remote mountain valleys in South Sulawesi, only the durable coffee bean with guaranteed marketability is capable of producing a reliable cash income for the villagers. Other agricultural commodities are either unsuited to the terrain and climate, or prove uneconomic due to high transport costs and perishability. The coffee in Pulu-Pulu is slow growing with poor productivity, and the extreme altitude (coffee trees were found growing at 2,074 metres ASL) affords a lengthier ripening process, and even causes the coffee trees to grow extremely short lateral branches as an apparent morphological adaptation to the conditions. Pulu-Pulu was established in the 1930s in response to high coffee prices, drawing inhabitants from the longer established villages of Sapan and Barrupu (Interview 24, Appendix B). The village is still three hours walk away from Sapan market, and the connecting road has repeatedly succumbed to severe landslips that frequently make it impassable (Plate 4-4). Almost all the coffee harvested in Pulu-Pulu in 2002 and 2003 was sold to Toarco Jaya, who prize the high-altitude beans as a critically important input for their *Toarco Toraja* product (Interview 76, Appendix B).

During the last years of the Dutch period prior to Japanese occupation, proceeds earned from coffee production in Sapan were considered the most profitable in living memory (Interview 24, Appendix B). Such a period of former prosperity due to coffee production corresponds to the collective memory of residents in the Barrupu valley who speak of a particular tree whose harvest could be used to buy a common grey buffalo (Interview 25, Appendix B). In contrast, at current market prices it would take 2,500 litres of parchment coffee to purchase a grey buffalo⁵⁶: roughly 500 trees! The presence of numerous *tongkonan* in Pulu-Pulu, as an outward expression of wealth, imitates settlements with a much longer history, and is due to former coffee prosperity. However, strict adherence to the ceremonial cycle (Chapter Four) in the north has, for the most part, rendered coffee cultivation insufficiently able to satisfy village financial requirements.

⁵⁵ Information presented in this chapter on the coffee production spaces of Toraja was collected over two extended periods of fieldwork (from May to December in 2002, and then March until September in 2003). During this time, the author was living in Toraja and made numerous day and overnight trips to all major coffee growing villages in the *kabupaten*, regularly visited local markets and held lengthy discussions with local traders, estate owners and mill operators. A field diary is provided in Appendix B.

⁵⁶ The comparison here to the costs of a grey buffalo here is culturally appropriate, as the buffalo represents a de facto currency against which Torajans frequently relate, irrespective of wider economic change.

The inability of the coffee sector to provide the necessary wealth to allow ceremonial participation has resulted in high numbers of young Torajans leaving their villages across the north in search of additional sources of income. This often leaves the elderly and less productive to maintain coffee plots, whose coffee-derived income is often considerably less than that sent home by successful migrant relatives. Local market prices of 3,500 Rupiah per litre (1.2 US dollars per kilogram GBE) for unprocessed parchment coffee were slightly higher than the average ICO indicator price of 0.50 US dollars per pound (1.1 US dollars per kilogram GBE) for processed green beans in the international market during 2002 and 2003 (ICO, 2004c). However, these prices are insignificant locally due to ceremonial demands, and have contributed to a general apathy towards coffee cultivation within the growing community. Elderly Torajans use coffee sales to supplement basic living requirements and gardens are left mostly unattended with only the minimal labour performed to permit harvesting of the cherries. As a result, coffee production in the northern belt is rarely expanded or modernised and supply remains limited.

7.1.2 TRADITIONAL COFFEE CULTIVATION

Even in the core of the northern coffee belt, in villages such as Pulu-Pulu, there is a high degree of food self-sufficiency through wet-rice agriculture, and the degree of reliance on coffee is not as extreme as it is in other regions such as the Mamasa Valley (Section 8.2). Ceremonial life dominates this traditional economy, and agricultural production has not become commoditised to the extent it has in Enrekang (Section 8.1). Rice, livestock and even coffee are frequently absorbed within sites of ceremonial consumption and traditional rural life, before truly attaining a commodity value in the market. According to official production data, the average harvest per coffee farmer in Toraja is only 120 kilograms, compared to 194 kilograms in Enrekang, 234 kilograms in Mamasa and 707 kilograms in Gowa (BPS, 2002c).

The smaller average size of individual plots, in northern Toraja in particular, reflects a more diversified agroecology and a lack of interest in extensive production. Overwhelmingly, coffee continues to be grown in small plots amongst the *pa'lak tobanua* in the immediate surrounds of the village. Integration with the rice cycle in Toraja allows growers to allocate resources to subsistence rice production when coffee prices fall below an acceptable level. The coffee plots can be simply ignored during these



Plate 7-1 Landscape at the important coffee-growing village of Pulu-Pulu



Plate 7-2 Stone terraces constructed in coffee (and cocoa) plots located in Barrupu village

times.

Due to current low coffee prices relative to rice, most coffee gardens across Toraja are now neglected, with little maintenance performed and often the only labour input is during the harvesting and processing of cherries. Yet even during times of higher coffee prices, maintenance of plots can be minimal, and coffee trees are rarely capped or pruned. Aging trees frequently are bent over to encourage the upright growth of primary branches, and sometimes seedlings are also planted at an angle to the ground to encourage such growth.

Soundly built stone terraces (*bala batu*) are found throughout the northern coffee belt (Plate 7-2). Where stone terraces have not been built, more modest attempts to prevent soil erosion through site terracing are common, especially in the more recently established plots. Many of the stone terraces were built before the living memory of current inhabitants (Interview 76, Appendix B), and the significant investments involved indicate a former period of greater coffee prosperity than the present. Clearly, Torajan coffee farmers have long appreciated the important role of soil conservation in ensuring the long-term productivity of their plots. As a result, individual plots and trees are frequently far more long-lived than those in other regions of Sulawesi. This adaptation also appears to be a reflection of traditional values that would scorn cultivation of lands distant from the ancestral village. The implication of appropriate soil management practices is that coffee plots are rarely located a great distance from the village, and they constitute an integral component of the village agroecosystem.

Another benefit of maintaining coffee plots directly adjacent to, and often below, the village is that manure from pigpens, buffalo stables and free-ranging chickens is returned to the plots as an important source of nutrients. Synthetic fertilisers are rarely applied and grasses/weeds are usually cut by hand, returning mulch to the soil and eliminating the need for herbicides. Mulch is sometimes brought into the plots from elsewhere. Because of the high altitudes at which coffee is generally grown in northern Toraja, there is no need to apply copper fungicides to combat leaf rust disease. At these altitudes the host is favoured over the disease. Interestingly, none of the coffee grown in South Sulawesi is currently certified organic, although almost the entire crop in Toraja is grown without the use of chemical fertilisers and pesticides⁵⁷.

⁵⁷ Of course, organic certification requires more than just the lack of agrichemical use.

Virtually every coffee tree grown across northern Toraja is found under a canopy of shade, whilst in other areas, shade trees are not grown at higher altitudes where their use is believed to decrease short-term productivity. In the *pa'lak to'tallang*, coffee is grown under the shade of jackfruit, avocado, *uru* timber species, rambutan, tamarind, sugar palm and other trees (Plate 7-4). In coffee plots located beyond the immediate *pa'lak to'tallang*, most smallholders plant the *dadap* tree (*Erythrina lithosperma*) as a specialized shade tree (Plate 7-3). This tree species was introduced by the Dutch, and is considered by Torajan growers to be the most effective shade tree for local conditions, despite being considered ineffective in some other areas (Interview 39, Appendix B). The heavy leaf fall (which occurs inconveniently during the dry season) is appreciated for returning nutrients to the soil and providing a mulch layer. This suggests that soil protection is more critical to healthy crop maintenance than reducing light intensity at the higher altitudes of Toraja.

7.1.3 LOCAL COFFEE VARIETIES

Almost all of the *arabica* coffee grown by smallholders in northern Toraja (and elsewhere in Sulawesi) are different kinds of the so-called 'S lineage' varieties, known locally as *kopi Jember* after the research station in Java which was responsible for introducing the variety. Popular varieties of the lineage grown in Toraja include S795, S333 and S288 (Interview 40, Appendix B), all of which were originally developed in the Balehonnur Research Station in India (Clifford and Willson, 1985). These varieties are resistant to most types of leaf rust and are believed to be a natural hybrid between *C.arabica* and *C.liberica* (Clifford and Willson, 1985). The varieties were introduced to the Jember Research Institute in Java in 1955 (Interview 39, Appendix B), further adapted to the local environment and released into Sulawesi in the late 1970s. Frederick Lande, founder of the Tengko Situru agricultural organisation, claims responsibility for introducing the varieties to Sapan in 1977 (Interview 12, Appendix B).

A second wave of improved coffee varieties arrived in Toraja in about 1990 (Interview 16, Appendix B), characterised by various 'dwarf' varieties known locally as CIFIC, Cattimor, and Kartika (Plate 7-6). None of these have become widely accepted due to community perceptions that they carry disease, have poor longevity, require excessive fertilisation and produce inferior tasting coffee.



Plate 7-3 Coffee plot with *Dadap* shade trees, Pulu-Pulu Village



Plate 7-4 Mixed canopy shade trees, Pangalla

Prior to the introduction of the S lineage varieties into Toraja, all *arabica* coffee grown locally was of the *typica* variety (Plate 7-5). *Typica* trees (now known locally as *arabica asli* or ‘original arabica’) bear biennially, have poor productivity and are highly sensitive to leaf rust and have been largely replaced by the more productive *kopi Jember*. Growers in Sapan village claimed that *typica* trees would only start producing after six years (compared to three years for *kopi Jember*), and that too much rain in the dry season would adversely affect fruiting and productivity (Interview 15 and 16, Appendix B). However, the taste characteristics of *typica* beans are acknowledged by industry actors and local farmers alike to be superior to *kopi Jember*, and many rue the decline in local production.

A number of influential informants (including a local government adviser, a locally-active NGO and one international trader) are currently advocating a return to *typica* production in Toraja as a development strategy to improve the quality, reputation and price of local coffee (Interviews 8, 12 and 88, Appendix B). Only a few growing regions in the world, the Blue Mountains in Jamaica being one famous example, can still boast pure *typica* production (Interview 88, Appendix B). However, with the cultivation of *typica* coffee in Toraja currently restricted to a few isolated plots in the north of Toraja and to aging single trees elsewhere, it will be a monumental task to convince farmers to make the switch back. All *typica* plots in Toraja are neglected, with branches covered in a thick layering of moss and lichens. Importantly, *typica* beans are not currently differentiated in the local market by price premiums⁵⁸.

A common belief held by estate managers, local farmers and some exporters is that *kopi Jember* has acclimatised to the Torajan setting, cross-pollinating with earlier *typical* varieties to produce a unique variety. This ‘new’ hybrid is believed to retain some of the taste characteristics of *typica*, whilst not being prone to leaf rust.

Interestingly, most Torajans themselves prefer to drink *robusta* coffee rather than *arabica*. *Robusta* is dry processed in Toraja, with pulp and parchment removed by pounding the coffee in stone mortars. Large amounts of *robusta* coffee are served during ceremonies, where activities routinely continue throughout the evening hours. Coffee

⁵⁸ However, some growers claim to separate *typica* beans from *kopi Jember* and sell them to traders and individuals in Rantepao for nearly twice the market price for regular *kopi Jember*. These amount to only a few litres and are insignificant in terms of export trade networks.



Plate 7-5 *Typica* trees growing in Pulu-Pulu village



Plate 7-6 'Dwarf' variety growing on the Sulutco Jaya Estate

consumption has even been incorporated into ritual. The *ma'papangan* rite (Plate 7-7 and Plate 7-8) during a funeral ceremony involves the symbolic presentation of betel nut and coffee to guests. Torajans generally drink coffee thickly sweetened, compensating for the inherent harshness of *robusta* coffee. It is common for Torajans to state that *arabica* coffee is grown solely for export, whilst they keep the *robusta* for their own consumption, inferring that they have no need for what they consider to be the lower quality *arabica*.

7.1.4 PROCESSING A FULLY-WASHED ARABICA

The dominating presence of Toarco Jaya in the local coffee industry, with strict purchasing requirements (Chapter Ten), has significantly affected initial processing methods employed by farmers in northern Toraja. Due to financial incentives offered by the company through local traders, most growers adhere closely to the company's preferred processing methods. These methods contrast strongly with other regions in South Sulawesi, and if performed correctly result in a fully washed coffee with a clean cup taste (Interview 83, Appendix B). A number of international buyers in Europe and the United States agree that the Japanese company's presence in Toraja has substantially altered local processing techniques. However, these importers also believe that the technically superior, fully washed method now employed has contributed to a gradual decline in quality, and would prefer a return to traditional methods. Previously, coffee was processed using the semi washed method (Chapter Five).

Weather patterns in Toraja frequently result in year-round maturation of the coffee fruit, with the peak harvest occurring from May through to August. These harvesting conditions present difficulties for large commercial estates requiring efficient use of their labour force at peak periods. For the same reasons, irregular harvesting throughout the year is particularly well suited to smallholder production, which can flexibly adapt to labour demands. Ripe cherries are carefully selected by hand. One local trader claimed that a cultural prohibition or taboo (*pemali*) exists regarding the harvesting of unripe coffee beans in Toraja (Interview 29, Appendix B). Certainly, most growers in Toraja will insist on ripe harvesting because it is simply the way it has always been done. This is not always the case in other growing regions of South Sulawesi (Chapter Eight). Immature harvesting would also risk rejection at processing plants in Toraja.



Plate 7-7 Ritual coffee consumption at a funeral Ceremony, Tondon



Plate 7-8 Ritual coffee consumption at a funeral Ceremony, Tondon

It is common for coffee plots in Toraja to be managed by a particular family group, and even one particular *tongkonan*. Members of the extended family group⁵⁹ will perform the harvest, and additional labour is rarely required to collect the small amounts of coffee available at any one time. Whilst no direct compensation is provided to family members for their labour, indirect compensation may be distributed via the ceremonial cycle in the form of status-related benefits. In contrast, any non-family labour in Toraja is remarkably expensive by Indonesian standards (20,000 Rupiah per day, in addition to meals and cigarettes⁶⁰). As such, it is avoided where possible (Interviews 13 and 25, Appendix B). One way of reducing reliance on external paid labour is to limit the extent of plots to smaller, manageable units.

Most households in northern Toraja possess a wooden hand-powered pulping machine and the harvest is usually pulped immediately in the afternoon or evening of the harvest (Plate 7-9). A typical pulper consists of a receptacle that can hold approximately ten litres of cherries, which under constantly flowing water, are fed to a ridged rotor that presses the cherries against a stationary blade. The mucilaginous parchment coffee is then separated from the pulp. The pulp itself is commonly returned as organic matter to surrounding coffee plots.

The wet parchment coffee is then usually left overnight in buckets, plastic bags or sacks, although fermentation is a fairly haphazard affair, varying considerably between individual farmers. Some farmers ferment for a second night, as is required for coffee at higher altitudes, although this is undertaken less as a concern for quality, and more frequently because weather conditions do not permit immediate drying. Many growers will simply wash the coffee the following day to remove the mucilage. The wet parchment may even be mixed with rice husks or sand to provide an abrasive surface to assist release of the mucilage. Few farmers acknowledge the relationship between fermentation and quality, but rather view fermentation as a physical process facilitating mucilage removal.

The coffee is especially susceptible to absorbing tainted flavours during fermentation, and the quality of the considerable water used during wet processing is extremely

⁵⁹ Here the idea of an extended family group includes actual blood relations as well as those beholden to the family in the 'serf-like' status of *kaunan*.

⁶⁰ 20,000 Rupiah amounts to approximately 2.30 US dollars compared to the regional minimum wage for agricultural labour of about 85 US cents per day.

important (the coffee harvest in Toraja usually coincides with the dry season and supply is sometimes uncertain). The northern coffee growing villages of Toraja border directly on a heavily forested mountain range, which stretches far into the neighbouring *kabupaten* of Mamuju and Luwu Utara. The catchments that supply these villages are reasonably well protected, such that both water quality and reliability are usually adequate. Incorrect processing at this stage can result in a sour, over-fermented taste in the final beverage. Toarco Jaya was primarily responsible for the introduction of fermentation in Toraja; ironically its inclusion has considerably increased the risk of damaging the bean prior to export.

The washed coffee bean is still encased in a hard parchment when it is sun-dried by the grower for four to five hours. This semi-dried parchment coffee is then in the state in which most coffee is traded at local markets throughout Toraja. In this condition, the coffee is susceptible to mould formation and initial processing is usually timed to coincide with the upcoming market to avoid extended storage of this semi-wet parchment and possible rejection by one of the local mills. The inability of growers to store coffee produces a feeling of powerlessness, as they must accept whatever market price is offered at the time and cannot wait for improved market conditions.

7.1.5 HIGHLAND MARKET TRADING

Markets in Toraja are held on six-day cycles, with different villages hosting markets on different days within a particular cycle. Each market cycle intersects with another, such that five recognisable interlocking cycles persist in Toraja. In total, at least twenty-two markets are held across Toraja, varying in size from a collection of no more than a dozen stalls in places such as Barereng to thousands of traders who gather near Rantepao every six days at the Bolu market. At least two markets (Kole and To'dama) were suspended in 2002 and 2003, and markets in many marginal areas tend to arise and then dissipate along with community interest determined by economic and social priorities. Names of the days in the six-day Toraja week are still commonly borrowed from the local market on which they fall (Interview 86, Appendix B). The market cycle is deeply integrated within Torajan culture and society, reflected by this central importance to the Torajan calendar. The largest market in Toraja is at Bolu, four kilometres east of Rantepao, and the six-day event is a regional hive of social, as well as economic activity. Although no

farmer-level coffee trading takes place at Bolu, one hulling operation and two purchasing stations are located nearby.

Of the numerous markets held across Toraja, seven assume particular importance for the *arabica* coffee trade, functioning as vital pooling sites for the small amounts of coffee produced by individual farmers. Four of the seven coffee trading markets are located in the northern belt (Figure 7-1), three of which are located at the furthest point of reliable truck access, and act as initial collection points for the respective coffee-producing hinterlands beyond. During the coffee season, these market activities, and indeed the local economy, revolve around the coffee trade. The highland coffee markets also serve an important social function⁶¹. Farmers generally transport their own produce to the market, carrying the coffee on their heads or shoulders, strapped to horseback (Plate 7-10) or sometimes pooled together in old 4WD Landcruisers.

The proceeds from coffee sales are routinely used to purchase basic living requirements at market in a near-barter economy. Plate 7-11 shows a typical highland market (Minanga) in northern Toraja during the peak coffee harvest. Almost no other locally grown produce is sold at markets in Sapan, Barrupu and Minanga, such is the dominance of coffee in the northern coffee belt. The density of markets across Toraja and their restricted hinterlands compared with other growing regions in South Sulawesi allows a greater degree of control over geographical integrity by local traders. The remoteness of markets in northern Toraja acts to dissuade trading in beans grown from other regions, and each market has developed a reputation based on the quality of coffee being traded there, with prices varying accordingly. Coffee traded at Sapan market with a hinterland that includes the high-altitude growing villages near Pulu-Pulu consistently demands higher prices than in other markets.

Village traders wait on the outskirts of the market to intercept coffee carried by local growers. A few larger village traders will visit each of the northern coffee markets during the week, and may even extend their activities to include coffee markets in the south. The trader empties the parchment coffee to be sold into his (village trading is an overtly male-dominated activity in Toraja) open sarong to measure the contents. Using a one litre measuring tin, the coffee is measured back into the grower's sack before an offer is made. This process allows the trader to make a brief inspection and quality estimation of

⁶¹ Young men and women take the opportunity to dress up in their best clothes and enjoy the various forms of entertainment, which are focused around dice games and cock-fighting.



Plate 7-9 Hand pulping of cherries in Barrupu village



Plate 7-10 Growers transport coffee on horseback to Sapan market



Plate 7-11 The coffee trade dominates the highland market at Minanga

the coffee prior to purchase. If the grower accepts the price, the coffee is emptied into one of the trader's many nearby *goni* sacks, each mixed with carefully selected grades of quality to meet the minimum quality standards of each of the local processing mills and to therefore maximise profitability. The grower is paid in cash and the purchase recorded in a small notebook kept by all village traders. Due to the availability of attractive price premiums for higher quality coffee paid by some of the mills, the village traders have an important function in transferring price differentials to farmers. In no other growing region in South Sulawesi do village traders regulate the price paid to growers dependent on the quality of their produce. The similar absence of price premiums in other regions of Indonesia has been identified as a key impediment to improving coffee quality (Bennett and Godoy, 1992).

Coffee prices at the farmer level in Toraja are significantly higher than in other growing regions of South Sulawesi. During the 2003 harvest, prices were as high as 4,800 Rupiah per litre (parchment), with an average price of 3,500 Rupiah per litre. In comparison, parchment coffee prices at the farmer level in 2003 were as low as 2,800 Rupiah per litre in Malakaji, 3,200 Rupiah per litre in Mamasa and 3,000 Rupiah per litre at the Enrekang markets. The influence of large mills in Toraja and their relatively direct role in affecting local trade networks also results in more dramatic price fluctuations compared with other producing centres in the province.

Whilst the market transaction itself appears to allow growers to sell their coffee to the highest bidder, many growers are in fact already indebted to particular traders due to previous loans taken out against future sales. Village traders, who obligate sales from farmers through extending a line of credit, are known in Indonesian by the slightly derogatory term, *tengkulak*. Growers are sometimes so indebted that they do not actually receive payment for their coffee and the *tengkulak* is able to arbitrarily determine prices. Many *tengkulak* visit individual houses to collect the harvest in an attempt to ensure the coffee is not diverted to rival traders. House-to-house *tengkulak* will usually limit the scope of their activities to only one market, developing intimate trade relationships with growers. The role of these *tengkulak* generally increases in importance corresponding to the remoteness of the growing community, exemplified in Barrupu and Pulu-Pulu villages in the far north. Such remote villages controlled by *tengkulak* traders are commonly also those situated at the higher altitudes, where it is widely believed the highest quality coffee is grown. This high-altitude coffee obtains premium prices at some

local mills, providing an additional incentive for *tengkulak* to secure access. Conversely, the mills desiring this coffee must work to maintain long-term relationships with the *tengkulak*. During a market day, the *tengkulak* maintain accounts of the various quantities supplied to them by debtors, to be marked off against previous loans (Plate 7-12).

Coffee trading in northern Toraja is the exclusive gendered and ethnic domain of Torajan men. Ethnic Duri traders from the Kalosi region were previously involved in market trading of coffee across northern Toraja during the colonial period (Interviews 24 and 68, Appendix B). Presumably, the Duri traders were unable to continue economic activities during the regional conflict in South Sulawesi from 1949 until 1965, and never regained a footing after the conflict. Duri traders continue to buy coffee at the two southern coffee markets in Toraja, Buntu and Getengan, although they are unable to penetrate the northern markets. The continuing strength of traditional customs and cultural habits in the north undoubtedly contributes to this ethnic exclusivity. Torajan market traders, although apparently in direct competition with each other to obtain coffee, exhibit a high degree of solidarity. Growers believe that traders conspire prior to a market to pay no more than a specified (low) price to the growers at the market (Interview 74, Appendix B). Traders interchange amounts of coffee amongst themselves at the market close to ensure convenient volumes of desired grades of coffee to meet the supply requirements of local mills.

Most village traders in northern Toraja will then immediately supply the parchment coffee to one of the local major purchasing stations⁶² buying coffee for the export market, ensuring a quick turnover. To increase the likelihood of acceptance by these mills, traders frequently sort out any damaged parchment coffee prior to sale (Plate 7-13). Small hulling machines can be leased near Rantepao, where provincial traders can hull their coffee and transport smaller amounts of green coffee to individual exporters in Makassar. However, this is uncommon in Toraja and accounts for only a small amount of total Toraja-grown trade.

⁶² The term 'purchasing station' in this thesis refers to operations where purchasing is performed at one site for hulling at another by the same actor.



Plate 7-12 *Tengkulak* traders record purchases against old loans



Plate 7-13 Local traders sort their coffee at the KUD purchasing station, Lampan

7.1.6 OTHER COFFEE PRODUCTION CENTRES IN TORAJA

There are two other significant growing centres within Toraja that are distinct from those described above in the northern coffee belt. Toarco estimates that twenty-seven percent of total production in Toraja is grown in the southern sub-districts of Toraja, compared to seventy percent in the northern belt (Iskandar, 2003). The Getengan and Buntu markets are the primary trading centres for *arabica* coffee in the south, with production concentrated in the sub-district of Mengkendek. This production centre is located in the mountainous area between the Sa'dan River and the main highway that links Toraja to Makassar, and stretches south to the administrative border with Enrekang. As a result, the centre shares many production characteristics with the Alla subdistrict of that *kabupaten*. The physical characteristics of southern Toraja, in terms of altitude of the growing regions, geology, soils and even cultivation and work ethic of the growers, closely resemble conditions in Enrekang. Substantial trade occurs across this administrative boundary between the two *kabupaten*, thus demonstrating the difficulties in defining the physical limits of 'Toraja' coffee production.

Coffee growers in the Buntu growing centre generally cultivate a more diversified array of agricultural commodities, including horticultural products characteristic of Enrekang. Popular commodities grown for market in southern Toraja include vanilla, pepper, cocoa, garlic, and cabbage. The act of *merantau* (leaving the homeland in search of wealth) is not as strong in this region compared with northern Toraja, and so the inhabitants are far more reliant on local agricultural production as their primary source of livelihood and tend to cultivate far more intensively. Ceremonial participation is common, although participation costs are not as demanding as in the north. Synthetic fertilisers are more likely to be applied to coffee plots and individual holdings can be quite large. The geology in this growing area is a complex series of heavily folded sedimentary layers, with numerous limestone outcrops and relatively poor soil fertility. Coffee is generally grown at an altitude between 1,200-1,400 metres ASL, with some plots found up to 1,600 metres ASL at Buntu Sangbuah and Perindingan.

The coffee fruit here is generally harvested ripe, although Toarco reports that a shortage of pulping machines in the area often leads to delays in pulping the cherries (Iskandar, 2003). Coffee is irregularly fermented overnight in *goni* sacks or plastic bags (this process is even more haphazard than in the north), before being dried for the market.

Most farmers take their own coffee to either Buntu or Getengan market, although Duri traders from Kalosi have penetrated into most growing communities to some extent. Whilst being held in similar six-day cycles, the geographic setting of these two southern coffee markets differs substantially from the northern coffee markets. Getengan is located on the provincial highway between Enrekang and Makale, and as such is easily accessible by coffee traders who buy and sell coffee from various growing regions within and outside Toraja. Whilst the Buntu market is twelve kilometres off the main provincial highway, a sealed road provides good accessibility. Buntu does not have a clearly defined hinterland of coffee production, with back roads linking the market with the Alla sub-district in Enrekang. The inability to determine the geographic origins of coffee sold at these markets and the involvement of ethnic Duri traders sets the southern markets apart from those in the north.

In western Toraja, Bittuang market collects up to 15,000 litres of parchment *arabica* coffee every six days during the main harvest. Both *robusta* coffee and cocoa are also abundantly traded at this market. Bittuang is the only sub-district capital in Toraja not accessible by sealed road, deterring coffee traders active in other markets from purchasing in this area. The Bittuang market itself serves as an economic focus for an extensive hinterland that includes many remote communities growing coffee on cleared forest near the Mamasa border. Coffee grown in the adjacent *kabupaten* of Mamasa is sometimes traded at the Bittuang market if prices there are attractive enough. Local traders and mill operators generally believe coffee sourced from the area to be inferior to other growing centres in Toraja.

7.2 The Commercial Estates of Toraja

The advent of modern estate production began with the establishment of a commercial estate by Key Coffee in eastern Toraja in the 1970s, which subsequently has been used to supplement purchasing from the local community. Another collection of commercial estates was established in the late 1980s, concentrated around the Bittuang sub-district in western Toraja. Mostly, these estates were spatially and systemically distinct from the major centres of smallholder production discussed in the previous section. Instead, these estates were established based on an apparent belief in the geographic quality associations of coffee grown within the *Kabupaten* Tana Toraja. However, importantly,

none of these operations have been able to successfully compete with smallholder coffee growers in terms of cost efficiency, and arguably, quality.

7.2.1 KEY COFFEE AND THE PEDAMARAN ESTATE

As a pioneer in the Japanese coffee industry, our most effective strategy has been to assume control from the initial stage of coffee tree maintenance. This has ensured the original taste characteristics of the coffee are preserved, such that ownership of a coffee plantation continues to be a central management pillar (Ohta, 2001: 1).

For Key Coffee, direct control over the entire supply chain was an important priority of the company from the outset. Early company pioneers clearly regarded local cultivation methods as inferior, necessitating the establishment of their own plantation in Toraja (Key Coffee, 2001). The Toarco joint venture obtained a twenty-five year lease from the National Lands Agency in 1978 for 518 hectares of land at the Pedamaran site, fifteen kilometres east of Rantepao, to establish its own estate plantation (Figure 7-1). The original master plan, including a total lease area of 1,230 hectares with a projected annual production of 940 tonnes, was later revised and current annual production is 120 tonnes (Key Coffee, 2002: Interview 30, Appendix B). The US Department of Agriculture (USDA) claims that Pedamaran “is the world’s largest coffee plantation owned and run by a single coffee company⁶³” (USDA, 2001). Such complete vertical integration from plantation through to retail is unknown for coffee consumed in western countries.

The company had no previous experience in coffee cultivation or estate management, and this translated into a series of initial problems. Prevailing altitude at the site ranges from 900-1,250 metres ASL, which subsequently proved to be less than ideal for developing the intense flavours of high altitude grown coffee (Interview 31, Appendix B). Most varieties of *arabica* coffee are also susceptible to the scourge of leaf rust at this altitude. Furthermore, the company has experienced severe difficulties maintaining a suitable labour force for the plantation (Key Coffee, 2001). Recruitment from local villages is affected by the community commitment to rice cultivation and extreme time commitments allocated to ceremonial participation. Qualified agronomists and scientists were reluctant to assume positions in relatively remote locations such as Pedamaran.

⁶³ The definition of a ‘coffee company’ here seems to be one that is involved in roasting and marketing coffee in a major consuming country. The larger Sulutco estate, also in Toraja, is owned and managed by the Kapal Api Group, who are one of Indonesia’s leading coffee processors with a major share of the domestic retail market.

Despite these considerable challenges, the company now operates a professional and modern estate.

7.2.1.1 Plantation Management

Approximately sixty percent of the estate is planted with an *arabica* variety the company claims to have developed and adapted themselves to local site conditions, and whose physical appearance imitates a semi-dwarf variety. The remainder is planted with lineage S varieties and a small area of *typica* (Interview 31, Appendix B). The latter requires heavy application of copper fungicides to control leaf rust and higher levels of fertilisation to maintain productivity.

Many large-scale commercial coffee plantations, particularly those in Brazil, have abandoned the use of shade trees, because of the higher productivity of heavily fertilised, unshaded coffee trees (Clifford and Willson, 1985). Various shade trees have been trialled at Pedamaran, including the locally popular *dadap* (*Erythrina lithosperma*), *Sengon* (*Albazia falcata*) *lamtoro* (*Leucaena* spp), and the recent use of *Caliandra* spp. Shade tree cover is not as dense however as that preferred by smallholders, and some areas are noticeably devoid of meaningful cover (Plate 7-14). The estate is intensively fertilised in an attempt to improve the productivity of otherwise marginal soils. Local soils have been heavily weathered by tropical rains, with many of the bases leached from upper soil profile, leaving the soil slightly acidic. Periodic applications of lime are required to restore pH balance in the soil. Chemical fertilisers routinely used on the estate include Urea (Nitrogen), KCl (Potassium) and ‘Sulfomat Plus’ (Sulphur and Phosphorus). Large amounts (1,500 tonnes per year) of chicken manure are also transported 120 kilometres from Rappang to be used on the estate. Pesticide use includes the application of to copper fungicides to control leaf rust, ‘Round-Up’ is used for weeding, and occasional use of insecticides is required to control outbreaks of berry borer. Outbreaks of the fungal Coffee Berry Disease have also occurred on the estate (Interview 31, Appendix B).

There are currently eighty-three full-time employees on the plantation, with a further 350 day-labourers required at different times throughout the year, peaking during the main harvest. The harvest at Pedamaran usually occurs in June, July and August, coinciding with the local community rice harvest. Labour availability at this time continues to be a problem for the estate, as the surrounding community is occupied with the rice harvest

and associated ceremonial activity. During the harvest, teams of day labourers work their way through the plantation, with each tree picked an average five times in a year. Pickers are paid according to the amount of coffee picked. The processing plant has four pulping machines that feed the mucilaginous parchment into fermentation vats. Cement drainage channels have been built to assist washing and removal of the mucilage.

The parchment coffee is dried almost entirely by mechanical dryers (Plate 7-15). Although the harvest occurs during what is supposed to be the dry season, occasional rains are not uncommon during this period. The threat of mould formation on wet parchment under wet conditions is such that the expense of mechanical dryers is justified (Interview 31, Appendix B). During a particularly sharp harvest peak in 2002, the Pedamaran drying facilities were unable to cope with supply and the company was forced to send wet parchment coffee to the lowland Rappang district where more reliable sun-drying was possible. The fully dried parchment coffee is hulled in a single huller, graded automatically according to size and then sorted manually (Plate 7-16) to remove damaged beans. All beans are again cup-tested⁶⁴ prior to being packed in sixty kilogram jute sacks, labelled and trucked to Makassar. The company then takes the uncommon precaution of loading the coffee into refrigerated containers (usually reserved for fresh vegetables or perishable seafood) for the journey to Yokohama to avoid deterioration *en route*.

7.2.1.2 Symbolic Value of an Estate

The company claims to maintain the Pedamaran plantation itself at a significant financial loss (Interviews 30 and 31, Appendix B). High operating costs include the payment of expatriate salaries, heavy application of fertilisers and foliar sprays to control leaf rust. Despite twenty-five years of apparently suffering a financial loss, in 2003 the company renewed their lease for a further thirty years. Through a strategy of supplementing estate production with purchasing from the local community, it is possible that any losses can be recuperated within the joint venture. The obvious question of why the company does not simply abandon the estate and concentrate solely on local purchasing requires an understanding of both Japanese business ethics and consumer priorities. The company decision is based on the importance placed on vertical control of the supply chain within the Japanese market. As a public relations exercise in Japan, retaining the plantation may

⁶⁴ Coffee grown by the community is cup-tested prior to purchase (discussed further in Chapter Ten).

indirectly pay for any direct losses incurred in Sulawesi. Key Coffee emphasises estate ownership on all their marketing material, including their claims on each 200 gram pack of roasted coffee that the beans originated from a plantation owned and managed directly by the company (*Key Coffee Toarco Toraja Live Pack*). Despite such claims, Pedamaran contributed only 126 tonnes (eighteen percent) to Toarco's total export volume of 704 tonnes in 2002 (Interview 31, Appendix B).

The company admits that the physical conditions at the Pedamaran site are not entirely conducive to producing the particular cup characteristics desired for Toarco Toraja Coffee™ (Interview 31, Appendix B). The estate was an integral part of the company's initial development strategy, and is considered analogous to the overall development of Toarco Toraja Coffee™, and retains significant emotional value for many within the company (Interview 30, Appendix B). And so, estate production is continued.

7.2.2 DOMESTIC INVESTMENT IN COMMERCIAL ESTATES

During the 1980s, increasing international demand for 'Toraja' coffee linked with limited local production and high global prices under the ICO-regulated quota system lead to a coffee boom in Sulawesi. The local Land Administration Agency issued plantation leases to seven national companies during the period 1988 through to 1995 within Tana Toraja (Figure 7-1). In 2003, no commercial coffee estates had been established in any other *kabupaten* in South Sulawesi. The Toarco estate preceded, and probably inspired, the establishment of these seven estates. Wealthy Torajans and Javanese alike founded these plantations, some as a response to foreign appropriation of the 'Toraja' identity and a desire to reclaim control of the regional industry. The local government selected the remote region of Bittuang as an ideal location with its sparse population facilitating relative few land compensation issues and its apparent suitability for coffee production (Interview 42, Appendix B). During the colonial period, a large coffee and tea estate was located in this very region. However, since 1992 export prices had settled down to an average 2.5-3.5 dollars per kilogram (Figure 6-2). Low prices and inherent difficulties associated with estate production in the Toraja region have affected the ability of these ventures to operate profitably.

5,274 hectares of land is included within the seven estate leases, approximately forty percent of which have been planted (BPN, 1999). Prior to 1985 the area now occupied by the five commercial estates near Bittuang was a remote semi-wilderness of primary



Plate 7-14 Lack of shade trees at the intensively managed Pedamaran Estate



Plate 7-15 Mechanical dryers used at the Pedamaran Estate



Plate 7-16 Hand sorting is still considered the most effective way of ensuring final quality

forest, degraded secondary forest, buffalo grazing lands and isolated village hamlets. Land clearing, initial planting and infrastructure required a substantial investment that most estates now consider irrecoverable. Primary access to the estates is from Makale in southern Toraja, unlike the northern coffee belt, which is linked to Rantepao. The area is not a major centre of smallholder *arabica* production, despite small volumes traded at the Bittuang market. One of the estates (PT Aroma Kopi in Barrupu village) has subsequently ceased operations and the remainder continue to be heavily subsidised by their respective owners (Interviews 42, 53 and 71, Appendix B). The failure of these ventures to date reflects the inability of large-scale commercial agriculture to establish a viable footing within the agroecological complex of Torajan society.

7.2.2.1 The Sulutco Jaya Estate

Of the Indonesian-owned estates, the first to be established, largest and most professionally operated is the Sulutco estate, owned by the Kapal Api Group. The Group is based out of Surabaya in East Java, and is Indonesia's largest integrated coffee company (Interview 71, Appendix B). Its ubiquitous roast and ground coffee, known as Kapal Api, is the leading coffee brand within the domestic market, and its Excelso cafés are Indonesia's major roaster-retailer, with a presence in shopping malls across the country. The plantation lease covers 1,199 hectares of land (800 hectares of which has been planted), and includes the lands of a former colonial era coffee and tea estate. The estate was subsequently abandoned during the war. The Kapal Api Group has revived the coffee plantation, restored a dilapidated Dutch 'resthouse' at Bolokan, and rehabilitated a small plot of the former tea plantation. The plantation is set against the backdrop of the rugged Rante Karua mountain range, and includes areas up to an altitude of 1,800 metres ASL (Bakosortanal, 1991a). A community with educational, health and market facilities has developed in Bolokan village, where the company's operational headquarters and processing plant are located (Plate 7-17).

Numerous varieties of *arabica* coffee are grown on the estate, including *typica*, Lineage S, USDA varieties, and several dwarf varieties. Planting densities, terrace construction, pruning techniques, shade crop maintenance and fertiliser application are all performed in accordance with recommended agronomic practice, and depart significantly from traditional systems. The estate is moving towards organic production techniques, although this is inspired (so the company claims) not to facilitate market access through

product labelling, but as a cost effective response to the nutrient-deficient soils (Interview 71, Appendix B). Organic production is believed to result in an inherently superior tasting coffee, as suggested by the success of (organic) smallholders in producing ‘quality’ coffee (Interview 71, Appendix B). Grass clippings, coffee pulp and parchment, tree cuttings and animal manure purchased from the local community all provide input for compost production near the processing plant. Buffaloes commonly graze inside the estate itself (Plate 7-18), and employees and the local community are encouraged to rear livestock for their manure. Whilst *in situ* compost production is currently supplemented with organic fertiliser shipped from Java, the estate hopes to satisfy all their fertiliser requirements autonomously in the coming years (Interview 71, Appendix B).

The cherries are harvested by teams of day labourers led by field staff, who instruct on which trees to collect from, and who weigh individual yields and make payments accordingly. The cherries are then transported on trucks to a centralised processing factory, where huge holding tanks feed the cherries to a high-capacity pulping machine and into fermentation tanks. The coffee is fermented for fourteen to eighteen hours before being mechanically washed in continuous washers and dried on canopied tables for two to three weeks (Interview 71, Appendix B). The coffee is stored in the plantation warehouse as parchment coffee, and hulled upon demand. Solutco first began exporting in 1994 and has attracted buyers from the US, Japan, Singapore and Australia at prices well above the export average (Table 7-2). However, export volumes have averaged only twenty-five tonnes per year compared with annual production now in excess of one hundred tonnes. Approximately sixty tonnes of the annual harvest is absorbed internally within the Excelso division of the Group (Interview 71, Appendix B). Despite growth in the domestic retail coffee sector, the company clearly requires greater export volumes to approach profitability. With each kilogram of production costing five US dollars (Interview 71, Appendix B), Solutco is not only the most professionally managed of the estates; it is also ironically one of the most expensive (Table 7-1).

7.2.2.2 Semi-traditional Estate Production

Many twists and turns have been encountered by the company, not unlike the winding road which twists and turns its way towards the location, like a long snake searching for food in the steep cliffs and then startled wanting to escape but painfully disempowered due to a large branch falling on it’s back. That is more or less an allegorical reflection of what has been faced by the company in recent

times, and quite likely there is a strong affinity with the social-cultural elements of the local society (Musarip, 2001, Estate Manager, PT Agra Wattie).

Of the remaining national estates (Table 7-1), none is managed in the professional manner of the Toarco and Sulutco estates, and none have consistently penetrated international markets. These estates are mostly managed in a semi-traditional style, reflecting an apparent uncertainty over their self-perceived status as 'traditional' or 'modern' producers. Only one of these national estates (Hasil Bumi Indonesia) have been able to successfully sell their coffee directly into global coffee networks, and only on an extremely limited scale. None of the estates (like all Sulawesi-based coffee operations with the exception of Toarco Jaya) systematically cup-test their produce, which limits their ability to refine production and processing techniques in accordance with market demands. An enormous distance exists between local management and the demands and changing priorities of the international coffee market. In the absence of professional feedback from international industry actors, the plantations have developed their own perceptions of what constitutes a quality product and how best to process the beans to achieve this. One belief is that sun-drying parchment coffee at high altitudes produces a better tasting coffee compared to coffee dried under the piercing tropical sun in coastal areas such as Makassar (Interview 18, Appendix B). However, in the Torajan environment, such processing techniques appear to risk the formation of mould in the parchment and contradict international buyer priorities for mould-free coffee. Considering the socially constructed and geographically defined nature of what constitutes quality, the lack of interaction with prospective buyers severely limits the possibility of securing reliable, long-term trade relationships.

The Hasil Bumi Indonesia (HBI) Group holds two separate plantation leases in the Bittuang region, registered as Bumi Permata Allo (BPA) and Bumi Lion Kencana (BLK). The family-owned estates are effectively managed as a single plantation. Low productivity, high operating costs and an uncertain market led to a management decision in 2003 to drastically cut back on all unnecessary expenditure (Interview 55, Appendix B). The trees are not pruned, weeds are competing with the coffee for soil nutrients, and the shade trees are forming a dense canopy above the coffee. Increasingly, the plantations are assuming the form of more traditional coffee production systems found in the villages of northern Toraja (Plate 7-19). Indeed, the plantations were founded on traditional Torajan management principles, adopting village-style cultivation techniques, such as



Plate 7-17 Processing plant and sun-drying facilities, Sulutco Jaya Estate, Bolokan Village



Plate 7-18 Buffaloes are a common sight grazing within the Sulutco Jaya Estate

Estate Leaseholder	Year Lease Granted	Location	Area of Lease (hectares)	Annual Production 2002 (kg GBE)	Estimated Production Costs (US\$ / kg)
Toarco Jaya	1978	Pedamaran, East Toraja	512	127,000	NA ⁶⁵
Sulutco Jaya Abadi	1988	Bittuang, West Toraja	1,199	120,000	5.00
Bumi Permata Allo	1995	Bittuang, West Toraja	610	18,000	4.00
Bumi Lion Kencana	Data Combined with Bumi Permata Allo				
Agra Wattie	1989	Bittuang, West Toraja	685	12,000	3.00
Bina Produksi Melosia	1989	Bittuang, West Toraja	1,984	NA	NA
Marante Jaya Abadi	1993	Palesan, South Toraja	177	NA	NA

Sources: (BPN, 1999; Interviews 42, 53 and 71, Appendix B)

Table 7-1 Active Commercial leasehold coffee plantations in Tana Toraja (2003)

⁶⁵ NA = Data not available

Year	Destination	Volume (kg)	Value (US\$/kg)
1994	United States	10,000	5.00
	Japan	7,000	11.00
1995	United States	18,000	7.00
	Japan	10,000	7.00
1996	Singapore	5,000	4.00
	United States	17,000	3.50
	Japan	10,000	3.00
1997	-	-	-
1998	Japan	12,000	4.10
1999	Japan	12,000	4.00
2000	United States	51,600	2.40
	Japan	16,000	2.30
2001	Australia	27,000	3.20
2002	Australia	18,000	3.00
	Japan	18,000	3.60
2003	Australia	18,000	3.10
	Japan	6,000	3.70

Sources: (Deperindag, 2002a; Deperindag, 2002b; Deperindag, 2003)

Table 7-2 Exports from Sulutco Jaya Abadi Estate (1994-2003)

narrow terraces and high planting densities. Employees are treated as members of the extended family, and whilst wages are low, considerable social support is provided for employees and their family (Interview 23, Appendix B).

Whilst processing is often quite rudimentary (Plate 7-20), these estates emulate Toarco's method processing, including fermentation and full parchment drying. The parchment is dried on the plantation for up to two weeks before being transported to a Rantepao warehouse. Here the coffee is stored until an order is received, and subsequently hulled upon request for export.

Family-associated social networks have facilitated the sale of small amounts (four five-tonne containers over the last six years) of green coffee by HBI to a specialty roaster in the Netherlands for more than five US dollars per kilogram (Deperindag, 2002a, Interview 55 in Appendix B). Despite the comparatively high price paid for their coffee, the small volumes have not been sufficient to move all the coffee being stored in the warehouse. The owners are unwilling to release their beans at existing market prices and as the volume of stored coffee increases, attempts are made to add value through 'ageing' the coffee (Interview 55, Appendix B). The company is now experimenting with roasting its own coffee in Singapore and working with distributors in both domestic and international markets (discussed further in Chapter Ten). With the global growth in 'just-in-time' supply chain management now widespread in sectors such as fresh fruit and vegetables (Friedland, 1994), value-adding the green beans presents an attractive alternative.

The conditions of production on the other national estates closely resemble those on the HBI estates, although the approaches currently being taken to improve profitability vary considerably. After a thorough minimisation of expenditure by the Agra Wattie estate⁶⁶, this estate is now the most productive plantation per unit of expenditure (Table 7-1). Furthermore, semi-dried parchment coffee is sold to local traders, and integrated with existing village networks, providing a reliable turnover during the harvest rather than actively seeking international buyers.

⁶⁶ There is no relationship between Agra Wattie and Heinz-Wattie Ltd of New Zealand.



Plate 7-19 Dense, heavily shaded ‘traditional style’ planting at the Bumi Permata Allo Estate



Plate 7-20 Semi-traditional pulping station at the Bumi Permata Allo Estate

One other estate, P.T Melosia, holds an enormous lease covering 2,000 hectares (only a fraction of which is planted) in a largely uninhabited area in Toraja's northwest between Barrupu and Bittuang settlements (Figure 7-1). The company faces extremely high road maintenance and transport costs, together with chronic labour shortage due to the absence of a resident local labour reserve. The company is now attempting to work together with the regional government to establish a transmigration settlement within their operational area and to position the estate as a central processing unit with production itself subcontracted to the transmigrants. This system is known in Indonesia as *plasma-inti*, likening the relationship to a nucleic centre surrounded by 'plasmatic' producers, as has been widely applied in the palm oil industry. This devolution plan is yet to materialise.

7.2.2.3 Labour Productivity and Torajan culture

Coffee production in Indonesia, as in most of the developing world, is a highly labour intensive activity. Based on research conducted in Java, it is estimated that 163 labour days are required per hectare per year to maintain an established plantation (Retnandari and Tjokrowinoto, 1991). Manual labour is the major operational cost for an intensively managed coffee estate. The annual productivity of Torajan estates (approximately 200 kilograms per hectare per year) is well below what has been achieved on intensively managed coffee estates in Java, where 2,000 kilograms per hectare per year can be produced (Retnandari and Tjokrowinoto, 1991). All estates identified labour difficulties as a primary constraint to developing a commercially viable operation in Toraja. Conventional labour management practices are apparently unsuccessful in improving productivity on the estates in the Toraja context.

The Agra Wattie estate was the most elaborate in describing labour difficulties (Musarip, 2001). Those unique aspects of Torajan culture, which have earned an international reputation through the tourism industry, are identified in the report as constituting major obstacles to developing a successful agribusiness in the region. The primary reasons for the labour difficulties faced by the company in Toraja are considered to be threefold. Firstly, employees and management alike lose substantial time due to the socially compulsory attendance in the ceremonial cycle, which can result in several days lost productivity at a time. Secondly, the relaxed social nature of community work (during

ceremonial preparation) is also applied to company work. Finally, supervisors are unwilling to demand improved productivity due to a high degree of social tolerance and egalitarianism within wider society (Musarip, 2001).

Attempts at the professionally managed Sulutco estate to demand high productivity linked to incentives and enforcement of a strict attendance policy have been unsuccessful in curbing these culturally regulated work habits to conform to the high labour demands of a plantation. All estates have had to submit to a policy of increased occupational tolerance to adjust to these local social conditions. The Operations Manager at Sulutco believes that his ethnic Torajan workers attend work approximately 230 days per year due largely to ceremonial commitments, compared to an average 280 days per year in Java (Interview 71, Appendix B). With a permanent workforce of 286 employees, this amounts to 14,300 lost days of productivity each year at the estate.

7.2.2.4 Comparative Advantage of Smallholders and Corporate Adaptation

At their inception some ten to fifteen years ago, the management approaches of the commercial estates contrasted sharply with the traditional smallholder production systems that had evolved in Toraja over the preceding century. Where smallholder production was integrated within a complex agroecology, the commercial estates established bi-cultures of coffee and shade cover (usually *leuceana spp*) in otherwise remote and sparsely populated regions. The lack of diversity within these new systems proved to be especially vulnerable to commodity price fluctuations, when traditional growers could reallocate resources to alternative productive activities, predominantly subsistence rice cultivation.

Traditional labour supply was sourced primarily from within the extended family network and compensation provided through the ceremonial cycle. In contrast, the comparatively rigid attempts by the estates to train modern workforces with industrial-style disciplinary codes have been ineffective in improving labour productivity. Labour flexibility also favours the haphazard flowering cycle of coffee in Toraja that results in unreliable harvest times. In the absence of detailed soil surveys, traditional communities appear to have occupied more fertile regions through an extended process of trial and error, whereas political and administrative processes determined estate location. Traditional growers minimise crop maintenance, allowing the coffee to grow semi-wild in the *pa'lak to'tallang*. In comparison, the estates generally apply costly, intensive,

input-oriented methods. Enormous operational losses incurred by the estates seem to indicate that these techniques are not cost effective in Toraja. Traditional growers, with a high proportion of natural and cultural subsidies, are more likely to operate profitably in this environment.

Of course, it may be speculated that over time, the estates could transform themselves into viable operations. With greater control over varieties cultivated, maintenance, harvesting and processing techniques, the estates may be able to produce a higher quality and more consistent product than smallholders. This may become increasingly important with the development of heightened traceability demands in the specialty coffee sector (discussed further in Chapter Ten). Ponte (2002b: 28) suggests that with better access to finance, markets and infrastructure, estates,

are more likely to find the resources to meet the increasing demands of new standards than smallholders and cooperatives.

However, coffee quality is a highly subjective social construct (Chapter Nine), and since the early popularity of ‘Boengie’ coffee, Sulawesi coffee has been constantly associated in western markets with indigenous/traditional production. Frequently, the cultural characteristics of Torajan society are associated with traditional growing and processing techniques, presenting a coffee that is said to taste as unique as is the culture itself.

Estate grown Torajan coffee in many ways runs counter to the popular international image, and has contributed to the inability of the estates to develop reliable markets for their beans. The estates all process fully-washed coffee, imitating Toarco’s processing techniques, although western markets may not necessarily demand such coffee. The international coffee market possesses established perceptions of coffee characteristics for beans originating in a particular geographic region. When purchasing coffee from a particular region, the coffee is judged on how well it conforms to these conventions, such that any deviation is considered to be a quality defect. This can occur even when bean characteristics might otherwise be considered an improvement. What is considered a defect for a particular origin may be deemed an attribute in another, and vice versa. According to historical convention, ‘Monsooned Malabar’ beans (from the Western Ghats of India) have been exposed to the western rains, which result in damp storage conditions. The slightest hint of mould formation however, would not be tolerated on an estate grown Hawaiian Kona. Certain Ethiopian coffees are esteemed because of the way they are sun-dried in the cherry, although such dry processed *arabica* coffee is otherwise

sold at a discount to the global market. Part of the appeal of Toraja coffee (in western markets) appears to reside in the local processing methods applied by traditional farmers that have evolved over generations. Overwhelmingly, the estates in Toraja are unable to compete with smallholders in terms of economic viability and in satisfying that particular market demand.

Whilst the possibility of turning the estates into profitable investments remains remote at this stage, the estates have undergone a process of corporate adaptation to the local environment. Unable to manipulate local conditions to facilitate a conventional commercial approach to agribusiness, they are attempting alternative approaches attuned to local social and environmental conditions. Place-related difficulties inherent to the Torajan environment have been primarily responsible for shaping alternative management strategies within the estates. Ironically perhaps, the 'new' management approaches increasingly imitate the traditional production systems against which they initially contrasted so markedly. The companies are now implementing a variety of responsive approaches to meet the needs of the immediate social and environmental conditions. The corporate strategies of the estates are slowly embedding themselves in the geographic space of Toraja.

Sulutco's move towards organic production is a response to local environmental demands, embedding production in a way not dissimilar to the fertilisation techniques of traditional village systems. Sulutco also discussed the possibility of attempting to dry the parchment coffee immediately without fermentation (semi-washed), "like the local farmers" (Interview 71, Appendix B). Melosia's devolution plan to a nucleic, processing centre surrounded by 'plasmatic' farmers is an attempt to capitalise on the economic advantages of smallholder systems⁶⁷. The estate that most resembles a traditional production system is Agra Wattie, where the permanent labour force has been drastically reduced, along with crop maintenance operations. This estate is the lowest cost producer and, through integrating with local trade networks, came close to covering costs during the 2003 harvest (Interview 70, Appendix B).

The uncertain financial success of these strategies notwithstanding, the emerging management approaches are significant in that they represent a gradual embedding within the Torajan setting in an attempt to operate profitably. The recognition by the estates,

⁶⁷ The ability for transmigrants to successfully settle themselves within the otherwise sparsely populated location is however, highly questionable.

both conscious and subconscious, that traditional producers have already evolved coffee production systems appropriate to the local context is testament to the remarkable influence of place on production. The role of social institutions (and the natural environment itself) in determining the effectiveness of economic approaches in a specific geographic context is an acknowledgement of the continued embeddedness of economic structures within sets of ongoing social relations.

7.3 CONCLUSION

The production of high quality *arabica* coffee by smallholder growers in Toraja, and in the northern coffee belt in particular, is deeply embedded within this geographically unique agroecological and social setting. As a result, smallholder coffee cultivation in Toraja is typically an environmentally sustainable practice that minimises energy and water use, conserves soil resources and promotes ecological diversity through the use of shade trees. These systems are culturally integrated into Torajan society in a way that provides substantial reductions in the costs of production in comparison to commercial estate production. Coffee is one of a number of agricultural crops produced in Toraja, providing a degree of resilience to the fluctuating nature of global commodity markets. The initial distribution of coffee through traditional market networks facilitates integration with local economies and helps to preserve geographical integrity. The ways in which these characteristics of geographical embeddedness articulate along subsequent vertical relationships with supply chain actors is a central concern addressed in Part IV of this thesis. Of particular importance is the effect of embeddedness on constructions of quality. In Toraja, the nature of this embeddedness has resulted in a coffee which possesses a number of quality attributes increasingly desired in the international specialty coffee sector. Critically, these features are not shared by all the coffee-growing regions in South Sulawesi.

8 PRODUCTION DIVERSITY ACROSS SOUTH SULAWESI

The previous chapter asserted the distinctive socio-economic, cultural and ecological embedding of coffee production spaces in Toraja. This chapter contrasts these spaces with coffee production in the three other major growing *kabupaten* of South Sulawesi. These examples illustrate the sharp diversity of forms in which coffee is embedded into human, agroecological and physical landscapes. Importantly, these forms imply a host of quality associations upheld throughout the coffee supply chains. Quality considerations in the increasingly differentiated specialty coffee market are frequently informed by particulars of geographic embeddedness in sites of primary production. Biophysical characteristics of the growing environment, local processing techniques and the ecological sustainability of farming practices are critical here to the construction of quality. The production diversity evident across South Sulawesi suggests a need to effectively trace coffee origins to the local level if the integrity of quality claims is to be maintained and verified.

8.1 ‘*Kalosi*’ Coffee and Enrekang Production

The *kabupaten* of Enrekang is located directly south of Toraja, along the main road from Makassar. Due to greater accessibility to the coastal ports, the cultivation of *arabica* coffee in Enrekang probably pre-dates cultivation in Toraja (Bigalke, 1981). Local topographic and soil conditions in Enrekang limit the area of land available for wet-rice cultivation, and the Duri people who inhabit the *kabupaten* are reliant on commodity trade for their livelihoods. In addition to *arabica* coffee, Duri farmers concentrated in the area west of the Kalosi market (Figure 8-1), now supply horticultural produce such as cabbage, onions, potatoes, and garlic to urban centres across Sulawesi and Kalimantan. Papaya and *salak* (snake-skin fruit) are amongst the fruit produce famous to the area, whilst commodities such as cocoa, pepper, and cloves are all well established, and vanilla cultivation is expanding rapidly⁶⁸. Coffee production in Enrekang is characterised by intensive agricultural techniques, including the widespread use of agrochemicals, irregular use of shade trees, and the cultivation of steep slopes. Post-harvest pulping is frequently mechanised, and there is an exceptionally high concentration of local mills available for hulling parchment coffee.

⁶⁸ Information regarding the social, physical and agroecological setting of Enrekang was collected during a number of overnight visits to the *kabupaten* during June, 2003 (Appendix B).

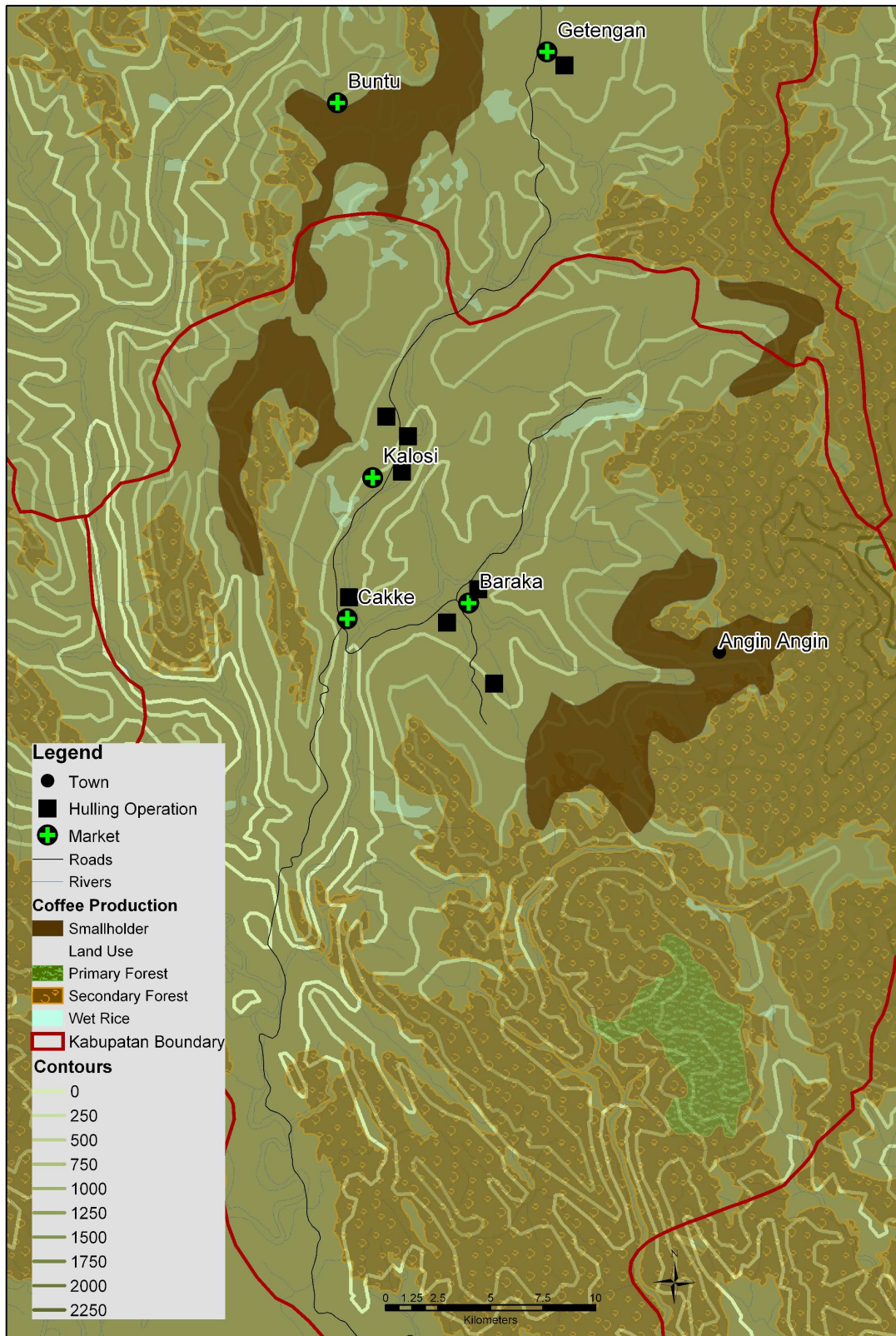


Figure 8-1 Coffee production spaces in Enrekang

The Duri people are perhaps more accurately considered ethnic Toraja who for centuries have embraced the Islamic religion. The Duri language is closely related to *Bahasa Toraja* (the Torajan language), and varies significantly from the lowland Bugis, Mandar and Makassar languages. Burial sites imitating those in Toraja are also found at Baraka and Rura in Enrekang. The region now occupied by the Duri people is coincident with *Kabupaten* Enrekang, and spreads across an inhospitable series of rocky mountain ridges and steep river valleys (Plate 8-1). The eastern extremity of the *kabupaten* is bounded by the Latimojong mountain range including the summit of Mount Rantemario, the highest point on Sulawesi. The Malua River at an altitude of only 460 metres ASL flows a mere sixteen kilometres west of this 3,478 metre peak (Bakosortanal, 1991b), graphically expressing the ruggedly steep topography of the region. The pre-colonial introduction of coffee to the area hints at the possible concurrent introduction of the Islamic faith and coffee production into the Duri lands by Makassan seafarers.

Kalosi is the name of a small town in Enrekang on the main road between Toraja and Makassar as the road winds along a north-south orientated ridge between the Sa'dan and Mata'allo Rivers (Figure 8-1). The international specialty coffee industry frequently uses the 'Kalosi' identity as the common trade name for all *arabica* coffee exported from Sulawesi. Roasters in the US and Europe provide numerous explanations of the origin of the Kalosi name⁶⁹, although most unsatisfactorily explain the development of the regional industry that lead to the widespread use of this particular geographic identity. Kalosi has never signified a growing area, but refers to the coffee trading centre whose hinterland is now ordinarily restricted to *Kabupaten* Enrekang, although previously it included Toraja. Duri traders from Kalosi were already active in buying coffee in Torajan highland markets during the pre-colonial era and consolidated their activities during the Dutch administration (Bigalke, 1981). It is difficult to determine at what exact date the 'Kalosi' identity gained prominence over the earlier 'Boengie' identity. Reports on the coffee industry from the period indicate that the 'Boengie' identity was popular throughout the entire colonial period (Ukers, 1935; Paerels, 1949). Increased hostility between the Duri and Torajan communities during the post-independence *Dharul Islam* rebellion severed trade links between these two regions and effectively ceased the supply of Torajan-grown coffee to the export market. During this period, coffee reaching the

⁶⁹ For example, the following websites provide mostly inaccurate explanations of the geography of coffee production in Sulawesi. www.CoffeeAM.com; www.2fcoffee.com/home; www.sweetmarias.com/coffee.reviewarchive; www.coffeeresearch.org/coffee



Plate 8-1 Steep and rugged topography characterises the landscape in Enrekang

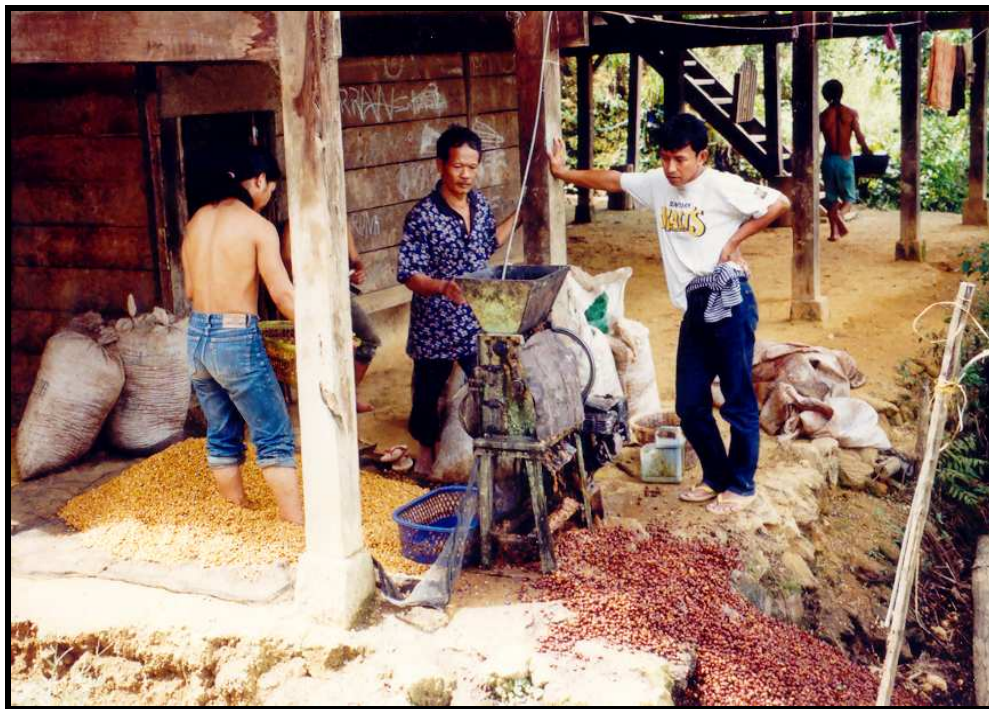


Plate 8-2 Use of mechanical pulping machines is widespread across Enrekang, Angin-Angin village

international market originated overwhelmingly from Enrekang and use of the ‘Kalosi’ identity for Sulawesi *arabica* appears to have been only truly consolidated at this time to describe Enrekang-grown coffee.

8.1.1 INTENSIVE COFFEE PRODUCTION

The Duri people do not possess the same culture of *merantau* as their Torajan neighbours and are not able to rely on remittances to sustain the local economy⁷⁰. Few farmers are entirely dependent on coffee production for their livelihood and most maintain diversified commodity-driven agricultural systems. A well-maintained road network, which links rural producers to central markets and buyers in Makassar, further supports the development of intensive commodity production found across Enrekang.

Typical of the commodity-driven economy, *arabica* coffee is grown intensively in Enrekang to ensure high productivity, arguably prioritising volume at the expense of quality. There are two distinct coffee-growing areas in Enrekang: the extensive Baraka sub-district in the east beneath the shadow of the Latimojong Mountains, and the Alla sub-district in the west, which gradually merges with adjacent growing districts in southern Toraja (Figure 8-1). *Arabica* coffee is the major agricultural commodity grown in the Baraka sub-district, where large-scale holdings are spread throughout steep-sided valleys (Plate 8-1). In the Alla sub-district, smaller coffee plots are integrated with the production of other crops, particularly horticultural commodities. Local traders and mill operators in Kalosi believe that Alla coffee is superior to Baraka coffee.

Coffee is generally grown at altitudes ranging from 1,000-1,300 metres ASL in Enrekang, although the village of Angin-Angin in Baraka (Figure 8-1) supports coffee cultivation up to 1,600 metres ASL. Steep topography restricts the availability of land suitable for cultivation in Enrekang (especially at higher altitudes), with many existing coffee plots already situated on severe slopes. The soils found in the coffee growing areas of Enrekang are generally derived from sedimentary parent rock material and have been subject to severe erosion (Interview 44, Appendix B). Rates of erosion are exacerbated in the coffee growing areas by inadequate soil management, where the steep slopes are rarely terraced. Shade trees are not universally grown in Enrekang, and are

⁷⁰ In the absence of detailed ethnographic research on the issue, it is difficult to explain the relative absence of *merantau* in the Duri people vis-à-vis their Torajan neighbours. However, this observation was made over the course of extended fieldwork with Duri and Toraja people respectively.

noticeably absent in the higher altitude growing villages in Baraka, where they are considered unnecessary. Denuded hills are a common sight throughout the *kabupaten*.

Farmers in both the Alla and Baraka growing districts practice intensive use of synthetic fertilisers, such as Urea and Superphosphates, to increase productivity. Application of herbicides, such as 'Round-up', is also widespread to control weed cover. Individual holdings are particularly large in the Baraka district, with average holdings between 1,500 and 2,000 trees per household, and up to 6,000 trees in one instance (Interview 68, Appendix B). Coffee trees are commonly capped at about 1.5 metres, and pruning to improve light exposure and fruit production is relatively advanced in most of Enrekang. Both the Solutco and Toarco estates in Toraja have assisted Duri farmers in improving cultivation techniques, and their managers commented on the willingness of these growers (in contrast to Torajan farmers) to apply improved crop maintenance techniques.

These contexts lead to the situation where productivity is given precedence over quality. Furthermore, high productivity in itself seems to result in an inability to dedicate time and resources to quality control during initial processing. Coffee cherries are mostly harvested ripe from the tree, although the coffee is not always immediately pulped. Mechanical pulping machines are used in many villages across Enrekang (Plate 8-2), although the substantial cost of purchasing these machines limits their ubiquity, and frequently one machine is shared across an entire village. A consequence is that it is not possible to ensure same-day pulping of the entire crop, and red cherries are sometimes stored for up to one week during the main harvest. The semi-rotten skins (Plate 8-3) leave a red stain on the parchment after pulping, and result in a sour taste in the cup (Interview 69, Appendix B). Fermentation is rarely performed across Enrekang, and the mucilaginous parchment is immediately sun-dried, so that the coating is reabsorbed by the bean, producing what is known as semi-washed coffee. Some industry actors expect Sulawesi coffee to be a semi-washed coffee, believing that this processing method has contributed to its distinctive taste (Interview 93, Appendix B). After a short period of sun drying, the parchment coffee is not always immediately sold to the mill, and local traders and farmers alike commonly store the wet parchment in their homes and warehouses, speculating on market price volatility. Such storage inevitably results in mouldy coffee, and the odour of musty coffee is common at local markets in Enrekang.



Plate 8-3 Discoloured coffee due to delayed pulping



Plate 8-4 Hulling operations at Kalosi

8.1.2 CONCENTRATION OF CAPITAL IN LOCAL TRADE NETWORKS

The Enrekang *kabupaten* has the highest spatial concentration of hulling machines in South Sulawesi. During the 2003 harvest, four hulling operations were active in the Baraka sub-district, another four in Kalosi and one near the Cakke market (Figure 8-1), such that it is very unlikely that any parchment coffee is transported from Enrekang to Makassar. Moreover, anecdotal evidence suggests that amounts of parchment coffee are commonly traded into Enrekang from Toraja, Mamasa and Malakaji to be processed at these mills. The intensification of capital in the Enrekang coffee industry, as reflected by the high concentration of mills, has important implications for the complex local trading systems that supply parchment coffee to the hullers.

Each hulling operation directly finances a number of village traders (*tengkulak*) to ensure a constant supply of coffee for the mill. These traders scout the coffee-growing villages, house to house, often providing financial support to farmers, whose indebtedness provides an avenue for price manipulation by the village traders. Dense trading networks, and the multitude of *tengkulak* operating across Enrekang, reinforce a common perception in South Sulawesi that the Duri people possess an exceptional aptitude for trade. The hulling operations (Plate 8-4) do not generally enforce strict quality control measures during purchasing, and it is rare for financial incentives to be offered for desired bean qualities. All beans are mixed together prior to hulling with no apparent attempt to separate damaged or otherwise inferior beans. Coffee is not an overtly differentiated product in Enrekang. Instead, its production and trade rely predominantly on industrial standards and market conventions. The parchment coffee is generally hulled semi-wet at these local mills and then sun-dried prior to transport to Makassar-based exporters. The lack of extensive flat areas for sun-drying and high cloud cover pose particular difficulties for effective sun-drying in Enrekang, and may contribute to mould formation.

There are two main coffee markets⁷¹ held twice weekly in Enrekang; the Kalosi market serving the western growing sub-district of Alla, and the Baraka market in the east (Figure 8-1). Unlike the highland coffee markets in Toraja, coffee is not the dominant agricultural commodity being traded, and is exceeded in volume and economic importance by locally grown fruit and vegetables. Only four markets are held in the

⁷¹ A third market is held at Cakke, although small amounts of coffee are traded there.

entire *kabupaten* (compared with more than twenty in Toraja), such that the market atmosphere differs significantly. The markets in Enrekang are first and foremost, sites of commercial exchange⁷². Not only do the markets follow a standard seven-day cycle, with two markets at each site each week, but the hinterland and thus scale of each market are far greater than the Torajan markets. It is therefore impossible to determine the geographic origin of coffee traded at these markets. Also unlike the Torajan market cycle, farmers rarely deliver the produce themselves to market, and the market is more specifically a site of transactions amongst traders prior to delivery to the mill. Traders from Enrekang may sometimes purchase parchment coffee from the two coffee markets in southern Toraja, Buntu and Getengan, to supply their mills. However, it is more common for Enrekang-grown coffee to enter the southern Toraja markets, or be sold to one of the Toraja-based mills, where prices are notably higher.

The ruggedly steep topography in Enrekang has acted to both stimulate commodity production (through lack of wet-rice cultivation), and to limit the availability of cultivable land at high altitudes. Coffee is subsequently grown on marginal slopes and frequently results in severe soil loss due to erosion. Cultivation itself is intensive, with growers attempting to maximise productivity using an array of semi-industrial technological approaches, which are not always compatible with the smallholder's ability to control quality processing. Indeed, the market system and dense local trade networks do not emphasise quality imperatives in the coffee, and the collection of hulling operations are equally unconcerned about possible bean defects. The 'Kalosi' identity, although still widely used in the international trade, does not really designate a geographically bounded production space (and it probably never did), and is increasingly used to imply a lesser quality Sulawesi coffee (Interviews 82, 89, and 93, Appendix B).

8.2 The Coffee-dependent Mamasa Valley

In 2001, the isolated Mamasa Valley was estimated to have produced more *arabica* coffee than any other single *kabupaten* in Sulawesi (Table 5-1). And yet, the inhabitants of the valley adopted the cultivation of coffee well after both Enrekang and Toraja (Paerels, 1949), and as recently as the 1980s grew only small amounts of *arabica* amidst large volumes of *robusta* coffee (BPS, 1987). Although coffee is now the undeniable

⁷² Interestingly, coffee trading in Enrekang is dominated by female actors, in contrast with the overtly male-dominated nature of the trade in Toraja. Women are active in village collection, market trading and supervision of hulling operations.

backbone of Mamasa's regional economy, there is not one hulling machine located in the valley, and all coffee is trucked to the coastal city of Polewali, as parchment coffee, for further processing⁷³. Coffee production in Mamasa is characterised by undeveloped trade networks and lack of capital, ecologically unsustainable cultivation, and spatial dislocation from established village settlements.

A ring of high mountain ridges encloses the expansive Mamasa valley and only in the south, where the Mamasa River drains the catchment, does a road currently permit vehicular access (Figure 8-2). A four-hour drive along mostly unsealed roads (Plate 8-5) is required to link the capital of Mamasa with the main road network in Polewali, making it the only *kabupaten* capital in South Sulawesi not connected to the sealed provincial road network. The main valley of Mamasa is linked (a two-day walk) to Toraja via a narrow footpath (Plate 8-6) that follows deep gorges cut by the headwaters of the Masupu River and then climbs through the forested ridge that forms the eastern watershed of the Mamasa Valley. This formidable natural barrier prohibits vehicular access directly between these two adjacent *kabupaten*. Closely related languages, social practices, architecture and religion all indicate a shared cultural history, and Mamasa is sometimes referred to as 'West Toraja'. The evolution of coffee production systems however in the two *kabupaten* has proceeded along contrasting trajectories.

Until 2002, the Mamasa region was integrated within *Kabupaten* Polewali-Mamasa (Polmas), and administered as a remote backwater from the coastal town of Polewali where the dominant ethnic groups are the Islamic Bugis and Mandar people. Amidst the euphoria created by the implementation of Regional Autonomy across Indonesia, the Mamasa people were successful in a campaign to establish a new *kabupaten* in Mamasa itself during 2002. However, autonomy comes at a price and the central government is increasingly demanding that individual *kabupaten* are responsible for independent income generation. With poor accessibility, a communications reliance on satellites, and electricity available only in the capital town of Mamasa itself, the fledgling *kabupaten* is discovering how autonomy can be a two-edged sword. Little else but coffee is produced for market in the valley, and despite the current slump in the global coffee market and

⁷³ Information regarding the geographical setting, cultivations systems, markets and trade networks of Mamasa was collected during a single visit to the *Kabupaten* during June 2003 (Appendix B). The valley was accessed via a thirty kilometre footpath from Bittuang in west Toraja, which passed otherwise inaccessible coffee-growing communities.

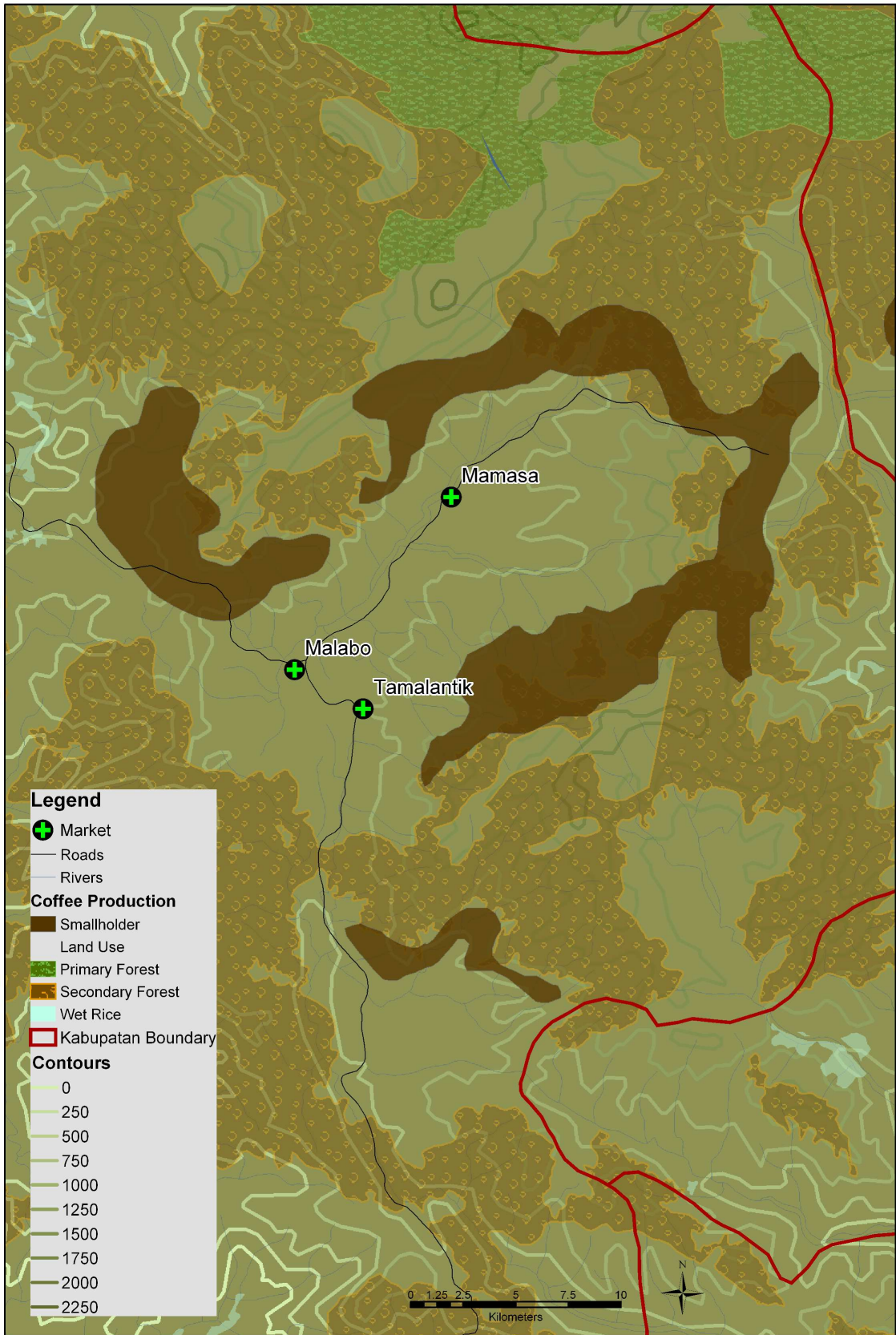


Figure 8-2 Coffee production spaces in Mamasa



Plate 8-5 An unsealed road links Mamasa to Polewali and the provincial road network



Plate 8-6 This narrow mountain path provides foot access between Mamasa and Toraja

chronic regional overproduction, new plantations continue to be established in the upper catchment. Unlike Toraja, where remittances are possibly the most important injection into the regional economy, a comparable culture of *merantau* does not exist in Mamasa. Official data estimate total *arabica* production in Mamasa to be 3,703 tonnes with a further 3,019 tonnes of *robusta* coffee, making it easily the most prolific coffee-producing region in South Sulawesi⁷⁴ (BPS, 2002c). Mamasa remains one of the least developed and economically disadvantaged *kabupaten* in South Sulawesi.

8.2.1 UNSUSTAINABLE PRODUCTION AND ENVIRONMENTAL VULNERABILITY

Poor land management, impacting particularly on soil conservation, has resulted in extensive areas of severely degraded and unproductive lands spread across the *kabupaten*. Coffee plots were first established on lands directly adjacent to village settlements, as they continue to be in Toraja. However, local farmers apparently made no attempts to construct terraces or to perform other erosion prevention measures to protect the precious, thin layer of topsoil, which was soon swept away during heavy rains. The application of either organic or synthetic fertilisers has failed to become established within the coffee production systems of Mamasa. After only five or six years of production, *arabica* trees begin showing signs of serious soil nutrient deficiencies and fruit production crashes. At this point, bracken fern and pine begins to invade plots until they are finally abandoned. In one plot planted only three years ago on the slopes of Mount Mambuliling in the north, the topsoil layer was only five centimetres deep, whilst another six-year old plot was already devoid of topsoil. Presumably these sites too will cease producing and will eventually be abandoned by the growers. Very little maintenance of coffee plots is performed in Mamasa after an initial investment in land clearing and planting, followed by harvesting when the plot reaches a productive age.

All coffee plots visited in Mamasa were less than ten years old. As the land (under the current production regime) becomes no longer capable of supporting productive coffee trees, the farmer retreats further up the slopes to what natural forest remains in this highly degraded catchment, and clears a new plot of land to grow coffee. In later years the ferns may be cleared and planted with cassava. With the exception of limited wet-rice cultivation, the river plains in Mamasa are mostly an abandoned and heavily eroded

⁷⁴ Whilst these estimates are likely to be overstated, field observations concord with the assumption that coffee production in Mamasa is greater than in other *kabupaten* across the province.

wasteland of bracken fern, bamboo and pine trees, with coffee grown in the increasingly remote highlands adjacent to, and chequered within, the remaining forest. The succession of forest clearing, production and abandonment in Mamasa is illustrated in the plate series (Plate 8-7, Plate 8-8, and Plate 8-9). Newly established communities reliant on coffee cultivation such as the remote Marano-Talambai settlement, with up to 5,000 inhabitants, are continually cut out of primary forest within, and outside of, the Mamasa catchment. In other instances, farmers continue to reside in existing villages from where they walk considerable distances daily to work their plots, or stay overnight in rudimentary shacks built at the plantation during the harvest or planting periods.

Sometimes the cleared forest is burnt to enable immediate planting, although commonly the felled trees are left to rot, to retain much-needed nutrients to the soil. It is common, especially in isolated forest settlements, for annual crops such as hill rice, tobacco and corn to be planted whilst waiting for the coffee to start producing. Shade trees are considered to inhibit productivity on recently cleared lands, and are rarely grown in Mamasa. Coffee plots are not terraced, mulched or fertilised, and increasingly steep slopes are cultivated due to a lack of suitable land.

8.2.2 UNDEVELOPED TRADE NETWORKS

Most coffee is harvested ripe from the tree in the Mamasa Valley, and is usually pulped immediately with locally made hand-pulping machines. Coffee is often pulped in the plantation to reduce the weight of coffee to be transported back to the village. The wet parchment is sometimes fermented in sacks, although this practice does not appear to be followed in all villages. Common problems associated with processing in Mamasa include insufficient time allocated to fermentation (less than twenty-four hours), use of unclean sacks and the use of sand, dirt or ash to forcibly remove the mucilage from the parchment. A one-day period of sun-drying the parchment coffee is then performed in the village prior to transport to the market, frequently directly on the ground without using plastic sheets (Plate 8-10). It is common for coffee grown in the more remote plots to be dried further to reduce weight and facilitate transport.

Most farmers carry their own coffee to one of the three main markets held weekly in the valley at Mamasa, Tamalantik, and Malabo (Plate 8-11). The weekly market in Mamasa itself is larger than any market held in Toraja, and enormous amounts (in excess of 60,000 litres) are traded each week during the main harvest. Due to the extreme size of



Plate 8-7 Forest Clearing in Mamasa

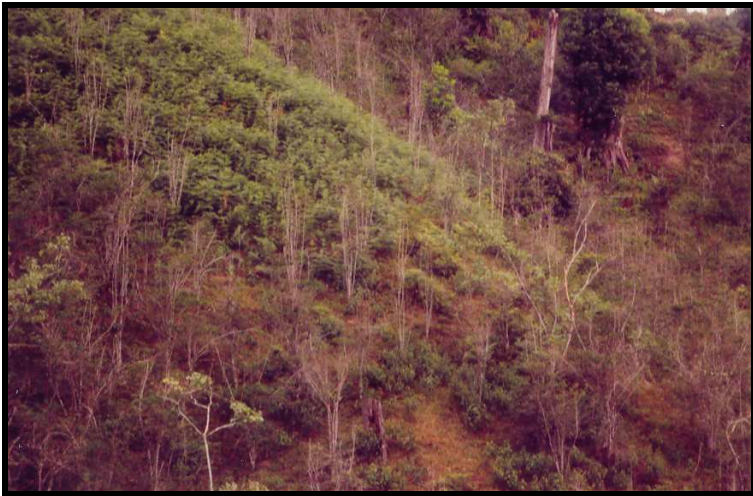


Plate 8-8 Abandonment in Mamasa

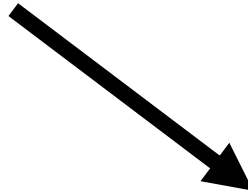


Plate 8-9 Coffee Production in Mamasa

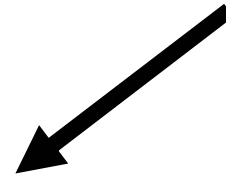


Plate Series showing unsustainable coffee production in the Mamasa Valley



Plate 8-10 Coffee drying directly on the ground, Mamasa Valley

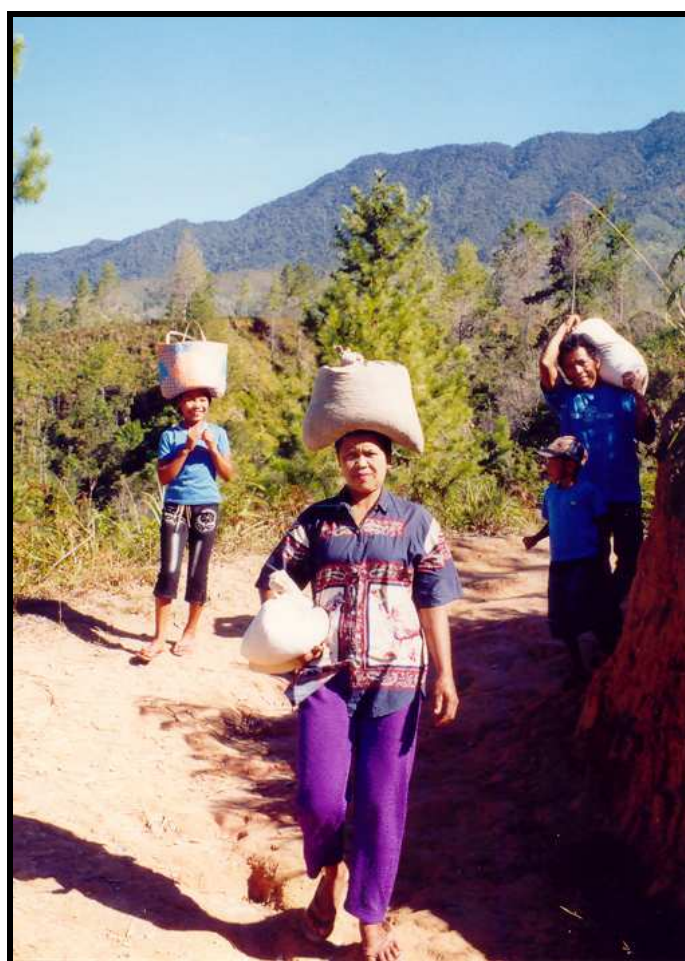


Plate 8-11 Transporting coffee to market, Mamasa Valley

the hinterland supplying this market, quality is highly variable and is mixed together with little attempt to differentiate grades of quality or geographic origin. Coffee plots and farming communities are remote from these central markets, and this frequently results in extended home storage (as semi-wet parchment coffee), and a correspondingly high incidence of mould. Limited area is available for wet-rice production in the valley, and coffee proceeds are often instantly used to purchase this staple food item at market. Considering the currently unfavourable prices paid for coffee in the market, farmers often only take home an equivalent amount of rice to the amount of coffee they brought.

The lack of available capital circulating through local market networks is reflected in the absence of any hulling operations or village-level trading system in Mamasa. In contrast to the well-established village trading networks in Enrekang and Toraja, farmers in Mamasa do not have access to basic credit and as a result are generally not tied to any particular buyer. The role of the 'scalper' has emerged as a response to these trading contexts, and its predominance is unique to Mamasa in South Sulawesi. 'Scalpers' line the entrance to the market and buy parchment coffee from local farmers during the market day and then offload their stock to one of the larger local traders. These larger local traders are invariably those who own their own truck and can transport the parchment coffee four hours away to the coastal city of Polewali. Some traders will also transport the parchment coffee to Toraja and Enrekang, if prices there are favourable. The inclusion of 'scalpers' in the Mamasa supply chain effectively lengthens the supply chain (Figure 5-1). It also inhibits the communication of quality demands to growers and ensures downward price pressures on local market prices.

Mamasa coffee is transported considerable distance (and often for extended periods) as wet parchment prior to hulling in Polewali. The three active mills in Polewali do not seem highly concerned about differentiating quality characteristics in the coffee, and almost all the parchment coffee processed at these mills suffers from mould due to the extended storage of semi-wet parchment. All these mills operate twin hullers and can process ten tonnes of green beans daily and claim to hull about 500 tonnes in a season (Interviews 63 and 64, Appendix B). The parchment coffee is hulled wet and after two to three days of sun-drying in the intense coastal heat, the green beans are sold directly to Makassar exporters without prior sorting or selection.

Coffee production in the Mamasa Valley is environmentally unsustainable in its current practices and is a primary factor contributing to the ongoing deforestation of this already critically degraded catchment. The remoteness of the *kabupaten*, extremely poor accessibility and lack of processing facilities have combined to construct an extended trade network along which the coffee is especially susceptible to quality deterioration.

8.3 Malakaji Coffee and the Southern Part of the Peninsula

The southern extremity of the South Sulawesi peninsula is dominated by the twin-peaks of Lompobatang and Bawakaraeng (henceforth referred to simply as Mount Bawakaraeng), remnants of an active volcano that rise sharply to 2,844 metres ASL (Bakosortanal, 1991c). Coffee is now grown in all five of the administrative *kabupaten* that surround these peaks (Figure 8-3), and has increased dramatically over the last twenty years, with the greatest production now found in *Kabupaten* Gowa (BPS, 2002c). The township of Malakaji, with one processing mill absorbing a portion of local production, has emerged as the trading centre for coffee grown not only in *Kabupaten* Gowa, but grown across the neighbouring *kabupaten* of Sinjai, Bulukumba and Bantaeng⁷⁵. The name ‘Malakaji’ coffee is now used by many traders and industry actors to identify all coffee produced in this entire southern complex. Production here presents a vivid contrast to the production systems found in the three northern *kabupaten* already discussed (Toraja, Enrekang and Mamasa). Due to biophysical conditions and the widespread implementation of non-standard processing techniques, the quality of *arabica* coffee grown in this region is generally considered to be of inferior quality.

The mountain itself is a proposed Nature Reserve, and it towers above extensive rice growing regions stretching toward the coastal plain. The steep physical topography of the extinct cone limits the area of cultivable land found at higher altitudes, and coffee is rarely grown above 1,300 metres ASL in this region. Large basaltic outcrops are common on the western slopes of Mount Bawakaraeng, and have generally broken down into deep, fertile soils in Gowa (Interview 44, Appendix B). The southern slopes of Bawakaraeng are severely affected by a rain shadow and experience a prolonged dry season, offering harsh living conditions for the inhabitants. *Kabupaten* Jeneponto suffers most from these conditions (insignificant amounts of *arabica* coffee are grown there),

⁷⁵ The information in this section was collected during a visit to the growing villages of Malino, Bilenrengi, Lambangbune, Cikoro and Malakaji in Gowa *Kabupaten* together with government extension officers, June, 2003 (Appendix B).

although Gowa also possesses a clearly discernible seasonal climate. Large amounts of *robusta* coffee are also grown around Mount Bawakaraeng, especially in Sinjai and Bulukumba.

Ethnic Makassans following the Islamic faith inhabit most of the Bawakaraeng region (Figure 4-3). Unlike their kin in the coastal ports, the highland Makassans seldom leave their native villages for trade or in search of long-term work. As such, the local economy is dependent almost entirely on domestic agricultural commodity production and the coffee growing communities are materially poor and relatively disadvantaged. The Makassan people here are predominantly wet-rice growers, although there is a significant spatial segregation between the rice growing lands on the lower slopes with the coffee areas higher up. *Arabica* coffee is generally grown adjacent to, and sometimes within, the ubiquitous pine forests of Bawakaraeng and oftentimes results in land use conflicts with the Department of Forestry. The villages of Bilenrengi, Lembangbune, Rappolemba and Cikoro (Figure 8-3) are all surrounded almost entirely by coffee plantations, with few other crops grown locally. Only in the Malino area of Bawakaraeng are a wide variety of agricultural commodities, including tea, passionfruit and vegetables visibly grown by the community. The growers in the Gowa region were very enthusiastic about the potential of coffee cultivation to contribute significantly to income generation, and many had already converted significant areas of previously diverse agricultural systems to depend on coffee as their sole source of livelihood.

The contemporary history of coffee growing in this region can be traced to government initiatives in the 1980s to stimulate production. Whilst the Dutch were influential in the establishment of plantations in the Bawakaraeng region during the colonial period, the industry was devastated by the leaf rust in the late nineteenth century and *arabica* cultivation never took hold within local communities. The provincial government of South Sulawesi, prompted by the apparently insatiable international demand for *arabica* coffee grown in Sulawesi at the time, embarked on a provincial program to encourage *arabica* cultivation in all upland areas in 1980. Soon after, local farmers in the five *kabupaten* that radiate from the peaks of Bawakaraeng were successfully growing productive *arabica* coffee on the relatively fertile volcanic soils. Government extension activities were an important factor contributing to the implementation of intensive agricultural practices in the region that prioritised productivity over quality. Government support for the coffee industry has been particularly strong in *Kabupaten* Gowa, where

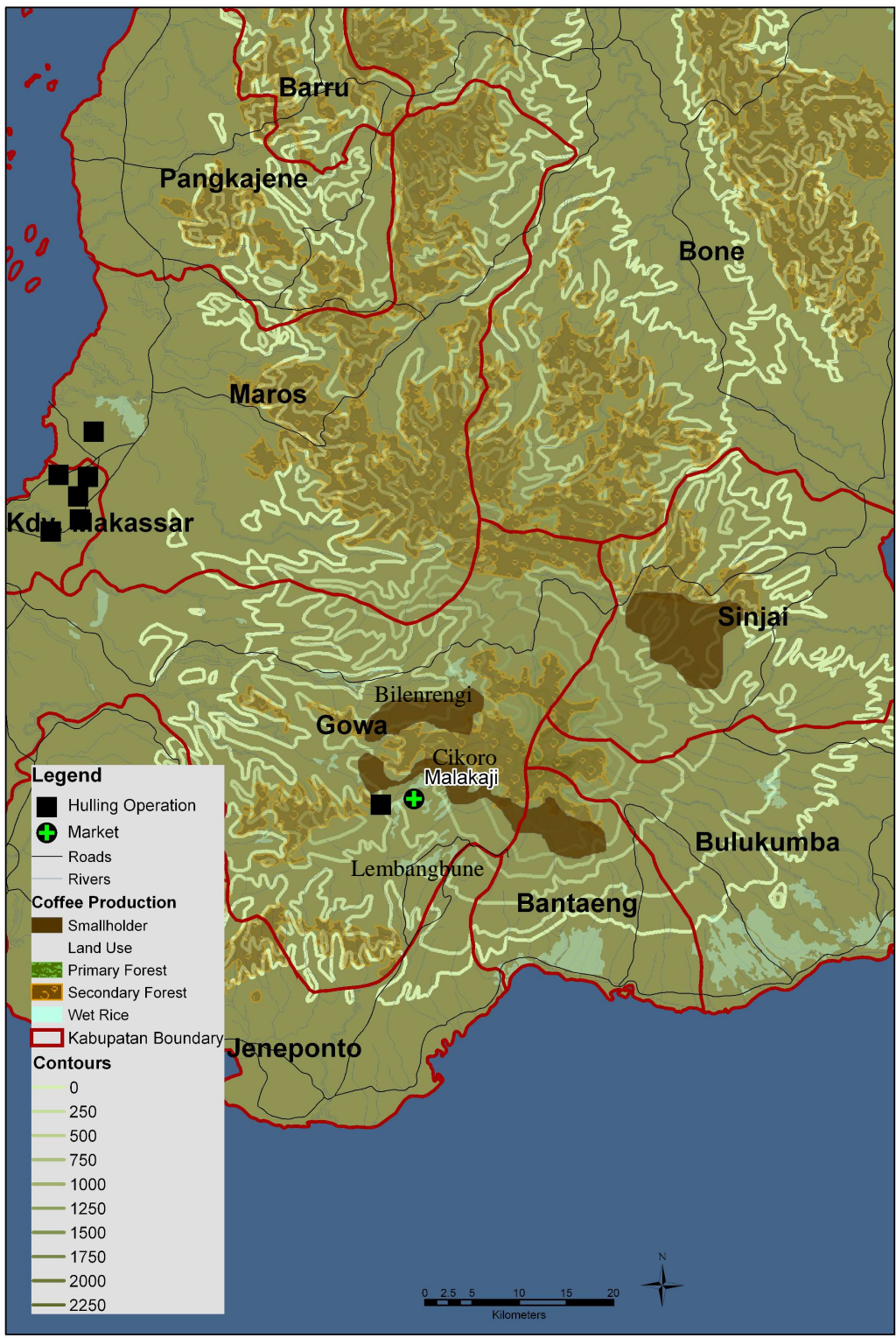


Figure 8-3 Coffee production spaces in the southern part of the South Sulawesi peninsula

processing equipment has been purchased for farmer groups and land made available for large-scale investment (Interview 50, Appendix B). However, despite these efforts, the land has failed to attract an investor, and the establishment of a coffee-processing factory⁷⁶ at Cikoro village has been largely unsuccessful.

8.3.1 INTENSIVE CULTIVATION AND CHRONIC PROCESSING PROBLEMS

Whilst coffee cultivation techniques in Gowa are relatively advanced, the quality of coffee in the *kabupaten* is significantly affected by the poor state of harvest and post-harvest processing. Immature coffee plants are grown under a shade cover generally consisting of economically productive trees such as avocado, cloves, banana and cinnamon. Specialised shade trees such as *lamtoro* were also observed in Lembangbune village, but are not widespread. However, characteristic of the intensive nature of coffee production in the region, shade trees are gradually removed from mature plantations to increase short-term productivity. Coffee is even grown under the shade of pine trees on forestry land at Bilenrengi and parts of Rappolemba, although growth is sub-optimal. Application of synthetic fertilisers such as Urea and TSP is widespread throughout the growing villages and the use of herbicides is also common. Apparently as a result of active agricultural extension performed by the local government agricultural office, knowledge concerning crop maintenance, pruning methods and fertiliser application is generally advanced in the villages visited and productivity relatively high as a result⁷⁷.

A lamentable feature of coffee production in Gowa is the unusual, yet widespread, practice of harvesting immature green cherries from the tree (Plate 8-12). This practice is justified by the subsequent increase of production to expenditure ratio: non-selective harvesting allows pickers to collect all beans from a particular tree in one or perhaps two rounds of picking in a season compared to five or six rounds common in other regions, thus significantly minimising labour costs. Premature harvesting also minimises soil nutrient demands, and farmers complain that ripe harvesting detrimentally affects the

⁷⁶ This factory was outfitted with machine-operated pulpers, a hulling machine, automatic graders, mechanical dryers, a gas-fuelled roaster, grinder, and packaging equipment. The aim was to empower farmer groups to value-add to their raw coffee beans and sell roasted coffee to the national market promoting the regional cultural identity *Kopi Karaeng* which means 'princely coffee' in the Bugis language. Unfortunately, the poor quality of local coffee and the apparent low domestic market demand for *arabica* coffee had stalled the project only a few months after the official opening, and possibly billions of Rupiah worth of equipment lies idle.

⁷⁷ One informant in Bilenrengi Village believed that he could harvest up to forty litres from one tree (Interview 59, Appendix B), compared to an average two litres per tree in Toraja.

following year's harvest. However, a beverage prepared from coffee beans harvested green tastes extremely sour.

Hand pulping machines are not generally used in the growing villages of Gowa. Instead generalised mechanical hullers, used also for rice and corn, are adjusted to pulp the prematurely harvested coffee. Each village possesses only a limited number of such 'pulpers', ensuring a significant backlog of coffee requiring pulping during the peak harvest. Even these adjusted devices face difficulties removing the green coffee skins adhering closely to the parchment. As a result, it is common for farmers to prepare the green beans for pulping by mixing with a chemical ripening agent⁷⁸, and storing in *goni* bags for one to two weeks prior to pulping (Plate 8-13). After this storage period, the coffee releases a strong odour of rancid fermentation. The 'pulpers' do not actually separate the coffee beans (still in their parchment) from the skins and further washing is required. Women and children generally perform this 'washing' in local street drains using foul water (Plate 8-14). The parchment coffee is then dried directly on the bare ground, without any attempt to remove the mucilage, and sold to traders. The poor state of coffee processing in the Bawakaraeng region ensures that, despite a favourable growing environment and well-maintained coffee trees, the green beans sourced from the region are perceived by buyers as being of extremely low quality.

8.3.2 LOCAL TRADE NETWORKS

Unlike other growing regions across South Sulawesi, Gowa does not possess an extensive market network where farmers can sell their coffee to local traders or *tengkulak*. A general market is held at Malakaji, although coffee is generally not bought and sold here. Instead local coffee farmers (usually those who have access to a truck) frequently act as collectors, pooling a village's harvest and attempting to sell the beans in Makassar. Accessibility is generally very good, with sealed roads extending to within the major coffee growing communities. The poor quality of local coffee has, however, created a situation where supply far outstrips demand, burdening the farmers with the added responsibility of marketing their produce in Malakaji, or more commonly Makassar. The government plant in Cikoro is inactive, and the capacity of the single hulling machine in Malakaji is limited. Parchment coffee is usually hulled in Makassar prior to sale or sold to one of the exporters who accept parchment coffee.

⁷⁸ Labelling on the bottle of this ripening agent identifies the active ingredient as 'Etefon'.



Plate 8-12 Harvesting green coffee near Malakaji



Plate 8-13 Green coffee is mixed with a ripening agent prior to pulping



Plate 8-14 Washing Malakaji coffee in local drains

The generally depressed economic conditions in the coffee-growing communities have meant that the capital required by local traders to purchase coffee beans and transport them to market is scarce. In a mistaken attempt to accumulate capital, the few existing local traders have been known to encourage farmers to harvest their crop prematurely to improve their own cash flow. Both local traders and the processing plant located at Malakaji are indiscriminate in their purchasing, and no price differential exists in the area between properly and poorly processed coffees. The absence of a price incentive for quality processing ensures the ongoing harvesting of green beans in the community. Sometimes in Gowa, farmers even supply the collectors with coffee and receive payment only on successful sale by the collector in Makassar, when a definite price has been established.

During 2002, 'Malakaji' coffee flooded the export market, with at least one Makassar-based exporter supporting agents to actively source from the area. Towards the end of the 2003 harvest, 'Malakaji' coffee was being downright rejected by exporters after quality complaints from international buyers started filtering down the supply chain. During June 2003, farmers sold parchment coffee to local traders for 3,000 Rupiah per litre, whereas later in the season (August), 'Malakaji' coffee was having difficulty finding a willing buyer in Makassar for 2,000 Rupiah per litre. There is very little evidence of information regarding either prices or quality requirements being communicated along this trade network, and a number of collectors experienced significant financial loss as a result of unexpected price crashes during both the 2002 and 2003 harvests.

Increased coffee production by growers in the Bawakaraeng region and the penetration of international trade networks associated with 'Kalosi' or 'Toraja' coffee identities has significantly affected the structure of the provincial coffee industry in South Sulawesi. Growers were initially able to benefit from the quality associations of coffee exported from Makassar and obtained relatively high prices for their coffee. However, largely as a result of poorly processed 'Malakaji' coffee permeating the export market, the international image of South Sulawesi coffee as a quality origin has been severely disrupted and the willingness of importers to pay premium prices has fallen accordingly. (Interview 93, Appendix B). Quality concerns and falling prices are now starting to reverberate upstream to coffee growers in the Bawakaraeng region, who are facing unprecedented difficulties selling their coffee to exporters. The manner in which coffee production is embedded within the Bawakaraeng region has immediate consequences for

the perceived quality of 'Malakaji' coffee. As described further in Chapter Ten, supply chain relationships are beginning to adjust accordingly to this place-informed influence, as attempts to trace the local geographic origins of coffee within South Sulawesi become more pronounced.

8.4 Conclusion

The numerous coffee production spaces of South Sulawesi vary considerably in respect to physical environmental setting, cultural characteristics, cultivation systems, processing techniques and market trading networks. This heterogeneity reflects the social and historical processes through which coffee production became embedded within the diverse communities living throughout the peninsula. Susceptibility to disease in lowland areas ensures that *arabica* coffee cultivation is restricted, in South Sulawesi, to the Latimojong Mountains to the north and the slopes of Mount Bawakaraeng in the south. Ethnic minorities and generally economically disadvantaged communities living in these areas continue to produce the vast majority of Sulawesi's *arabica* coffee exports. These groups possess significantly different agroecological foundations upon which coffee cultivation was subsequently implanted, frequently as the first agricultural commodity produced specifically for an external market.

Coffee is generally grown in Enrekang under an intensive agricultural regime, often at the expense of quality, with a particularly high concentration of domestic capital invested in local hulling operations. This contrasts with Mamasa, where the lack of local capital invested in the coffee industry, poor accessibility and extended trade networks cause significant quality deterioration prior to export. Coffee production also contributes to significant land degradation in the Mamasa catchment. Extremely poor processing techniques, influenced primarily by the harvest of grossly immature fruit, severely affect the quality of Malakaji coffee produced in the Bawakaraeng region.

It is evident that nature itself has remained influential in determining access to, and the structure of, associated coffee trade networks extending from these sites of primary production. Altitude, topography, soil types, and climate all affect the way coffee is produced in Sulawesi, with implications for both quality attributes and need for expensive agricultural inputs. In consideration of the slight margins evident in the coffee sector, the extent of such natural subsidies to production systems frequently determines the viability of a particular region's coffee industry. Historically influenced cultural traits

and economic structures are then superimposed on the natural factors of production, creating the mosaic of coffee production spaces described above. The embeddedness of coffee production systems in these spaces emerges as a fluid layering of place-informed relationships, settings and contexts. These forms of geographical embeddedness have resulted in an array of distinct coffee production spaces across the peninsula, with substantial implications for their ability to access quality-differentiated global markets.

PART IV: THE GOVERNANCE OF QUALITY

The diversity of local coffee producing environments across South Sulawesi has important implications for conceptualisations of quality throughout the supply chains. Chapter Nine explores the social constructions of quality at each node in the chain. Quality is widely presented as a function of the geographical embeddedness of production. However, Chapter Ten demonstrates how responses by international actors to regulate these quality attributes have resulted in shifting forms of supply chain coordination driven overwhelmingly by non-local actors.

9 CONTESTED MEANINGS OF QUALITY

Some coffees bring with them the smells of the forests they grew near, the taste of the water that soaked their roots, the flavours of the fruits that grew near them.....
If a cup of coffee simply tastes good, it's not as great as one that reminds you it came from a place and that people grew it. (Castle, 1991: 86)

Notions of quality in the global coffee market have departed significantly from a reliance solely on industrial practices and standards prevalent in the conventional commodity exchanges. Customarily, physical appearances, grades and cup characteristics, have been applied to present quality attributes as discernible within the coffee bean itself. Whilst such valuation is itself subject to changing social, economic and political processes, any shipment or sample of coffee could theoretically be graded objectively by these techniques. However, it is increasingly the case that quality is also being constructed and animated by discursive references, which frequently rely on third party (as well as internal) verification of production processes.

The ability to present the unique geographical context of the growing environment is central to the construction of quality in contemporary sites of specialty coffee consumption. Sulawesi coffee is sold predominately as a single-origin gourmet coffee, where its quality characteristics are frequently presented as a function of the geographical embeddedness of production. The management of these place-related quality associations by different actors, primarily through socially constructed conventions, codes and standards, emerges as an important mode of governance in Sulawesi coffee commodity chains.

9.1 Conceptualising Quality

Quality is a complex and contested notion, the meaning of which is socially constructed and thus variable according to different socio-cultural contexts.(Ilbery and Kneafsey, 2000: 218)

Any discussion on the role of quality in affecting actor relationships throughout the supply chain must necessarily begin with an acknowledgement that there are no entirely objective criteria for determining the content of what is perceived as quality. Even supposedly objective quality criteria using physical attributes alone are themselves social constructs of the pre-existing political and economic influences that combined to institutionalise these standards (Ilbery and Kneafsey, 2000). Rather, the construction of

quality, as applied in this thesis, borrows from Mansfield's (2003: 6) conceptualisation of quality as "assemblages of political-economic, cultural and natural relations". Such an understanding regards quality construction as implicating the various actors along the supply chain, and as being constantly renegotiated by their interrelationships. For these reasons, it is important to understand the *conventions* which shape relations between social actors.

Convention theory offers valuable insights into how social constructions of quality have become embedded within supply chain relationships. According to Wilkinson (1997a: 318),

For Convention Theory, rules are not prior to action, nor are they elaborated from outside the action but emerge within the process of actor co-ordination.

The social and political contexts within which each actor exists along the supply chain affect their ability to interact with notions of quality at the most fundamental level. For globally coordinated industries, such as coffee commodity chains, this necessarily involves reaching a compromise between what are often widely opposing world-views. For instance, the coffee consumption culture of specialty roasters in the US contrasts markedly with the ritual consumption of coffee at a Torajan funeral, although each has a profound effect on how actors within this one supply chain perceive notions of quality. The construction of quality implicates various actors, their embeddedness within socio-spatial contexts, and their relationships with other (adjacent) actors. As a result, an understanding of quality within this system as a whole, is best analysed through the subjective notions of quality held by individual actors along the supply chain. Central to this understanding is to consider quality as a social construct not only at the site of consumption (working its way back to shape sites of primary production), but as an outcome of negotiations occurring throughout the entire chain (Mansfield, 2003).

In the Sulawesi context, quality conventions applied by roasting firms embedded distinctly within the specific socio-cultural spaces of Japan and the US effect diverse responses from growers and traders in Sulawesi. The negotiation of quality within these two supply chains is resulting in particularly complex realms of production in Sulawesi due to the (frequently) contradictory quality signals being transmitted.

Convention theory offers typologies of the "worlds of legitimate common welfare" that can be drawn upon to explain firm behaviour and relationships between actors. These

typologies have proven to be particularly useful for analyses of quality construction arising from a shared commitment to the logics of particular worlds. The six worlds espoused by Boltanski and Thevenot (1989) were based on justifications from within the epistemology of political philosophy and have been used as the basis for conventions applied by actors as forms of coordination within the world economy⁷⁹. These conventions can be applied to distinguish between particular forms of embeddedness situated throughout the supply chain, and have been used particularly effectively to conceptualise negotiations over quality in the food sector (Murdoch et al., 2000).

It is however important not to explain the ‘turn to quality’ within the agri-food sector as the exclusive domain of emerging niche markets for specialty products. Mansfield’s (2003) analysis of the *Surimi* seafood industry demonstrates how industry actors negotiate quality attributes within a globalised, industrial production system, which results in new forms of economic coordination. Convention theory also assumes a broader understanding of quality, where “it is argued that markets can function only on the basis of a prior definition of the quality of the products to be exchanged” (Wilkinson, 1997a: 330).

The use of analytical classifications in this chapter owes a debt to Ilbery and Kneafsey’s (2000) four interlinked typologies on the conceptualisation of quality. *Certification* refers to a particular quality mark attached to the product, usually by an external organisation. *Specification* is the delineation of the use of particular raw materials and/or processing methods. *Association* is attained by linking the product spatially with a particular region or temporally through a cultural tradition. *Attraction* is the generation of quality by accessing the subliminal desires of consumers, usually through product marketing and branding.

This analytical approach is consistent with approaches from conventions theory, which requires that,

Description must follow as closely as possible the way in which the actors themselves define the conditions of validity in the situation under consideration, which leads us to be very attentive to the variety of forms of justification (Boltanski and Thevenot, 1991: 25, quoted in Wilkinson, 1997: 319).

⁷⁹ The six ‘conventions’ (from Wilkinson, 1997) are *commercial* (market-based competition), *civic* (common social welfare and ethics), *domestic* (trust, loyalty and embeddedness), *industrial* (productivity and use of standards), *public* (opinion-based, brands and reputations) and *inspirational* (creativity).

The importance of particular social conventions, that allow a negotiated agreement at a particular site for what is considered quality, are evident at all stages of the supply chain. In the following analysis, whilst certain conventions may dominate particular exchanges, these conventions are constantly being re-negotiated by the actors involved and evolving into new forms of coordination and the subsequent acceptance of new notions of quality.

The mandatory enrolment of all actors in quality construction does not preclude the potential for powerful actors within the chain to differentially influence widely accepted characteristics of quality. The GCC literature alerts us to the ability of powerful lead actors to drive particular forms of governance throughout the supply chain. With access to, and control of, information becoming increasingly central to issues of quality management, Ponte (2002b: 4) argues that,

choices aimed at solving quality information problems by key actors will then determine the way a certain value chain (or segment of a chain) is governed.

Forms of coordination in the Sulawesi coffee chains are focused around quality concerns and standards, which are constructed and promulgated strategically by individual actors. The ability to control quality, as a continually negotiated social construct, along the chain has become central to asserting chain governance.

9.2 Negotiating Qualities of Sulawesi Coffee

Sulawesi coffee is able to demand premium prices at the site of consumption and at various stages throughout the supply chain due to the perception of it being a quality product. From a purely market-oriented approach, this willingness to pay may be indicative of self-evident quality embodied within the coffee itself. However, such a view provides insufficient detail of the emergence, negotiation and maintenance of quality attributes within the supply chain. Rather than assert that Sulawesi coffee has a superior quality because the market tells us this, we need to ask how these market processes have been negotiated.

In the following discussion, the particular quality attributes of Sulawesi coffee are investigated through an analysis of various indicators of quality applied by five primary sets of actors involved in Sulawesi coffee supply chains (growers, local traders, exporters, importers and roasters).

Individual perceptions of quality are collated from various interviews held over the course of fieldwork (Appendix B). All four of the major coffee-growing *kabupaten* in South Sulawesi were visited, entailing numerous informal interviews with growers. Twelve of the most significant coffee trading markets across South Sulawesi were visited, where quality perceptions were discussed with both growers and local traders. Twelve of the thirteen exporters (responsible for ninety-five percent of total exports) in 2003 were interviewed. Nine out of the thirty-one importers were interviewed, with these firms accounting for seventy-three percent of total imports. The analysis of roaster perceptions is taken largely from company websites, and is restricted to those offering Sulawesi coffee as a single-origin product. During the following discussion, it may be useful to refer to Figure 5-1 for a schematic presentation of the Sulawesi coffee trade flows, and to Figure 5-3 for the processing techniques performed by each actor.

9.2.1 THE NATURE OF THE GROWER'S ENVIRONMENT

The embeddedness of primary coffee production within the geographic spaces of Sulawesi was described in detail in the preceding chapters, and emphasised the local heterogeneity of these production spaces. Notwithstanding critical local differences, the world of the coffee grower generally comprises upland rural villages, dominated by traditional lifestyles and belief systems, and where coffee is the dominant agricultural commodity produced. For many growers, coffee cultivation is less a chosen vocation than an inherited one, with few alternative livelihood options available. The grower's perceptions of coffee and its associated quality characteristics are necessarily shaped by the cultural and agroecological characteristics of this embeddedness.

Growers are involved in social interactions with a number of agents external to the trade network itself, who perform an important role in formulating grower perceptions of coffee quality. Foremost amongst these are government extension officers, local and foreign researchers, aid workers and other developmental agencies. Government policy in the province was largely responsible for the dramatic increase in *arabica* production that occurred across South Sulawesi from about 1980, with particular focus in the Gowa *Kabupaten*. These extension activities concentrated on increasing productivity with a disregard for conventional quality requirements concerned with harvest and post-harvest processing. The introduction of *kopi Jember* coffee varieties to Sulawesi, by a government research station in Java, vastly improved disease resistance and productivity.

However, many growers believe the new variety has resulted in an inferior quality bean. More recently, a survey team from the French *Centre de coopération internationale en recherche agronomique pour le développement* (CIRAD) visited Toraja to ascertain the potential for establishing an *appellation* for Sulawesi coffee (Perriot, 2002). Another project being undertaken at the time of writing involves the cooperation of a local agricultural organisation (*Tengko Situru*) with an international aid organisation, and which is advocating a return to *typica* cultivation as a way of improving coffee quality and reputation. These examples suggest the multiple influences on coffee growers, external to the trade network, which together act to inform their notions of coffee quality.

At a fundamental level, the grower maintains a relationship with the coffee tree itself as a supplier of coffee beans, and through the plant, the natural environment that sustains it. This very real relationship is an important transmitter of quality information to the grower, as the health and productivity of the plant are regulated by nature, primarily in the form of soil characteristics, altitude and rainfall. The grower observes directly the influence of rainfall on flowering, altitude on disease resistance and fruit maturation, and soil characteristics on fruit productivity. It is therefore not surprising that these place-related natural attributes play an important part in the grower's view of what factors affect the production of high quality coffee. First and foremost, coffee growers in all regions of Sulawesi link local natural conditions to the construction of quality attributes (usually with a parochial insistence of the superiority of their immediate environment compared to adjacent growing regions). As one coffee grower from Sapan village describes,

The coffee grown in this valley tastes different to coffee from any other place in Toraja, or in Sulawesi. I don't know why. I think it's because of the altitude, the soils and the air we have here. Sure, different varieties taste different, but any coffee grown in Sapan long enough ends up tasting good. After a while, the coffee [variety] starts adapting to the conditions. I think that nature here is conditioning the coffee plant (Interview 16, Appendix B).

Other growers attributed a greater relevance to the coffee variety planted and tree maintenance in the determination of quality. A widespread belief in the superior quality of *typica* varieties in the growing community is attributed to both taste and post-harvest functional considerations (bean hardness and durability). The market's inability to reward *typica* beans with price premiums, and the high regard with which the variety is held locally, frequently result in *typica* coffee being consumed within the growing community

itself. *Arabica* varieties of coffee vary considerably in terms of disease resistance, productivity, physical appearance and functionality, all of which are palpably apparent to the grower. Plant characteristics thus easily translate, for growers, into strong beliefs on subsequent quality traits in the processed bean. It is also common for growers in South Sulawesi to identify cultivation methods such as use of organic (rather than synthetic) fertilisers, cover by shade-trees, and age of trees as important quality determinants.

The relationship between growers and local traders opens an opportunity for the exchange of quality-related information. The trader's willingness (in Toraja) to provide financial incentives for desired physical parchment characteristics ensures a shared appreciation of particular quality criteria. Toarco conducts annual meetings with the coffee growing community across northern Toraja prior to the main harvest, with the principal aim of reinforcing a clear understanding of the company's quality expectations. The company prefers freshly picked coffee to be immediately pulped, fermented for two nights, washed with clean water, sun-dried on a protective sheet, and presented to market without delay or storage. Whilst the company's demand for semi-dried parchment is a product of specific quality control strategies (discussed in the following chapter), their ability to communicate quality attributes locally has greatly affected the grower's own understandings of quality. However, price premiums linked to on-farm processing (and geographical origin) are often transmitted through local traders, who are thus enrolled as important agents of quality communications. An exception here is Toarco's direct grower purchasing project in Sapan village, where the company's belief in the influence of geography on quality powerfully reinforces the grower's own quality perceptions related to the natural environment.

Price differentiation for quality attributes (including origins) at the grower level is inconsistently applied across South Sulawesi, and is the most pronounced in Torajan trade networks. In many other areas, premium prices are not available for specific growing villages and/or improved physical bean characteristics. In these cases, the transmission of quality expectations is weakened substantially, and the perceived importance of initial processing techniques and geography in determining notions of quality is undermined accordingly.

Therefore, the grower perceives quality to be primarily a function of *association* with place through the combined influence of a number of natural attributes, and secondarily

through the *specification* of variety used, crop management and initial processing methods employed. The relationship between grower and local trader in Toraja is dominated by trust-based *domestic* conventions, where social relationships not directly part of the exchange process are entwined within a wider set of cultural processes. Within these relationships however, *industrial* conventions are nonetheless maintained and drawn upon to establish mutual agreement on what constitutes quality. This is evident in the importance attributed to the physical appearance of the parchment itself. In other regions of Sulawesi, *commercial*, market-based conventions prevail, where place-informed and process-related quality attributes are minimal.

9.2.2 MARKET TRADERS

The multitudes of local (market) traders operating across Sulawesi are responsible for linking growers with processors and/or processor-exporters. These traders are frequently integrated within the growing community, as in the case of northern Toraja, where only ethnic Torajans operate as traders. Similar cultural entry barriers are found in other local trade networks in Sulawesi. In Gowa, traders are often growers who have assumed the role of collector and are usually embedded within the local community as socially esteemed *Haji*⁸⁰. In both Enrekang and Toraja, dense local trading networks ensure a high degree of trader familiarity with the growing regions and the growers themselves. Traders acting as *tengkulak* enlist growers as tied suppliers through the provision of working capital, and this indebtedness defines the relationship between the two actors. Many growers accuse the *tengkulak* (and other traders) of price manipulation and of unfair trading practices, such as altering (expanding) their litre measuring tin, overfilling the tin, and other forms of deceit. Despite such complaints, the manipulative practices of the local trader (as perceived by the grower) are generally performed within familiar, and even socially acceptable, limits.

There are essentially three categories of pre-export coffee traders operating across Sulawesi. Firstly, there are those traders whose operations are restricted to one highland market and inevitably live in the growing village, probably maintain their own trees and interact with growers in both an economic and social sense. Coffee collection and trade for these actors often involve house-calls, and the trader is familiar with the social status and financial situation of the grower, and may even possess kinship or ceremonial

⁸⁰ *Haji* are Muslim elders who have returned from the sacred pilgrimage to Mecca.

relationships with them. Such traders supply processor-exporters in Toraja, hullers in Enrekang and exporters in Makassar (for coffee from Gowa). Traders whose sphere of operation encompasses more than one market often live in nearby towns, with grower interaction limited essentially to the market place itself. These traders are usually part of the wider community (that is Torajan or Mamasan), and are unlikely to also be involved in coffee cultivation themselves. Finally, there are provincial traders who often perform hulling operations themselves and transport green coffee to Makassar. These traders rarely interact directly with coffee growers, and include the provincial traders/ processors in Polewali who receive parchment coffee from local traders in Mamasa.

Whilst the nature of embeddedness within the growing community varies between these three trader categories, in a general sense all inhabit fundamentally the same cultural and physical space as the growers. Importantly, local-based coffee traders will ordinarily know the exact location where the coffee they buy has been grown and by whom. This knowledge constitutes a crucial indicator of the quality contents of the coffee they trade. Particularly in the Toraja region, the trader will either limit their activities to a particular growing area or differentially pay growers depending on the origin of their coffee. Amongst Torajan (and to a lesser extent Enrekang) traders, a clear hierarchy of quality exists, dependent on the market origin of the coffee being traded.

Coffee is purchased from growers as semi-dried parchment, and frequently sold again whilst still in that form. In addition to local origins, the physical appearance of the parchment is therefore paramount to the trader's perception of coffee quality. During the market transaction in Toraja, the trader will often perform a brief quality estimation based on physical indicators. A quick glance and smell can determine whether or not the coffee has been freshly harvested and processed: reddish-coloured parchment indicates delayed pulping; mucilage adherence suggests incomplete fermentation; a musty odour indicates extended storage or incomplete drying; and a whitish colour immature harvesting. The degree of importance assigned to parchment condition varies considerably across South Sulawesi, and is principally a function of purchasing standards enforced by local mills sourcing in each area. In Toraja, local traders apply standards set by Toarco Jaya for the condition of parchment coffee. Implementation of these standards is however conducted with a degree of scepticism. One trader, who is a major supplier to

the company, remarked that “Toarco only buys the parchment, not the coffee bean” (Interview 10, Appendix B).

In other areas, such as the Mamasa Valley, the condition of the parchment is considered irrelevant to the quality of the bean contained within. This was revealed starkly in a field visit to several Polewali hulling operations, when it was observed that almost all of the parchment coffee from Mamasa was covered in various stages and types of mould. When asked whether this was of concern to him, one of the traders responsible for processing the beans laughed, split open the parchment and said,

See, there’s nothing wrong with the green bean inside. It doesn’t matter what the parchment looks like. It’s the green bean that we trade and that’s what gets roasted in the end. Not the parchment (Interview 63, Appendix B).

It is not generally possible to cup-test coffee prior to purchase. Local traders thereby control quality through their access to production information, and rely on trust-based relationships with growers to evaluate quality associations. *Industrial* conventions, reflected in the quality standards applied to physical parchment conditions, provide a further basis for maintaining trade relationships at this stage of the supply chain. *Specifications* of on-farm processing methods are communicated (by mill operators such as Toarco) through traders to growers in the Toraja region. Market conventions dominate exchange in the growing regions of Mamasa, Enrekang and Gowa, where quality differentiation is less pronounced. One trader in Polewali, accustomed to market conventions, described his experience of selling coffee to a Toraja-based mill:

they expected me to re-sort through my coffee before accepting it. What do they think I am? I’m a trader, not a coolie! (Interview 64, Appendix B).

9.2.3 INDUSTRIAL STANDARDS AT THE SITE OF EXPORT

Sulawesi coffee exporters are either located near the port in Makassar or in the growing region of Toraja. These two locations are influential in shaping, and moreover reflect existing, perceptions of quality within the export community.

The traditional site of Makassar has the advantage of immediate port access, considerably lower transport costs, a larger pool of cheap and semi-skilled labour, existing warehouse facilities and proximity to relevant port and government authorities. These actors are more inclined to prioritise *commercial* conventions and many are involved in the trading of diverse commodities for the export market, as well as futures trading (Interview 32, Appendix B). Green coffee beans are perceived in the true sense of a commodity, and are

differentiated primarily based upon standardised *industrial* conventions, such as grading, sorting and third party-verified defect counts. In contrast, the decision to establish and operate mills, estates and purchasing stations by exporters in Toraja is a direct response to the shifting importance of particular quality conventions in these supply chains. Difficult labour conditions, high land costs (associated with complicated tenure systems), and poor accessibility otherwise suggests the poor economic viability of Toraja-based operations. However, the implicit acknowledgement that the natural (and cultural) attributes of Toraja are associated with coffee quality characteristics justifies their location choice.

Quality perceptions held by Makassar-based exporters are informed by a dominant culture of commodity exchange and the institutional arrangements of AEKI and government agencies. As a result, market requirements to satisfy increasingly complex consuming country quality demands currently assume secondary importance. AEKI's influence over export allocations resulted in an emphasis on political alliances and horizontal linkages rather than meeting the particular quality requirements of the expanding international specialty sector. Some international buyers expressed a belief that the quality of coffee being sold out of Makassar has declined considerably over the years (Interview 88, Appendix B). This decline is attributed to the Makassar-based exporter's poor (or different from their own) appreciation of quality priorities.

The physical condition of the green beans is considered by many exporters to first and foremost inform quality attributes. The performance of wet-hulling and green bean sun-drying produces a darker blue-green coloured bean; a characteristic which the exporters believe is sought by international buyers. The expensive investment in sorting, grading and polishing equipment, and labour intensive hand sorting, further asserts a belief that coffee quality is primarily a function of their degree of bean selection. For example, one exporter offers a premium 'supergrade' coffee to international buyers at nearly twice the price of their commercial grade coffee (Interview 33, appendix B; Appendix E). Improved grading and sorting vigilance, rather than attempting to authenticate or otherwise influence growing conditions and on-farm processing, achieves this enhanced perception of quality. All exports of Indonesian coffee are required to undergo independent quality estimation by an approved testing laboratory, resulting in a grade

allocation for the coffee from Grade One to Grade six⁸¹. The analysis is based entirely on physical characteristics of the coffee sample, such as bean size, uniformity and the presence of defects, without reference to geographic origin or taste characteristics.

The importance of *domestic* conventions associated with the prioritisation of particular origins and trust-based relationships with selected suppliers is however, beginning to assert itself at the site of export in South Sulawesi. Toarco combines the use of *industrial* conventions with place-related information obtained through dense local supply relationships to ensure geographical integrity and enforce quality standards.

For those exporters wishing to obtain particular regional origins, trust-based relationships with certain traders are the only method of verifying geographic authenticity. The scales at which these local traders operate are an important determinant of their ability to ensure geographical integrity. Smaller exporters supplying the non-Toarco Japanese market rely extensively on intimate trade relationships, which utilise *domestic* conventions to meet quality standards specific to their principal buyers. The ability to rely on such *domestic* conventions is substantially affected by the scale of their own operations. One exporter claims that the volumes of coffee required by major buyers in the US market make it impossible to constantly maintain the highest quality standards (Interview 51, Appendix B).

The scale at which exporters attach importance to place associations of quality also varies between actors. Toarco expresses a belief in quality differences between southern and northern Toraja due to soils, altitude and cultural practices (Interview 31, Appendix B). The company even applies village specific quality attributes to coffee grown across Toraja. One Makassar-based exporter believes that coffee grown in Toraja, Enrekang and Mamasa is “pretty much the same”, but is distinct from that grown in the south (Interview 28, Appendix B). Other exporters (Interviews 20 and 51, Appendix B) believe in an *association* of place and quality at the *kabupaten* level, with a quality hierarchy from the superior Torajan-grown coffee, Enrekang, Mamasa and then Gowa. Interestingly, these exporters also share a belief that Enrekang coffee produces the fullest body coffee in Sulawesi (Toarco attributes this to the prevalence of semi-washed processing methods).

⁸¹ All *arabica* exports from Makassar during 2002 and 2003 achieved the highest ranking of Grade 1.

However, some exporters claim that relatively high coffee prices in Toraja compared with the generally depressed prices paid at the site of export necessitate the mixing of local origins prior to export (Interview 52, Appendix B). This occurs even when exporters have made an effort to trace geographic origins. The geographical identities requested by international buyers (for printing on coffee bags) have long held no direct relationship with actual growing origin, thereby undermining any real influence of local geography on quality attributes.

At the site of export, there is evidence of a continued reliance on *industrial* and *commercial* conventions to ascertain quality attributes, although all exporters maintain a belief in the inherent variability in quality associated with place in South Sulawesi. The importance of trust-based *domestic* relations between exporter and local trader provides the basis for place-related communications, whilst export-import relations address industrial and commercial concerns. The fundamental mismatch between these two conventions ensures continuing tension and confusion on the question of what constitutes ‘quality’ in Sulawesi coffee.

9.2.4 GLOBAL SOURCING BY GREEN BEAN TRADERS

At the point of export in the Sulawesi coffee supply chains, there is a distinct separation from quality content determined by trust-based trade relationships (*domestic* conventions), and to quality determined by inherent bean characteristics (using *industrial* conventions), that are assessed primarily by cupping procedures. Whilst the former appears to be on the ascendance, the latter remains dominant. It is standard practice for importers to request representative samples from exporters prior to placing an order. These samples are cup-tested and assessed for compliance with pre-determined taste characteristics.

All US and European buyers of Sulawesi coffee interviewed during the research expressed their belief that the cup characteristics of a good Sulawesi coffee were exemplified by a full body and low acidity (Interviews 88-99, Appendix B). Any pre-shipment sample is therefore assessed against these preconceived quality attributes. In addition to these basic cup characteristics, importers used a variety of terms to describe the flavour of a good Sulawesi coffee, including ‘slightly earthy’, ‘spicy notes’, ‘fruity’, ‘blackcurrant-like’, ‘creamy texture’, ‘chocolate aftertaste’, and ‘a little bit woody’ (Interviews 88-99, Appendix B). Interestingly, the major Japanese-owned buyer of

Sulawesi coffee, with substantial local knowledge of the coffee growing regions in Sulawesi, does not share the same view on desired cup characteristics. Less emphasis is placed on the presence of heavy body, whilst a ‘pleasantly sharp acidity’ associated with a more intense flavour is deemed vital (Interview 51, Appendix B). Moreover, the company believes that the higher altitudes of growing areas in Toraja are essentially responsible for the presence of cup acidity, and that semi-washed processing methods and the removal of a fermentation stage can easily produce a heavy body, if this is desired.

International green bean importers of Sulawesi coffee are firmly embedded within the socio-cultural setting of the particular consuming country whose market they principally serve. Coffee consumption trends and quality considerations across Europe, the US and Japan vary considerably, and green bean traders respond accordingly when developing sourcing strategies.

Key Coffee has adopted an approach of full vertical integration throughout the supply chain, and dominates the Japanese market. Multi-commodity trading firms such as Mitsubishi, Toyota Tsusho and Marubeni, also feature prominently amongst importers in this market. Interestingly the small volumes (sometimes less than one full container) and high prices paid by these traders, and by coffee roasting giant UCC Ueshima, reflect a strategy more commonly associated with specialised operators.

In stark contrast, larger volumes and lower prices by specialised coffee traders characterise imports into the US. In this market, specialised importers promote intimate knowledge of growing regions to access the booming specialty coffee sector. The ability of these coffee traders to portray an image of being specialised in coffee is an important factor creating a quality image for their products. However in practice, their inability to financially reward (or zealously maintain high standards of) quality due to large minimum volume requirements, along with increasing consolidation in consuming country markets, suggests strategies akin to those of mainstream multi-commodity traders.

Importers generally attribute place associations with quality attributes only at the broadest possible scale. It is unusual for importers to have the time or resources to verify local districts of production and Sulawesi coffee is not customarily differentiated at a local level. The presumed homogeneity of production spaces in Sulawesi clearly

contrasts with the high degree of variability in natural environment, growing practices and post-harvest processing observed across Sulawesi (Part III of this thesis). And yet, every *arabica* export from the port of Makassar during 2002 and 2003 was assigned a prominent geographical identity as a presumed signifier of the presence of particular quality attributes. Common trade names for regional coffees are frequently handed down by the complexities of history, and it is extremely difficult for a new growing region to establish a reputation as a quality origin. Furthermore, the perceived qualities of a particular origin are also inherited from previous experience, such that any divergence from historically informed, desirable attributes is commonly considered by international traders to signify a loss of quality. An important implication of this is that the international buyer determines the designation of geographic identities for exports, meaning that the construction of geographical identities for Sulawesi coffee in consuming countries is a process from outside rather than inside the region.

As shown in Figure 9-1, the geographic identities vary considerably depending on the destination of exports. Whilst two local entities, 'Kalosi' and 'Toraja', are widely used as market names for Sulawesi coffee, there is no direct correlation between the use of these place names and actual local coffee origins. Instead, embedded as they are in the consuming markets, importers designate the identity in response to buyer recognition (itself informed by historical associations). Figure 9-1 shows how the US market recognises both major identities; 'Toraja' is almost exclusively used in Japan; and European buyers prefer 'Kalosi'. The use of the 'Mandheling'⁸² identity was common for Sulawesi coffee imported into the US, European and Singapore markets during 2002, and a few containers to Singapore in 2003. This designation accounted for a considerable amount of total exports in 2002 (fifteen percent) and indicates the ease with which regional geographic identities are interchangeable in the global coffee industry. Importantly, the importers involved either do not believe in the geographical specificity of taste characteristics or do not believe that roasting firms and consumers can differentiate between any existing differences. In this case, the importers apparently perceive any geographic specificity of quality attributes to be conferred at a national scale.

⁸² Mandheling is a growing region in Sumatra, with a solid international reputation as a single-origin, specialty coffee.

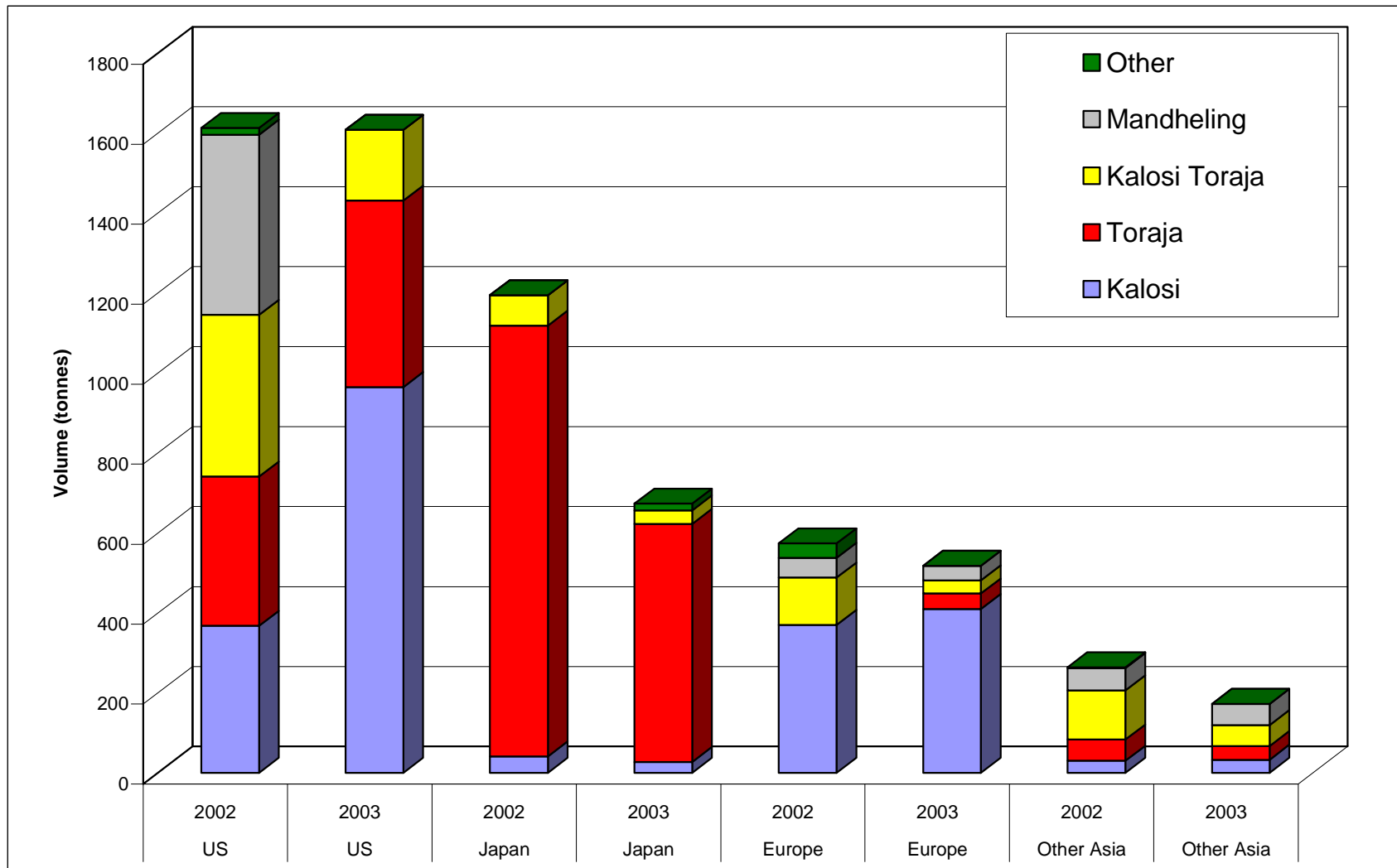


Figure 9-1 Geographic identities of Sulawesi coffee exports (2002 and 2003)

Quality differentiation in the international trade of coffee has conventionally relied on a number of standardised production and processing *specifications*. Dry processed coffee is widely believed to produce an inferior quality coffee, whilst a fully washed, wet processed coffee is considered to produce the highest grade of coffee. These process-related attributes are still commonly appended to exports of Sulawesi coffee, presumably at the request of the importer. Specifications concerning the quality attributes of processing methods used in producing regions are apparently developed as a result of historical impressions corroborated by exporting partners. Given the wide range of processing techniques performed in the growing communities of South Sulawesi, and the general inability of most exporters to link coffee with specific local growing districts, any pronouncement of processing method by international traders is exceptionally difficult to verify. Indeed, Sulawesi coffee has at various times been identified in export documentation as being ‘dry processed’, ‘wet-processed’, ‘semi-washed’ and ‘washed’ coffee.

A number of more recently evolved product *specifications* are applied to Sulawesi coffee, in an attempt to convey particular quality attributes. ‘Aged coffee’ is occasionally used and is always accompanied by a price premium. Field observations suggest that exporters generally perform ‘ageing’ as an indirect consequence of being unable to dispose of a previous year’s harvest. Some importers are also willing to pay premium prices for ‘estate’ coffee, associated with cultivation and processing performed by an individually managed operation in a geographically distinct area. The term is also used in some export-import relationships where coffee is in fact sourced from smallholders across geographically diverse origins. In this case, ‘estate’ is akin to a brand identity rather than indicating a production specification. ‘Peaberries’ are the product of single coffee beans growing within a coffee fruit instead of the usual two, resulting in a rounded shape and, according to some buyers, producing a more intensive taste in the cup. Importers and roasters have been known to pay substantial premiums to exporters willing to separate these beans from regular coffee.

The point here is not simply that qualities associated with the geographical embeddedness of coffee production are misrepresented in consuming countries, which they undoubtedly are in the case of Sulawesi coffee. Admittedly, greater efforts are currently being made by importers to more accurately trace and obtain information on the

conditions under which the coffee they source is produced. What is important however, is the ability of importers (along with roasters after them) to monopolise quality construction, through the use of conventional trade expressions and later branding processes, in a way that facilitates distinct power asymmetries in the supply chain. These will be discussed in greater detail in the following chapter.

9.2.5 THE REALIGNMENT OF EMBEDDEDNESS: ROASTERS AND RETAILERS

The process of roasting coffee has attained influence and social meaning far beyond a simple industrial transformation of the raw green beans. The process of branding in particular has allowed roasting identities to assume lifestyle significance for many consumers. This process has also been associated with the roaster's ability to drive governance structures throughout, and collect the highest surplus margins within, the coffee supply chain.

Specialty coffee roasters rely far less than conventional roasters on supermarkets and grocery stores to sell their products (NCA, 2003), and direct sales of roasted coffee to consumers, as well as prepared beverages, is often performed in stores owned by the roasting company themselves. Therefore, the nodes of roasting and retailing are combined in the following discussion for both convenience and coherence. There exists an intimate historically informed relationship between the development of quality perceptions by roasters and consumers, and in the Sulawesi coffee supply chains, the two nodes are increasingly frequently compressed at the one site.

Coffee quality has long been associated with fresh roasting practices, and roasters have been able to exert considerable control over the supply chain due to the apparent requirement for roasting-consumption proximity. As a result, roasting companies traditionally serve a geographically limited market base, with roasting styles evolving in conjunction with localised consumer taste preferences. Roaster perceptions of quality can be seen to have developed in a similar manner, and are increasingly having to adapt to changing consumer preferences and demands.

Roaster's adoption of "supplier-managed inventory" (Ponte, 2002a) has allowed them to concentrate more singularly on brand management. At the same time, however, roasters maintain intimate working relationships with traders. As an example of successful brand management, Starbucks cultivates the concept of a 'third space' as a predictable and

standardised café atmosphere, which bridges the familiar worlds of work and home. Starbucks' business strategy is built around a very conscious awareness of the importance of brand management, which has resulted in the company being listed in the world's 'Top 100 Brands' by Businessweek in 2002 and again in 2003 (BusinessWeek, 2002; BusinessWeek, 2003). In addition to taste preferences and lifestyle branding, coffee roasters are now confronting consumer demands for socially and environmentally responsible coffees. The rapidly changing consumer and corporate worlds inhabited by roasting companies require adaptive strategies and flexible notions of quality to survive volatile market trends.

Roasters perceive quality as ultimately an outcome of carefully combining regional coffees possessing distinct taste profiles and roasted to just the right degree to ensure these characteristics are presented to maximum effect. As such, the roaster's view of quality is informed by what convention theory refers to as the 'inspirational world', which is dominated by creativity and individuality. However, the importance of brand recognition and the increasingly standardised notions of quality that have accompanied the global success of a number of roaster-retailer firms increasingly resemble the corporate strategies of multinationals in other food and grocery sectors.

The use of Sulawesi coffee by roasters can be functionally analysed as serving one of two end-uses: as a component origin in blends; or as a single-origin coffee in its own right. European traders believe the former is primarily the case for Sulawesi coffee in their market, where quality is linked directly to cup characteristics (heavy body, low acidity). Some of the Sulawesi coffee entering the US market is likewise used in specialty blends. However, within the global specialty market (exemplified by its privileged position in Japan), Sulawesi coffee has established itself as a leading single-origin coffee, considered to possess a rare combination of taste characteristics. The desired cup characteristics of Sulawesi coffee used for blending, and that sold as a single-origin coffee, are quite specific. The former emphasises the need for a heavy body, whilst the latter requires a more balanced combination of acidity and body. As a single-origin coffee, the embeddedness of production spaces is invoked as a crucial marker of coffee quality. This may suggest specific quality attributes required by roasters correlating with particular growing regions in Sulawesi. For instance, Enrekang coffee may provide a heavier body for blending, whilst Toraja coffee may be better suited to use as a single-origin.

The emphasis given to the cultural and ecological embeddedness of production is evidenced by the discourses of US-based coffee roasters to describe Sulawesi coffee:

Coffee means a lot to Toraja people, and they tend it with loving care. (2F Coffee)

The Toraja people have an interesting cultural history that carries over to their methods of producing coffee in very traditional ways. (Peets Coffee and Tea)

The Toraja people, from the island of Sulawesi, grow this most classic Indonesian coffee. (Allegro Coffee)

The coffee formerly known as Celebes Kalossi ...but let's not call it that anymore. Kalossi was the colonial Dutch name for the Toraja region, incredible mystical densely forested region with weird giant bats hanging from trees, and ancestral homes shaped like ships. (Sweet Maria's)

The coffee corresponds with the individuality of their culture in every aspect. (Interamerican Coffee)

The region and the coffee, Toraja, are named after the colorful indigenous people of the region. (The Coffee Review)

Despite contributing to less than a third of total *arabica* production in South Sulawesi, Toraja is the only growing district presented in such descriptive marketing employed by specialty coffee roasters to consumers. As discussed in Part III of this thesis, the Torajan ethnic group is only one of a number of distinct ethnic communities growing *arabica* coffee in South Sulawesi. However, aspects of Duri, Mamasa or Makassar cultures are seldom evoked in presentations of the cultural environment within which coffee cultivation takes place.

The use of cultural imagery for promotional purposes is even greater in Key Coffee advertising campaigns in Japan, where images associated with *tau-tau* grave effigies were initially linked to the company's efforts to revive a lost coffee "back from the dead" (Key Coffee, 2001). The company logo, now a patented trademark, consists of a stylised representation of a traditional *tongkonan* clan house, and is a well-known brand identifier in the Japanese market. An early pioneer of the Toarco Jaya project in Toraja claims that the marketability of Toraja place associations, with a singularly unique culture and rising popularity as a tourist destination, was an influential factor leading to the decision to establish operations in the area (Interview 30, Appendix B). The ability of an origin to 'tell a story' is thus seen to be an important quality attraction within the specialty coffee market. In this sense, the unique cultural traditions of the Toraja people can be

considered an important attribute in many roasters' reconstituted constructions of place-informed quality.

These cultural constructions of quality are further informed by recent shifts in coffee consumption patterns in affluent markets. The consumer's perception of quality is developed from their own sensory experience, cultural embeddedness and the ability of advertising to project selected attributes, associations, and attractions. To the great number of self-confessed coffee lovers who enjoy espresso style beverages such as café latte, cappuccino, machiato and others, the skill with which the beverage is brewed is a key determinant of perceived quality. Brewing methods employed in home and at cafes vary immensely, and the quality expectations diverge accordingly. The quality attributes of coffee to be prepared in different brewing apparatus are also quite specific, and roasting firms attempt to allocate particular origins possessing the desired characteristics appropriately. As mentioned in earlier chapters, the importance of bean quality is often diminished in these espresso-style beverages to standardised industrial-style processing inputs.

Retail purchases of coffee for home consumption vary again from café consumption, with an increased centrality of brand identities and packaging over brewing methods. Developments in the packaging of roasted coffee have expanded the potential of roaster-consumer spatial relationships, and many multinational roasting firms have now concentrated processing activities in a few locations worldwide serving a global market. Notwithstanding the continued importance of regional taste preferences in the market, the ability for roasting companies to tailor tastes for a global market appears to be increasing.

Ponte (2002b) suggests that the specialty coffee industry may be overloading consumers with too much information in terms of the various quality attributes embedded in coffee products. Paradoxically, the inability of consumers to absorb these, often confusing and sometimes conflicting, quality criteria may encourage the importance of brand reputation as a convenient proxy. In terms of chain governance, a reliance on brand recognition in the specialty sector ensures the consolidation of economic power by roasters. For Sulawesi coffee sold in western markets, very little accurate information on origins and the nature of geographic embeddedness is presently available to consumers. As a result, roasters reconstruct their own narratives of selected embeddedness qualities, after the green beans themselves have been both homogenised and decontextualised.

9.3 Analysis of Quality Constructions

Various actors associated with the Sulawesi coffee trade network, both within Indonesia and in international sites of consumption, assume, whether explicitly or implicitly, that geography has a real effect on the taste characteristics of coffee. Village market traders are willing to pay higher prices at particular local markets in Toraja because of the environmental and cultural conditions under which the coffee is grown. Toarco Jaya implements a purchasing policy (discussed in the following chapter) which prioritises coffee grown in the higher altitude villages of northern Toraja. International traders regularly pay prices above those in the international coffee exchanges (considerably so in Japan) because Sulawesi coffee is considered to possess particular cup characteristics. Specialty coffee roasters in the US offer coffee beans from more than a dozen different origins, and where each origin is roasted in such a way to showcase the particular taste characteristics of the growing region. The associations between place and quality are even stronger in the Japanese market, where some place-named coffees have reached a near-mythical status.

Whilst it is true that place associations along the entire supply chain continually reinforce notions of quality, the nature of the exact relationship between place and quality undergoes a significant transformation as we progress along the chain. With the exception of complete vertical integration maintained by Key Coffee's Sulawesi operations, it is generally impossible to ensure traceability of origins throughout the entire length of the supply chain (Figure 5-1). The processes of quality construction presented in this chapter narrate a story of the gradual loss of geographic knowledge of production systems, only to be reconstructed in the most elaborate way by specialty roasters. The inability of intermediary actors to maintain geographic integrity of Sulawesi coffee is conceptualised by the persistence of *industrial* and *commercial* conventions in the processes of quality construction at these nodes. A shared commitment to quality does not exist along the entire length of the supply chain, and forms of quality coordination are highly fragmented throughout.

All actors along the supply chain identify subjective sensory evaluation as one valid method of determining quality. Two different cultures of coffee consumption can be described to demonstrate the centrality of horizontal embeddedness in informing concepts of quality according to this single quality determinant.

Growers in Sulawesi generally roast the green beans in a clay pot or frying pan over an open fire for one to two hours until the coffee is extremely dark (black), prior to grinding with a stone mortar and pestle to a fine (Turkish-style) powder. In most regions of Sulawesi, the coffee powder is then mixed with hot water and drunk sweetened. Consumption is generally performed in the home, or in a ceremonial context, where it is closely associated with the social function of receiving guests. In such contexts, the quality of the social interaction itself surpasses the attributes of the beverage itself in assessing quality. Further along the chain, green bean traders employ a standardised industrial procedure to cup coffee samples in an atmosphere where all exogenous sensory stimulation and social interference are eliminated to the extent practically possible. The sample is lightly roasted, coarsely ground, and steeped in hot water until the coffee has cooled slightly. Professional cuppers systematically record individual sensory sensations (such as body, acidity, and sweetness) after cupping the black coffee without the addition of milk or sugar.

The variety of social contexts existing along the supply chain demonstrates how sensory perceptions of coffee quality are heavily influenced by the embeddedness of their consumption. These contexts, and the associated method of beverage preparation, will inevitably prioritise particular coffee characteristics and types over others. Of course, consumption cultures are not the only horizontal influence on individual perceptions of quality. The discussion in this chapter demonstrates how the political, economic, cultural and even environmental embeddedness of each actor will strongly inform the way they interact with notions of quality.

Individual actors construct notions of quality due to their embeddedness in social space and the nature of relationships maintained with adjacent actors. A conceptual framework for quality construction along Sulawesi coffee supply chains used in this analysis is provided in Figure 9-2. The ability of individual actors to influence perceptions of quality at other sites in the supply chain, and effect change in quality management decisions, is central to issues related to the governance of quality. In turn, this ability appears to hinge on the institutional arrangements, including recognition of intellectual property, use of grades and standards, and government policy supports, which reinforce and promote particular constructions of quality.

With the exception of local traders and importers, each node along the supply chain is responsible for the transformation of coffee through some kind of processing activity: growers through agricultural production and pulping; exporters through hulling, grading, sorting and polishing; roasters through roasting methods; and cafes through brewing. It is logical that each of these actors should prioritise the particular activity they perform as a key input into the construction of quality. An acceptance of the influence of particular processing stages at other nodes in the chain would convey distinct economic advantages through a monopoly on quality creation. Of course, this does not occur completely, and constructions of quality continue to be politically mediated between actors. Interestingly the two actors who do not perform any direct processing activity (local traders and importers) are also the most important in terms of communicating information along the chain. This will have consequences for chain governance as the management of quality information achieves greater centrality.

For Sulawesi coffee, the construction of quality is intimately related to place associations with the region of origin and the manner in which agricultural production is embedded within social and environmental space. These constructions recall both the real and imagined geographies of production along the supply chain. The quality associations of embeddedness factors persist despite existing inabilities to provide a continuous verification of these characteristics between growers and consumers. Quality associations in pre-export trade networks are controlled by trust-based, interpersonal relationships, and are generally formed without recourse to industrial conventions or standards. The ability of actors to effectively maintain these relationships is central to their ability to control quality. In contrast, importers and roasters generally rely heavily on verifiable industrial standards (grades and cupping) to determine quality attributes. Some importers, who are extending their activities upstream into producing regions, are bring with them rigid, industrial conventions for determining quality content. A significant degree of friction is being created in this process as different worlds of quality determination are brought into conflict.

The concept of traceability is increasingly becoming integrated within ongoing and contested constructions of quality. The ability to authenticate geographic origins and production processes in Sulawesi requires a radically reformulated set of actor relationships that will facilitate the communication of beliefs, information and desires

along the supply chain. Whilst trust-based, *domestic* conventions have provided the means for tracing coffee origins in the pre-export sector, these are not necessarily sufficient to meet the traceability requirements of a globalised commodity chain. Audit protocols related to traceability are substituting, and potentially undermining, the trust-based relationships of many local supply chains. As these are often driven and dictated by powerful consuming country actors, the economic and social consequences of these initiatives for supply chain actors in producing countries requires further investigation.

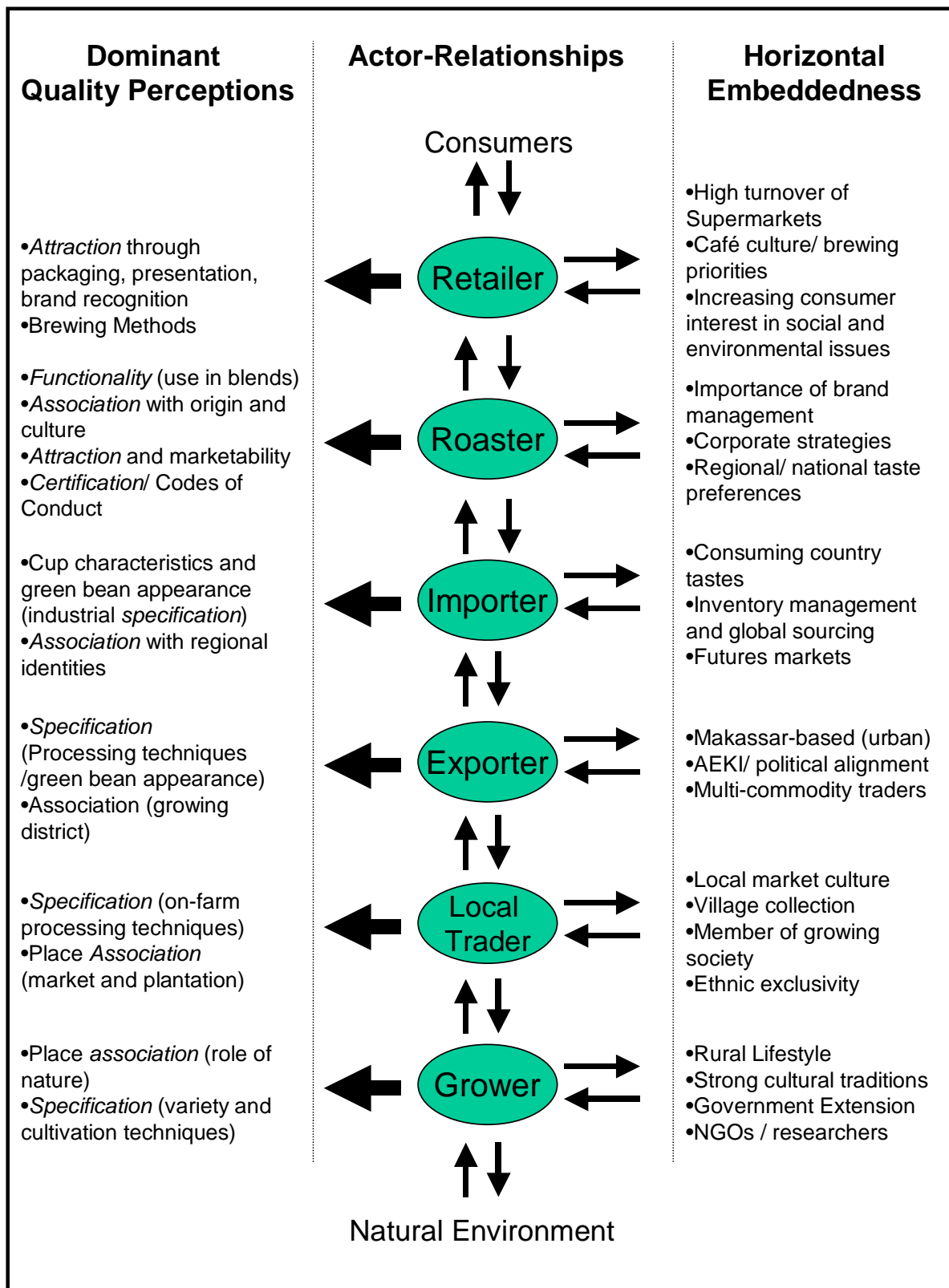


Figure 9-2 Conceptual framework for the social construction of quality along Sulawesi coffee supply chains

10 THE GOVERNANCE OF QUALITY IN SULAWESI COFFEE CHAINS

The preceding chapters have documented the diverse growing regions of South Sulawesi, and how the coffee they produce enters international commodity chains. Chapter Nine then demonstrated how these local contexts inform the construction and mobilisation of ‘quality’ in global trade networks. This chapter brings together those two discussions by examining the governance structures within Sulawesi coffee chains that act to construct and codify notions of quality.

Recent developments in the global specialty coffee sector provide the context for this analysis. Traceability of production characteristics is emerging as a critical requirement of quality codification in the sector, providing the impetus for the emergence of supply chain structures which prioritise effective information exchange between key actors. Quality is constructed and codified in the Sulawesi coffee chains through potentially five different types of governance arrangements. Three of these are well established, whereas two are formative. Examination and analysis of these five governance systems emphasises key directions of change within the South Sulawesi coffee sector, and brings to conclusion the substantive material of this thesis. Following on from an understanding of quality as a social construct, this chapter demonstrates how these ongoing constructions are inflecting changes within global supply chain structures.

10.1 Codification of Quality in the Specialty Coffee Sector

Quality differentiation requires the codification of quality attributes to consumers, usually through the interrelated use of standards, branding, certification and labelling. Whilst quality is ultimately a social construct and crucially dependent on context, the standards through which quality is widely presented are often considered to be somehow objective. However, as Busch (2000: 274) has argued, grades and standards are ways of defining a moral economy. The setting of standards invariably involves political choices made by socially embedded actors. As such, Ponte (2002b: 5) suggests that,

Rather than simply being a technical instrument to decrease transaction costs associated with asymmetry of information, they [standards] should be viewed as a strategic instrument of value chain coordination.

Codifying Organisation	Type of Product Differentiation	General Explanation	Justification of Quality Attributes
NGO or Private (External)	Organic	Certified by accredited agency (usually meeting the criteria of the International Federation of Organic Agriculture Movements-IFOAM) as incorporating organic management practices on farm and during subsequent handling	<ul style="list-style-type: none"> •Environmental •Lifestyle •Health concerns
	Fair trade	Certified by NGO or accredited agency (most coordinated by the Fair Trade Labeling Organization International-FLO) as: having been purchased at a minimum price from grower cooperatives; facilitating grower access to credit; encouraging social development in growing communities	<ul style="list-style-type: none"> •Social ethics •Justice
	Shade-grown	Certified by NGO, such as Smithsonian Migratory Bird Center, as supporting biodiversity conservation through a diversified shade cover	<ul style="list-style-type: none"> •Environmental ethics •Biodiversity
	Sustainable	Certified by NGO, such as Rainforest Alliance (ECO-OK) or Utz Kapeh Foundation, as meeting both an environmental and social commitment to sustainability	<ul style="list-style-type: none"> •Social sustainability •Environmental sustainability
Corporate (Internal)	Codes of conduct	Many retailers and roasters (such as Starbucks, Ahold, Carrefour) have developed codes of conduct to ensure that the coffee they purchase has been responsibly produced; some are independently verified	<ul style="list-style-type: none"> •Social concerns (accountability) •Environmental concerns •Health concerns
	Branding and trademarks	Brand and place names used to signify quality based on consumer loyalty, reputation and marketing, sometimes legally protected by trademarks (such as Toarco Toraja, Starbucks Roast)	<ul style="list-style-type: none"> •Reputation •Trust
	Relationship coffees	Intimate long-term relationship between growers and importers/roasters, where the 'story' of production is often incorporated into product marketing	<ul style="list-style-type: none"> •Social ethics •Knowledge of growing region
	Preparation method	Product differentiation by consuming country processing (type of roast, decaffeinated), brewing technique (espresso-based), and use of flavouring (vanilla, hazelnut etc)	<ul style="list-style-type: none"> •Taste attraction
Industry Associations	ICO quality improvement program	Removal of low grade beans from global trade to improve overall quality and to reduce supply / increase prices	<ul style="list-style-type: none"> •Taste attraction •Fairness to producers
	SCAA certified specialty	Endorsement of quality by SCAA at retail and roasting level; also linked to specialty coffee mapping project to assist development of geographical integrity of coffee origins	<ul style="list-style-type: none"> •Taste attraction •Professional integrity
	Industry standards and codes of practice	Pre-emptive industry-wide initiatives to promote sustainability of industry, such as Eurepgap and GTZ initiative (Common Codes for the Coffee Community)	<ul style="list-style-type: none"> •Social ethics (accountability) •Environmental ethics
Government Agencies	Labelling rules (US FDA, All Japan Coffee Association, European Coffee Federation)	Regulations on fair competition to prevent misleading coffee origins; often prescribes content of origin within blends to prevent misuse of popular origins such as Java, Mocha, Jamaica Blue Mountain	<ul style="list-style-type: none"> •Consumer protection
	US Bioterrorism Act and food safety laws	Food scares and bioterrorism preparedness requiring food traceability to origin; food safety requirements (pesticide residues, ochrytoxins)	<ul style="list-style-type: none"> •Health •Security
	Export grading and labelling	Standards applied by export authorities (Kenya AA, 100% Colombia, Indonesian Grade 1) in producing countries using defect counts and bean size	<ul style="list-style-type: none"> •Physical bean characteristics •Geographical integrity
Producer Representatives	Geographical indication of origin/appellations	Formal recognition of place name as communal intellectual property for all qualified growers within a bounded region held by growers collective, trade association or public institution	<ul style="list-style-type: none"> •Place association •Taste

Sources: (ITC, 2002; Ponte, 2002b; Lewin et al., 2004)

Table 10-1 Quality standards used for differentiated coffees

Moreover, the use of standards involves (logically) a process of ‘standardisation’, a process of creating uniformity. As this process was a key requirement for the establishment of commodity markets in the first place, it is therefore of interest to examine how differentiated coffee markets apply standards to define quality attributes. According to convention theory parlance, quality differentiation in the specialty coffee sector often represents a shift from the dominance of *industrial* and *commercial* conventions towards *domestic* and *civic* conventions. Quality is no longer embodied solely within the coffee bean itself, but requires verification of production, processing and trade conditions. Importantly, this shift has been accompanied by new regulatory and institutional arrangements constructed to ensure traceability of the coffee product throughout the supply chain. The agri-food sector in general, has demonstrated a remarkable ability to generate codes and standards that regulate domestic and civic conventions, and thereby reduce the inherent uncertainty and variability within the sector.

Table 10-1 applies this discussion to the coffee sector, and establishes a framework that will be explored in this chapter. The term ‘codification’ is used here in the broadest possible sense to encompass various standards, labels, brands and other marks which are used to associate particular quality characteristics with a product. Quality is embodied not only in taste and/or physical attributes, but also through a plethora of social, environmental, ethical, safety and other concerns. Indeed, it appears that the justification of quality attributes used as a basis of product differentiation in the specialty coffee sector is increasingly concerned with these latter concerns, rather than inherent taste characteristics.

Five primary types of organisations (Table 10-1) perform quality codification through the setting and monitoring of standards. Firstly, external organisations (usually NGOs and in some instances private consultancies) provide certification for coffee produced in accordance to particular social and environmental ethics. Secondly, corporate actors within the supply chain present quality as a function of company sourcing policies and/or processing methods. However, it is possible in this case, for corporate codes of conduct related to environmental and social issues, to be verified by a third party as an auditing body. Thirdly, industry associations such as the ICO, SCAA and the ECF (European Coffee Federation) are able to implement codes of practice and use identifying marks, which effectively certify quality attributes in the coffee. Fourthly, government agencies

in both exporting and importing countries regulate quality associations for coffee products through grading, labelling rules and food safety standards applied to all coffee leaving and entering particular jurisdictions. Finally, some grower associations and/or relevant public institutions in producing countries can designate Geographic Indications of Origin to coffee grown in a particular demarcated area. This approach is appropriate where particular origins have an established market identity based upon a belief that geographic associations fundamentally determine coffee quality.

Lewin et al. (2004: 98) suggest that “the emergence of strongly differentiated channels has begun to shift the locus of power” in the coffee industry. However, it may be necessary to consider more closely just who is responsible for quality governance within these differentiated supply chains. Table 10-1 shows how the organisations responsible for codifying quality attributes in the specialty coffee sector continue to be overwhelmingly based in consuming countries. The trend towards private forms of regulation through corporate codes of conduct is particularly important here. A widespread fear amongst NGOs and labour organisations is that such codes run the risk of co-opting essential environmental and social values, in a watered down fashion, from the grass-roots movements that originally promoted them.

Furthermore, the setting of minimum standards of quality in the sector necessarily raises entry barriers, and therefore risks increasing production costs without a guarantee of corresponding price premiums (Ponte, 2002b). If the costs of compliance to increasingly stringent quality-related traceability requirements are borne by producers, then their implementation raises the possibility of compounding existing inequalities in the supply chain.

10.2 The Five Governance Structures for Enacting Quality in Sulawesi Coffee chains

The ability to sustain governance structures within the specialty coffee sector is increasingly reliant on a shared commitment to quality throughout the supply chain. Actor network theorists refer to such a shared commitment as a “mode of ordering of connectivity” (Whatmore and Thorne, 1997: 295). In actor network theory, social agency is emphasised as determining the emergence and durability of particular modes of ordering. However, as demonstrated in Chapter Nine for the case of Sulawesi coffee, commitments to quality are increasingly driven by influential actors occupying strategic

nodes within the supply chain. Five distinct forms of coordination are identified from the Sulawesi coffee chains, with varying degrees of participation by producing country actors in the determination of quality governance structures (Table 10-2). These forms are: vertical integration; corporate codes of conduct; long-term mutual relationships; in-country processing; and geographic indications. The first three forms of coordination have emerged as a response to quality concerns held primarily by consuming country actors and constitute virtually all current exports from Sulawesi. The last two forms of coordination offer greater control over chain governance by Sulawesi-based actors, and are both presently in a preliminary, or experimental, stage of development.

	Mode of Governance	Sulawesi Examples	Contribution to exports (%)
↑ Increasing control by consuming country actors	Vertical Integration: direct control over the entire supply chain.	Key Coffee/ Toarco Jaya	22
	Indirect Coordination: use of codes of conduct, cupping, industrial standards, grading, branding & auditing.	Starbucks, Holland, Efico Royal,	75
	Relationship coffees: intimate association between grower and importer / roaster, emphasising specific nature of production.	Kopi Tongkonan Toraja (InterAmerican) Toraja Prince Coffee (Koffietuin)	2
	Domestic Roasting: industrial upgrading by producers through pre-export processing.	Sulutco Estate/Excelso HBI Estates	<1
	Geographical Indications: protection of place-related quality attributes by producer community.	CIRAD-ICCRI pilot study	0

Table 10-2 Supply chain governance in Sulawesi coffee chains

10.2.1 VERTICAL INTEGRATION: SUPPLYING THE JAPANESE MARKET

Vertical integration is the first of these governance structures to be examined. It is associated exclusively in South Sulawesi with the operations of Key Coffee. The Japanese specialty coffee market is renowned for an exceptionally high demand for particular gourmet origins, some of which have developed an almost mythical status

amongst coffee drinkers (ITC, 2002). Whilst some origins, such as Hawaiian Kona and Jamaican Blue Mountain, have long held a strong reputation in the world coffee market, the development of Toraja coffee was largely the result of a deliberate corporate strategy by Key Coffee. The company operates its own estate plantation and maintains tight control over purchasing from the local community. Their ability to enforce product traceability throughout the supply chain is a key factor in the construction, maintenance and presentation of quality to the Japanese consumer.

For Key Coffee, the geographical identity of Toraja was a critical aspect of product development from the outset, with the name of the Sulawesi-based operating company (Toarco) borrowed from an acronym for “Toraja Arabica Coffee”. Key Coffee registered “Toraja” as a Japanese trademark in 1977, followed by an Indonesian trademark for the company logo (a traditional *tongkonan* house) in 1979, and a US trademark for “Toarco Toraja” in 2002 (IPDL, 2003; TESS, 2003). The Japanese trademark specifically protects against the use of the Toraja name by other roasting companies in Japan, irrespective of the actual coffee origin, whereas the US trademark includes a disclaimer to such an exclusive right. The company has been prepared to take legal action on more than one occasion in Japan to protect their exclusive right (Key Coffee, 2001). The significant social and financial investment made by the company in the region is their primary justification for maintaining an exclusive trademark. The Japanese trademark and the implications thereof contrast strongly with other systems of geographic protection, such as Geographical Indications, which is discussed later in this chapter.

Local estate owners and Makassar-based exporters in Sulawesi have been understandably frustrated by the restrictions imposed on their ability to benefit from the place-related reputation of Toraja coffee in the lucrative Japanese market. Quoted from an article in a Makassar-based newspaper (Fajar, 2002), the Head of the South Sulawesi Branch of AEKI complained in frustration:

Foreign companies have no right to claim Indonesian coffee products as their own intellectual property, as those coffee names concord with their geographical location within Indonesia. Before those foreign companies registered the Toraja coffee name in America and Japan, we were already popularising that product.

Toarco clearly associates local growing conditions with particular taste characteristics and, through its purchasing system, attempts to source from a restricted geographic area in northern Toraja. Toarco operates two avenues for purchasing coffee from the local

community. Their main source of coffee is through the Tondok Litak purchasing plant, where market traders (and some local growers) sell parchment coffee to the company. In addition, a temporary purchasing arrangement in Sapan, on the day preceding the village market, is designed to intercept coffee beans grown in this particular area. In each case, a database of individual suppliers is maintained where cup characteristics are recorded and suppliers of high quality coffee rewarded with price premiums and bonuses. A degree of traceability is maintained through to Japan by the separation and labelling of various coffee grades (and some local origins) on bags.

At the Tondok Litak plant, potential suppliers (known to the company as *relasi*) must satisfy company purchasing requirements, which involve a three-tiered selection process. First, each bag of parchment coffee is emptied on to an inspection table (Plate 10-1), where it is checked for obvious processing deficiencies that are signified by discolouring or odour. Moisture content is also determined by weighing a volume measurement, and must fall between acceptable levels (approximately thirty-five to forty-five percent). Second, a defect count is performed on a sample of beans, where the number of unripe, black, insect-damaged and broken beans must be below a pre-determined level. Finally, a sample is cup-tested to identify otherwise undetected defects and to ascertain the presence of desired taste attributes (Plate 10-2). Coffee that fails to fulfil any one of these three requirements is rejected, whilst coffee possessing particularly desired attributes is assigned a premium. These purchasing requirements are far more rigorous than those enforced by other local mills and exporters (and therefore local traders face a greater risk of rejection). However, by consistently paying a slightly higher purchase price, the company usually receives first picking of coffee from local traders in northern Toraja.

The special purchasing arrangement with Sapan village, which commenced in 2000, is known as *Mitra Sapan* ('The Sapan Relationship'). Three administrative villages (Sapan, Uma and Pulu-Pulu) are included in the program, which facilitates direct sales by farmers to the company. It is not feasible for the company to cup-test coffee in the field prior to purchase, so each batch from a farmer is segregated and labelled for subsequent cupping at Tondok Litak (Plate 10-3). The arrangement was designed to improve company access to the high-altitude coffee grown in these villages, which are considered to possess unique taste characteristics.

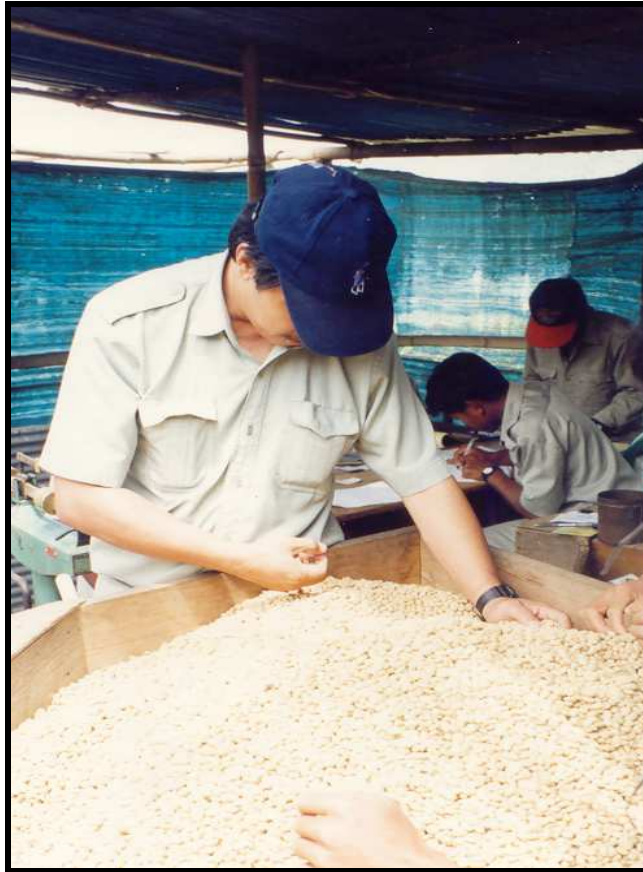


Plate 10-1 Physical inspection of parchment coffee prior to purchase, temporary purchasing station, Sapan



Plate 10-2 Samples from each local supplier are roasted and cupped by Toarco at Tondok Litak prior to purchase



Plate 10-3 These bags of coffee from individual growers are labelled at Toarco's purchasing station at Sapan to ensure product traceability

Toarco insists on purchasing only semi-dried parchment⁸³, as a strategic response to internal quality management concerns. However, the policy has wider implications for the quality of all coffee produced and traded in the region. Due to high humidity and year-round rainfall in Toraja, purchasing semi-dried parchment allows the company to complete the drying process themselves using mechanical dryers, and therefore reduces the risk of mould formation. Furthermore, the policy also discourages non-locally grown coffee being presented to the company, as extended storage and transport of semi-dried parchment results in easily identifiable blemishes on the parchment. The result however, has been that semi-dried parchment coffee is now widely traded at most local markets, and is highly susceptible to quality deterioration. A consequence of this policy is that coffee rejected by Toarco enters competing trade networks, and is considered by other international buyers as tasting overfermented or mouldy.

Since 1992, Toarco's exports have stabilised at just under six hundred tonnes annually, as demand for Key Coffee's Toarco Toraja product has remained constant in Japan. This volume is well below the company's purchasing and processing capacity in Toraja, although an exclusive sales arrangement with Key Coffee limits a further increase in production. Assuming orders from Japan have been met, purchasing operations are frequently suspended throughout the year, at times when local conditions in Toraja are considered unfavourable. Such conditions may include poor weather, which increases the chance of mould formation, and competition from other mills driving up local market prices. This situation allows the company to be particularly selective in their purchasing. It also frustrates growers who cannot depend on the company to absorb production throughout the year.

In the transaction between Toarco and local traders/growers, the company possesses all the quality information it requires, whilst their suppliers are exposed to the risk of rejection due to an uncertain knowledge of quality. These suppliers rely on personal relationships, based on good faith, with growers to ascertain quality. The costs of rejection entail transport to the Tondok Litak plant, a wait lasting up to one week (during which time the coffee may succumb to quality deterioration) and subsequent transport to another mill. The company has defined quality parameters in local trade networks and has also had substantial influence on farm-level processing methods through direct

⁸³ Here, semi-dried parchment refers to washed coffee which has been sun-dried for only a few hours prior to entering local trade networks. Elsewhere, it is referred to as "wet parchment".

extension activities, and indirectly through the availability of price premiums. Importantly, this influence has impacted on the ability of alternative trade networks to access coffee possessing desirable quality attributes.

Key Coffee has direct control over virtually the entire supply chain, to an extent quite exceptional within the global coffee industry. This has allowed the company to successfully, and quite absolutely, appropriate the value associated with the geographical embeddedness of coffee production in northern Toraja. Control over quality-related information is central to the maintenance of power. Growing conditions, crop maintenance, production levels, and processing methods are constantly monitored (both in Toraja and in other *kabupaten*), and subsequently linked to cup characteristics, thus ensuring substantial information asymmetries at the time of purchasing. The lack of processing performed prior to company purchase not only stifles value-added economic activity by producers, it also ensures quality information held exclusively by suppliers is restricted. The supplier database helps to further trace origins and thereby control quality information. As a result, the ability of producers to improve local coffee prices is limited by these asymmetrical quality-related power relations.

The ‘Toraja’ trademark formally embodies the appropriation of geographic embeddedness by the company, restricting market access by rival producers and traders. However, according to company representatives (Interview 51, Appendix B), the exclusivity of the trademark is increasingly difficult to enforce in Japan. The role of the All Japan Coffee Association (AJCA) appears to be critical here⁸⁴ in monitoring the use of the geographical identity by members. This implies difficulties for monitoring its use by non-members⁸⁵. Whilst debates over the use of geographic identities are particularly salient in the Japanese consumer context, the role of institutions in recognising and enforcing usury rights are critical across the global specialty coffee sector.

Key Coffee’s arrangements for constructing quality depend on a wholly internalised institutional architecture which is both difficult and expensive to maintain. Thus, the

⁸⁴ The role of AJCA in Japan is also integral to the implementation of place-related labelling rules for coffee in that country.

⁸⁵ Key Coffee consistently imported around eighty percent of *arabica* coffee into Japan from 1999 until 2003, with the exception of 2002, when the company imported only forty-nine percent. A small roaster and non-AJCA member, Brooks Coffee, was wholly responsible for this decline. Imports by Brooks Coffee were clearly labelled as ‘Toraja Green Coffee’, and it is unclear whether their subsequent market absence in 2003 was due to legal action taken by Key Coffee to enforce their exclusive trademark. Export data is presented in Appendix E.

continuation of this system hinges on the company's ability to extract premium prices from the Japanese consumer. However, whilst the high costs of maintaining this system may relate to high retail prices, a downward pressure is maintained on prices at the farmer level. In this powerfully integrated supply chain, the value of traceability is also internalised within the company. Furthermore, growers are required to implement stringent quality management processes to meet minimum purchasing standards, and so face higher production costs. Participation in this global commodity chain does not appear to have resulted in recognisable benefits for coffee growers in Sulawesi, and may even have had adverse impacts. By processing coffee according to the specifications of Toarco's purchasing requirements, growers risk destroying other quality attributes, as understood by international markets in the US and Europe.

10.2.2 CORPORATE CODES AND TRACEABILITY

In 2001, for the first time in recent decades, the US market purchased more Sulawesi coffee than did Japan, whilst at the same time, Holland Coffee eclipsed Key Coffee as the largest volume single buyer. A new set of consumer market priorities and conceptualisations of quality have begun to challenge the economic hegemony of Toarco in the local coffee market. As a result, the majority of *arabica* coffee exports from Sulawesi are now traded through supply chains dominated by private forms of indirect coordination.

The specialty coffee sector in the US had previously operated at an arm's distance from producing regions such as South Sulawesi, relying on industrial conventions and cupping results to determine the taste-related quality attributes of samples and subsequent shipments of green beans. For the most part, European importers of Sulawesi coffee continue to operate in this manner, seldom visiting the region and relying on agents to secure deals with Sulawesi-based exporters (Interviews 90 and 94, Appendix B). There is however evidence that the US specialty market is evolving towards a regime of increased traceability as a response to progressively more complex sets of quality associations. For Sulawesi, these requirements necessitate vastly altered forms of supply chain coordination based around improved communications and information provision. The resulting chain governance structures for Sulawesi coffee are dominated by partial vertical integration, internal verification of production processes, and privately-regulated corporate codes of conduct.

The scale of demand from the larger US specialty roasting firms is so high that the minimum volumes of particular origins required are already considerable, and may in themselves, be setting entry barriers for particular regional producers (Ponte, 2002a). Ponte has also described how roasters increasingly rely on supplier-managed inventory, with stock management effectively outsourced to international traders. As a result, these traders are developing intimate relationships with exporters in producing countries to ensure reliable access to high volumes of particular origins.

Holland Coffee purchased twenty-eight percent of Sulawesi's *arabica* exports in 2002, and twenty-seven percent in 2003 (Appendix E), making it the largest single-buyer of Sulawesi coffee. It is the principal supplier of the largest US specialty roaster-retailer chains. Holland Coffee recently established a joint venture with a local processor/exporter, CV Lion Lestari⁸⁶. During the first operational year of the joint venture in 2003, forty percent of Holland Coffee's Sulawesi purchases were sourced through Lion Lestari (Figure 5-1 and Appendix E). The large share of the local market necessitates new forms of supply chain coordination, with the potential to influence widespread changes in quality management and control in local trade networks.

Holland Coffee claims that unreliable quality for coffee sourced through traditional Makassar-based suppliers was a driving factor for "intercepting wet parchment at the source" (Interview 88, Appendix B). Not all international traders are able to routinely visit the coffee-growing regions of producing countries. However, Holland Coffee representatives make regular visits to Sulawesi and are familiar with local production geographies. As with most importers interviewed, the company believes in the superior quality of Toraja-grown coffee, and attempts to source coffee primarily from this *kabupaten*. With coffee production in Toraja currently limited, it is however impossible for production there to meet global demand and local origins are invariably mixed prior to export. Holland Coffee does not however, believe that quality is inherently related to environmental conditions of production, but rather that poor processing methods are responsible for variable coffee quality across Sulawesi (Interview 94, Appendix B).

Some exporters believe that (relatively) high market prices in Toraja due to the presence there of Toarco combined with low prices paid by international buyers, necessarily demand a degree of mixing prior to export to maintain profitability (Interview 51,

⁸⁶ Other efforts by Holland Coffee to involve themselves in producing country operations include a processing mill in Sumatra and an estate in Guatemala (Holland, 2000a).

Appendix B). The ability to ensure geographical specificity is highly compromised in supply chains where minimum volumes are demanded.

As presented in Table 10-1, environmental and social issues are an important aspect of quality differentiation in the specialty coffee sector. However, there are currently no certified coffees (organic, fair trade, eco-OK or shade-grown) produced in Sulawesi. This is not necessarily reflective of local methods of production, but rather indicative of the selective nature of certification processes and institutional support which determines access to these forms of quality codification.

In the absence of third-party certification of production processes, international buyers use internal verification methods to present particular attributes to roasters and consumers. The second largest importer of Sulawesi coffee to the US market, Royal Coffee, identifies their offering of Sulawesi coffee as procured from cooperatively organised farmers and grown under a canopy of shade trees, both of which are verified by company representatives (Royal, 2004). The company sources primarily from the KUD processing plant, based in Toraja, in which a local co-operative owns twenty-four percent of shares (Interview 17, Appendix B). The company's claim however, that the coffee is procured from co-operatively organised farmers is spurious. Not only is the co-operative's involvement in mill management limited by their minority share of ownership, but the co-operative itself is a general agricultural supplies provider, and not comprised predominantly of *arabica* coffee farmers. In actual fact, co-operative members are not even a significant source of coffee for the mill. Similarly, whilst coffee in Toraja is commonly grown under a canopy of shade trees, the mill processes coffee grown in various *kabupaten*, including areas where the use of shade trees is less widespread.

Other instances of misrepresentation of Sulawesi coffee include the use of designations such as 'estate' to suggest that coffee is grown and processed on one farm, even where this is not the case (Holland, 2000b)⁸⁷. Internal verification of production processes clearly runs the risk of falsely representing growing conditions based on short-term visits, with the use of uncertain criteria for the application of sometimes misleading designations. It would however be equally misleading to suggest, by not applying a

⁸⁷ It is not my intention here to single out these companies as deliberately misleading consumers or of unscrupulous business dealings, and most international buyers are probably involved in making similar unsubstantiated claims. Due partly to the local complexity of trade networks in Sulawesi, it is currently extremely difficult to verify growing conditions in a way that consumers increasingly demand.

designation, that the Sulawesi coffee being offered was grown intensively without shade or that it was procured through coercive purchasing arrangements.

The widespread use of geographical identities as quality markers cannot be assumed to guarantee that the designated coffee originated in the purported area, as the earlier case of 'Mandhelung coffee' being exported from Makassar suggests. Even within Sulawesi, the use of place names such as 'Toraja', 'Kalosi' and 'Rantepao' are mostly used interchangeably and do not correspond to clearly defined growing regions. Here, place names are used to signify quality characteristics that may or may not be related to the geographical embeddedness of production. In this context, there is very little to distinguish social, environmental, or geographical references from the process of product branding.

Some companies (and industry groups) have developed their own, often quite elaborate, criteria for making assertions about the sustainability and/or ethical value of the coffee they offer. Such initiatives appear to be driven by accountability issues to manage the public relations risk of being associated with socially or environmentally irresponsible operations in producing countries. An important case in the specialty coffee sector is the Preferred Supplier Scheme (Williams and Schonland, 2001), introduced in 2001 by the Starbucks Coffee Company, a major end-user of Sulawesi coffee. These sustainable sourcing guidelines were developed with the support of Conservation International, and offer preferred trading status to suppliers who obtain independent verification of their compliance to Starbucks' sustainability criteria.

Despite apparently well-meaning intentions, these codes may have far-reaching and sometimes unexpected consequences for the coffee producers who implement them. Presumably, the requirements of these corporate codes of conduct will establish new market entry benchmarks, the compliance to which will entail increased costs of production (in addition to traceability costs) to be ultimately borne by producers. There is no guarantee of long term financial incentives for compliance, and suppliers will have to pay for independent verification. Criteria which address the important economic problem of oversupply are unlikely to be incorporated into these codes. It is therefore possible that as increasing numbers of producers meet the criteria, the comparative advantage of compliance will become negligible, and the market will again be characterised by the same supply imbalance and poor economic returns for growers.

Whilst the need for independent verification of compliance to these codes is vital to their public credibility, there are a number of important issues which need to be addressed. As with any auditing procedure, the effectiveness of the process itself is determined by the existence of associated institutional arrangements, such as legal recourse and accountability measures, which ensure the independence and objectivity of the auditor. Ultimately, the verifying organisation is contracted by an industry actor, who is understandably interested in a favourable report. An overtly critical report jeopardises future work possibilities. Clearly the potential conflict of interest is increased when the auditor is a private consultancy who relies on such work as their primary source of income. Legal jurisdiction over voluntary codes of conduct is often highly restricted, and further complicated when supply chains span internationally diverse social and political contexts. It is possible therefore that these corporate codes may compete with existing and currently accepted certification systems, such as organic and fair trade. Eventually, this may erode the credibility of these established systems and affect their ability to provide benefits to producers (Lewin et al., 2004).

The current capacity to accurately trace supply chain dynamics to the extent required by the Starbucks Preferred Supplier Policy is questionable. In a smallholder context such as Sulawesi, many thousands of farms manage independent operations, and small amounts of coffee are pooled together and sold to processors, and frequently mixed with other local origins before being prepared for export. Under present conditions in Sulawesi, it would be impossible to verify highly specific farm-level processes such as water use minimisation, soil conservation techniques, waste management and social conditions. The current supply chain is not currently coordinated to allow the exchange of information required by this policy. It is expected that importers will be held fundamentally responsible for implementing traceability systems. Of course, random visits to farms in a particular area will allow general conclusions to be drawn on the environmental and social conditions of production. This however, assumes that inter-regional trade is kept to a minimum. In Sulawesi, where distinct *kabupaten*-level production characteristics, and even sub-district characteristics, are evident, the importance of tracing off-farm trade networks becomes critical. In an interesting paradox, the relatively high volume requirements of end-users such as Starbucks necessitate sourcing from more than one *kabupaten*, which further complicates traceability.

A number of possible consequences become apparent in producing regions such as South Sulawesi, as a response to the introduction of corporate codes of conduct, due largely to increased traceability concerns. Firstly, with the social conditions of such codes more relevant to estates than smallholders, and with easily enforced traceability systems, well-financed estates may gain a distinct market advantage. Secondly, due to spatial variability in the social, environmental and local trade conditions which favour traceability, particular regions may be advantaged over others. Thirdly, the verification process may be undermined by a lack of credibility unless supporting arrangements are introduced which address potential conflicts of interest. Finally, it is possible that pressures to comply with traceability requirements will be strong enough to result in radically restructured supply chains, where information exchange and enhanced communications are paramount. This final transformation is what is envisaged by the proponents of these codes. However the social equity implications when well-informed buyers deal with producers, who often lack access to market information and communication facilities, are either misunderstood or disregarded. Importantly, the process ensures long-distance control of production conditions by already economically powerful corporate actors in the supply chain. Contrary to the emancipating rhetoric which promotes these codes, their implementation does not seem to offer any long term benefits to growers, and may act to further remove producers from the process of quality construction in the specialty coffee sector.

Many international buyers of Sulawesi coffee, and some local exporters, already view compliance with these corporate standards as central to their future participation in the industry (Interviews 51, 80, and 94, Appendix B). In the Sulawesi context, no dependent certification presently exists, nor is the government taking a lead role in the setting of quality standards in the coffee industry. In this environment, private regulation through corporate codes of conduct has the potential to rapidly assume a central position in quality construction and validation. The adjustment of supply chain dynamics to accommodate shifting modes of quality governance is expected to have serious equity outcomes. The consequences of implementing these codes for different producer groups are, at this stage, in need of greater critical examination.

10.2.3 RELATIONSHIP COFFEES

Another distinct mode of chain governance found in the Sulawesi coffee industry is what has come to be known by industry actors as ‘relationship coffee’ (Foley, 2003). According to this approach, direct connections are established between buyers (usually roasters and sometimes traders) and producers, where long-term partnerships are founded upon domestic conventions which prioritise mutual trust and respect. The term ‘relationship coffee’ itself, is perhaps slightly misleading, as all transactions in the coffee industry ultimately depend on a relationship between two actors. With the increasing importance of private regulation and domestic conventions by the major players in the specialty sector discussed in the previous section, the distinction is to some extent arbitrary. Relationship coffee is however, distinguished by the enrolment of producers in the process of quality construction. Commonly, the international buyer is able to present to their clients an engaging story of the origins of the coffee, which greatly assists marketing specific quality attributes. The story provides authenticity and a sense of added trust. Referring to such a relationship model, one US roastmaster commented:

it gives them [the customer] a real sense of place, and it really adds a lot to the taste of the coffee (quoted in Foley, 2003).

The producer is assumed to receive a substantial price premium for the coffee and be assured of long-term market access. Importantly the producer, and their specific cultural or family identity, is integrated into the process of quality construction from the outset. The roaster is committing to a particular label or identity, and as a result, switching costs are considerable and economic power is more evenly distributed between the actors. At least two international trade relationships extending from Sulawesi presently conform to this model, both supplying the European market.

The most expensive coffee encountered during the research period was *Kopi Tongkonan Toraja*, sold by InterAmerican Coffee (the specialty division of Neumann Gruppe⁸⁸) in Hamburg for an incredible fifty US dollars per kilogram (green beans). InterAmerican commenced purchasing Sulawesi coffee in 2001, importing three eighteen-tonne containers of *arabica* coffee at standard market prices, labelled with the Kalosi identity for the US market (Interview 89, Appendix B). Then the following year, the company

⁸⁸ The Neumann Gruppe is a diversified multi-commodity trader and is the world’s largest coffee trading company (van Dijk et al., 1998), concentrating primarily on bulk coffee through the major commodity exchanges. The acquisition of InterAmerican Coffee significantly increased the group’s involvement in the specialty coffee sector.

began to offer what they believe to be “the best and most extraordinary coffee in the world” (InterAmerican, 2002). It is certainly one of the most expensive. One of InterAmerican’s European clients, De Capo coffee roaster, was responsible for initially establishing a relationship with a Torajan clergymen living in Hamburg, who enlisted relatives in Toraja to provide some green beans as a sample. Through extended family networks in remote villages, the urban-based family enlisted a group of coffee growers as a supply base (Interview 7, Appendix B). InterAmerican then worked together with De Capo and the family in Toraja to develop a coffee that could be introduced to the European market at truly remarkable prices.

Small amounts (about one thousand kilograms) of green beans were airfreighted from Sulawesi in intricately hand-carved wooden barrels during 2002 and 2003 (Interview 89, Appendix B). The use of these containers, each holding three pounds, is borrowed from developments in the existing tourism industry in Toraja, where locally roasted coffee has long been packaged in colourfully carved boxes and barrels as souvenirs. The barrels are decorated with traditional pictograph motifs in the customary red, black, yellow and white colours of the Torajan *tongkonan* houses⁸⁹. The barrels have subsequently become the signature mark for *Kopi Tongkonan Toraja* in Europe. *Kopi Tongkonan Toraja* means ‘Coffee of the Torajan Ancestral House’, and the marketing material employed by InterAmerican provides a quasi-ethnographic description of traditional coffee production in Toraja by members of a particular *tongkonan* clan group. According to the material,

The coffee is cultivated in small home gardens by ten families belonging to the ‘Toraja’ tribe. The Toraja represent one of the few independent ethnic groups in the Sulawesi highlands who have managed to maintain their distinctive cultural identity reflected in their language, social rituals and religion. They are talented and renowned craftsmen of fascinating wooden artwork designed to express their complex philosophy of life.

The coffee corresponds with the individuality of their culture in every aspect; the *Arabica* variety in use has practically disappeared from the globe, due to its petite yield compared to those of other commercially grown plants. Cultivation, crop harvest and processing are completely manual and resemble an historical form of private coffee production. (InterAmerican, 2002)

⁸⁹ The unfiltered intercontinental transmission of cultural images through the barrels has however been problematic due to cultural sensitivities within both the Torajan and German cultures. A traditional motif (*pa’sekong sala*) closely resembling the Nazi swastika caused concerns for the German traders. Moreover, InterAmerican selected motifs from a tourist booklet, and requested the combined inclusion of particular carvings based on aesthetical appeal, which however, are infused with spiritual values and associations in Toraja and cannot be easily desegregated.

InterAmerican then goes on to describe the traditional and entirely manual processing performed by villagers in Toraja, and recalls the geographical embeddedness of the production process as fundamental determinants of coffee quality. The coffee is grown on “rich volcanic soils around Mount Sesean” by a “Tongkonan (family co-operative)”, processed with the use of “clear spring water”, under the effects of an extended period of “gentle sun drying” interrupted by “recurrent tropical rain showers”. The beans are then packaged in barrels “carved from the native and fast growing Bo’bok trees”, and “decorated with symbols representing the wisdom and values of the Toraja culture” (InterAmerican, 2002). This information-rich marketing approach (each barrel even includes an interpretation of the individual carvings on the barrel) epitomises the ability, and importance, of relationship coffees to tell a story. In this case, quality appears to be almost completely divorced from taste characteristics. Instead, quality is expressed in terms of cultural embeddedness.

The construction of this trading relationship was the outcome of chance social networks that became enmeshed in the reproduction of Torajan cultural imagery to conceive highly specific quality associations. The trade network thus created has brought together, in an unlikely partnership, a family business in Rantepao with no previous experience in the coffee industry with the world’s largest coffee trader. Indeed, the unconventional nature of the trade network itself, packaging used, and processing techniques employed suggest a disregard for standard trade practices. The future success of this relationship will depend on maintaining market demand for this novelty coffee in sites of consumption. Even more critically, the networks sustaining the trade will need to be significantly strengthened and perhaps even re-formulated. Whilst *Kopi Tongkonan Toraja* appears to be a case of a direct relationship coffee, the coffee beans actually pass through a number of hands from growers to the family in urban Toraja, to De Capo in Hamburg and then to InterAmerican, who still only sell green beans to roasters.

A second case involves the relationship between the Hasil Bumi Indonesia (HBI) estates and a gourmet coffee roaster in Holland, Koffietuin. As with the development of *Kopi Tongkonan Toraja*, this trade relationship also emerged out of personal relationships (Interviews 21 and 91, Appendix B). The daughter of a Dutch school teacher in Indonesia during the colonial period re-visited her birthplace in Toraja, and made the acquaintance of a former pupil of her fathers, who now owns and operates a coffee estate. This serendipitous meeting resulted in the establishment of a coffee roaster (and affiliated

coffee museum) in Holland, which initially borrowed the ‘Toraja Prince Coffee’ business name⁹⁰ and relied exclusively on coffee sourced from the HBI estates. The venture has subsequently diversified their use of coffee origins, purchased an historic coffee and tea shop house in Amsterdam, Wijs and Zonen, and changed their name to the more inclusive, Koffietuin. However, their relationship with the HBI estates remains an important part of their company identity and marketing strategy, and a principal source of green beans.

Due to intense competition, coffee roasters supplying restaurants and cafes in developed markets are increasingly required to supply various coffee accessories in addition to coffee beans, such as cups, saucers, sugar sachets, outdoor furniture, and espresso machines. On these coffee accessories, Koffietuin makes extensive use of Torajan cultural imagery, notably the *tongkonan* house, and even provides a small booklet which presents the story of the coffee’s origin. This booklet is supposed to accompany every cup of coffee purchased by a consumer at a café or restaurant, and provides the opportunity for promotion of their special relationship with the family estate in Toraja. A video presentation of conditions on the HBI estates, including details of the relationship between buyer and producer, is also part of the tour at the Koffietuin museum in Holland. Authenticity is attained not through external verification or certification, but rather transmitted through the density of information provided by the roaster.

Koffietuin was initially prepared to pay nearly five US dollars per kilogram for the estate-grown coffee, and although the price of a more recent shipment (2003) has declined somewhat (to just over three dollars per kilogram), the price is still well above the market average. A significant element of goodwill on behalf of the buyer is required to maintain elevated prices. Understanding, appreciating and incorporating the actual costs of production onto price negotiations are defining features of relationship coffees. The ability of such domestic conventions to withstand commercial pressures to conform to market-based pricing systems is determined by the extent by which quality is constructed from within the relationship itself. In the case of HBI and Koffietuin, the buyer does not appear overly concerned with specifications on growing and processing conditions, certification measures, or conformance to industrial standards. Instead, the

⁹⁰ The estates’ owner also operates an upmarket hotel in Toraja, the ‘Toraja Prince Hotel’.

relationship itself reinforces quality in a way that involves the producer as an active agent in its construction and presentation.

Each purchase by Koffietuin (approximately one per year) is less than half the volume of a full container, and so the relationship is unable to absorb total production on the HBI estates. In the absence of other reliable and similarly priced markets, the estates' owner is only too aware of the limitations of relationship coffees to ensure long-term farm viability (Interview 55, Appendix B). The combined total of coffee traded through the two relationships discussed in this section accounts for less than half a percent of total exports from Sulawesi. The nature of the relationships ensures that their effectiveness to present quality is dependent on their operating at a small scale. Therefore, the potential of relationship coffee as a model for improving producer access to niche markets can be expected to remain extremely limited. Whilst these examples are perhaps extraordinary exceptions, involving insignificant volumes of coffee, they emphasise the market potential of the various forms of differentiation possible in the specialty coffee market.

10.2.4 PRODUCER-DRIVEN QUALITY GOVERNANCE

The potential does exist for coffee producers to improve their relative position in the supply chain by gaining greater control over the means of quality construction within the highly differentiated specialty coffee sector. As discussed in preceding sections, quality concerns are pivotal determinants of the features within emerging governance systems. The ability to control quality standards, product labelling and the communication of quality attributes, is critical if producers are to play a more active role in effecting supply chain outcomes. In the following discussion, two such possible approaches currently being considered for Sulawesi coffee are examined: the upgrading of domestic processing to allow exports of roasted coffee; and the establishment of a Geographical Indication for producing region(s) in Sulawesi.

10.2.4.1 Industrial upgrading: exports of roasted coffee from producing countries

Improved global logistical and communication services have allowed farmers in developing countries to supply fresh fruit and vegetables to just-in-time retail markets in developed countries. Along with improved packaging, this development suggests that proximity to market is no longer a logistical imperative in order for coffee roasters to deliver fresh coffee to the consumer. Indeed, many specialty coffee companies, such as Starbucks, already distribute roasted coffee globally from centralised roasting facilities

(primarily in the US). Further encouraged by the ease with which the Internet facilitates access to markets in the consuming countries, a number of attempts have been made by Sulawesi-based actors to process (roast) locally-grown coffee for the export market. Considering the apparently large margins associated with the roasting sector in consuming markets, such upgrading offers the lure of capturing a significant part of the value-added surplus available along the supply chain.

Limitations to the ability of primary producers in developing countries to successfully upgrade into the processing of raw materials have been widely discussed and debated in the literature. Cramer (1999) identifies political constraints internal to Mozambique as a primary reason for that country's inability to capture the benefits of a cashew development industry, rather than being of a wider structural nature. Gibbon (2001) however has argued that donor development policies and the ability of powerful lead firms to drive particular commodity chains often presents complex structural difficulties, in addition to local social and political factors. Through a comparative analysis of tropical commodities across a number of countries, Talbot (2002b) shows how a combination of commodity-specific constraints and policy-related national contexts have combined to determine outcomes of forward integration strategies. In particular, Talbot (2002b) identifies a number of key factors limiting such strategies in the case of the tropical beverage commodities: the structure of the chains themselves and control of key nodes by TNCs; the forms of state action to promote upgrading; strength of the local capitalist class; and the size of the domestic market.

In the global coffee industry, exports of roasted coffee (mostly processed instant coffee) accounts for less than five percent of total world trade (Lewin et al., 2004). Talbot (2002b) describes how an export tax waiver for processed coffee in Brazil allowed that country to capture fourteen percent of the US market in the early 1970s before industry lobbying in the US moved to enforce import restrictions. Import tariffs on processed coffee in Japan and the US are an important barrier for industrial upgrading, particularly in the instant coffee market, where producing countries may hold a comparative advantage. Brazil remains the leading exporter of processed coffee amongst the producer countries. The blending requirements of many roasters necessitate green bean sourcing from diverse origins, which may negate the apparent comparative advantage of roasting for some producing countries (ITC, 2002; Lewin et al., 2004). Clearly, this is not a

difficulty encountered by producers of single-origin coffees, as in the case of Sulawesi production.

The use of the Internet has been important in some instances to facilitate access to consumer markets. One such Internet-based company, specialising in Indonesian coffees, is at pains to conceal its physical location, claiming that it has “established its territorial boundaries in the realms of cyberspace” (MountCoffee.com, 2004). No other address is provided. Of course, credibility is a key issue in Internet marketing. Many of the coffees being offered here are already marketed in the domestic (and tourist) market in Indonesia, commonly using the Toraja regional identity. However, the quality standards applied for the domestic Indonesian market are often unlike those applied in consuming countries, and the resulting taste profile of these coffees rarely conforms to international expectations.

In addition, two of the Toraja-based estates roast their own green beans and are attempting to sell the product directly into the international market. The Solutco estate, through the group’s successful Excelso café chain, has attempted to use their domestic presence as a platform to launch international sales (Interview 71, Appendix B). The quality standards applied by Excelso are apparently drawn from international market requirements, and coffee quality and geographic origin of the product can certainly be easily traced. However, establishing a position within a consuming country market requires a substantial investment in branding and promotional activities⁹¹. Core markets are mostly controlled by a few TNCs, who possess the skills and knowledge required to obtain the latest market information and are able to invest in advertising and brand-management. It may be that to achieve upgrading, locally roasted coffee must be re-branded by a TNC based in the major consuming country, as is already the case for most exports of instant coffee.

A second estate, owned by the HBI Group, is attempting to coordinate with wholesalers in Japan to break into that particular market, which already has strong quality associations with the Toraja coffee identity. With increasing concentration at each node in the coffee supply chain, potential suppliers require local partners who are able to ensure access to retailers. HBI has developed a relationship with a roasting plant in Singapore, which currently roasts small amounts of the estate’s coffee for the Indonesian

⁹¹ Within the Indonesian domestic market too, Excelso is now struggling to compete with the branding capability of major international roasters who have established a presence in some of the major cities.

domestic market. Credibility issues related to roaster location were a principal reason for negotiating with Japanese buyers from Singapore rather than Indonesia (Interview 55, Appendix B). In return, the Singapore trading firm has requested that they present to potential buyers a claim to have a “stake in the plantation”, as a sign of their own authenticity (Interview 87, Appendix B). The ability to construct and present quality is a particularly complex arrangement in the specialty coffee sector.

Whilst it appears that the technological and logistical requirements for domestic roasting of Sulawesi coffee could be met, issues of market access and quality management (and codification) emerge as principal constraints. Supportive state policy in the producing countries was identified by Talbot (2002b) as a necessary condition for successful forward integration for tropical commodities. Escalating tariffs for processed commodities from producing countries are a key issue for the mass instant coffee markets, but are perhaps less important in specialty coffee markets, where price-based competition is not as pervasive. In the case of Sulawesi coffee, establishing credibility and consumer trust, associated with the ability to successfully and convincingly codify quality attributes are principal limitations to upgrading possibilities.

10.2.4.2 Geographical Indications for Sulawesi coffee

The legal protection for producers living in a particular area over the use of a representative geographical expression, as an indicator of particular quality attributes, emerged in rural France in the nineteenth century. According to Wenger (2001)⁹²:

Appellations of origin were born in an essentially rural country (France), at the time of a serious crisis of the vine production (*phylloxera*). The frauds and the disorganization of the market led the State and the professionals to create an original system.

For France, this original system of geographical protection has been particularly effective in preventing labelling fraud and allowing rural producers to capture the value of quality associations linked to geographic influences on production. Intimately pivotal to this system is the concept of *terroir*⁹³, which highlights the culturally specific context in which the production occurs in addition to the physical elements of the environment. The French *appellations* system is now recognised by the TRIPS agreement (Trade Related aspects of Intellectual Property) under the Uruguay Round as a form of collective

⁹² Representative from the *Institut National des Appellations d'origine* (INAO), France

⁹³ *Terroir* is the spatially demarcated area in which a particular *appellation* is applied.

intellectual property known as Geographical Indications⁹⁴. Geographical Indications diverge substantially from other forms of legislation (usually in consuming countries), which protect consumers from misleading geographical labelling in the coffee industry⁹⁵. Geographical Indications empower producers to intervene in market processes to effectively limit supply, control a monopoly and gain access to specific economic rents associated with regionalism (Moran, 1993).

The protection of Geographic Indications requires substantial financial support from public institutions and/or development agencies. The institute responsible for implementation of the *appellations* system in France (INAO) is a complex bureaucracy, as a statutory organisation under the Ministry of Agriculture, with central and regional offices and the resources to form local committees to administer over particular cases. INAO is also supported by a complex legal code which regulates over virtually all aspects of the national wine industry, including on-farm cultivation systems. The level of support is such that some other trading nations consider the system to constitute unfair subsidisation of French agriculture.

The common practice of associating particular cup qualities with geographic origins in the coffee industry suggests that a similar form of protection may be appropriate for producing regions with a strong place-related identity. The Blue Mountains of Jamaica and Hawaiian Kona are often cited as producing regions which have actively protected the use of their geographic identities, thereby benefiting from increased demand due to their relative scarcity in the market. Guatemala and Colombia have also been active in the establishment of systems of geographic protection designed to improve producer income. Whilst the Indonesian Trademarks Act (2001) explicitly acknowledges Geographical Indications as a type of intellectual property, its subsequent regulation by government legislation has yet to be finalised. As a result, such protection has yet to be applied to Indonesia's specialty coffees.

In 2002, the French-based CIRAD organisation, in cooperation with the Indonesian Cocoa and Coffee Research Institute (ICCRI), commenced preliminary work on the

⁹⁴ The stance taken by the European Commission on geographical indications is, however, currently being disputed by the United States and Australia in the WTO (WT/DS174 and WT/DS290).

⁹⁵ The 1906 Pure Food and Drug Act in the US prevented sale of coffee under trade names which did not properly belong to them, with an early ruling dealing specifically with the misrepresentation of 'Mocha' and 'Java' coffees. (Ukers, 1935)

establishment of Geographical Indications for selected Indonesian specialty coffees. Project leaders visited Sulawesi growing districts (Toraja) in 2002 to assess the potential benefits of applying a grower-regulated certification scheme for geographically authenticated coffee. A decision was subsequently made to implement a pilot project in the Kintamani region of Bali, with Sulawesi as a second priority (Perriot, 2002: Interview 48, Appendix B). Due to a poor understanding of the benefits of geographic protection (and the importance of intellectual property in general) within Indonesia, and a lack of available public resources, it is extremely unlikely that a Geographical Indications would otherwise be established without development assistance.

Of paramount importance to the success of such initiatives is the geographic scale at which any such place-informed certification scheme is linked to quality characteristics. Within Sulawesi the scale could potentially be provincial (all South Sulawesi coffee), regional (the Latimojong Mountains), at the *kabupaten*-level, or at a more restrictive local scale (the Sapan valley). The selection of scale would necessarily result in exclusions and inclusions, would affect the ability to regulate and monitor geographical integrity, and would have consequences for the homogeneity of quality characteristics. In the context of Regional Autonomy in Indonesia, the designation of scale would unavoidably be a politically-mediated decision.

In consideration of the high heterogeneity within South Sulawesi's sites of coffee production, the relevance of geographical embeddedness attached to quality associations, and the importance of geographical traceability in existing supply chains, such geographical protection may offer substantial benefits to some producers on the peninsula. Coffee growers in Toraja appear to be best placed to obtain benefits from implementation, assuming that minimum quality standards could be maintained and traceability assured throughout the entire commodity chain. The regulation of protection would necessitate the active involvement of relevant government agencies, and associated fiscal allocations. To be successful, the identifying mark or designation has to be recognised and accepted by the major end-users: roasting companies based in consuming countries. International buyers who currently implement arms-length coordination of their supply base, may applaud such an initiative, which would provide them with much needed quality information (Interviews 90, 94, 96 and 97, Appendix B). Other buyers who have already invested significantly in quality-related traceability systems in Sulawesi (such as Key Coffee and Holland Coffee) may find geographic

protection not only unnecessary, but also a challenge to their information monopoly in their respective markets.

Notwithstanding numerous challenges, the implementation of Geographical Indications in Sulawesi offers the potential of asserting a considerable shift in supply chain dynamics. As a producer-driven form of quality codification, it is possible that it would allow growers to gain greater control over the processes of quality construction in the supply chains, and hence a more influential role in chain governance.

10.3 Conclusions

Local dynamics of coffee production and trade are critical elements affecting the construction and regulation of quality attributes in the pre-export segment of the Sulawesi coffee supply chains. Similarly at sites of global consumption, the embeddedness of agricultural production is widely evoked to indicate quality attributes for Sulawesi coffee. Despite this, there is presently little congruency throughout the entire supply chain regarding the substance of these quality associations. There are indications, however, that the governance of quality is increasingly an issue of traceability. This implies the ability to trace individual containers and bags of coffee from their agricultural origins, including details of geographic origin and production processes, through to consumers. Traceability is becoming a key factor in the determination and authentication of quality.

Sulawesi-based actors are not currently instigators of traceability systems, neither are they actively engaged in presenting arguments of geographical specificity through quality discourse. Moreover, control over quality discourses, frequently expressed through the ability to effectively codify particular attributes, has become a contested political issue. Five existing, and nascent, quality governance structures representing the Sulawesi coffee supply chains were described in this chapter. The vast majority of Sulawesi coffee exports are directed through supply chains which are driven by consuming country actors (vertical integration and indirect coordination).

Recent developments suggest a trend towards privately-regulated corporate governance, where quality issues are dealt with through indirect coordination of supply chains. Through such coordination, the tools for substantiating quality attributes are increasingly reliant on codes of conduct and audit procedures. Despite attempts in some of these codes of conduct to address producer welfare, the sum effect of such remote-control

strategies may be further economic marginalisation of growers, as they are removed from the processes of quality management.

PART V: CONCLUSIONS

This final chapter presents six interrelated findings from the research. These findings then lead on to a discussion of the theoretical relevance of these findings, and the implications for future developments in the global coffee industry. Together, these form the basis of an argument for the increased centrality of traceability within global agri-food systems.

11 CONCLUSIONS

The broad objective of this research has been to examine governance structures within global agri-food production, trade and consumption, in which quality considerations are at the forefront of ongoing structural and regulatory change. A central concern was then to document and analyse the complex and contested (social) constructions of quality within the global commodity chains that frequently link disparate geographies of production and consumption. The case study used here is of a tropical commodity which is currently experiencing shifting consumer perceptions of quality related to widespread product differentiation predominantly occurring in developed world markets. The research findings thus provide important insights into the construction of quality, and the ability of supply chain actors to retain and control the distribution of economic benefits arising from the acceptance of quality attributes.

Sulawesi coffee is presented in various sites of consumption within the global specialty coffee sector as a relatively high priced gourmet product. The valorisation of an otherwise bulk international commodity is based on assumptions of quality attributes being associated with the specificities of place. But, as the detailed ethnographic research of this thesis uncovers, once these assumptions are unpacked, notions of quality are exposed as being increasingly problematic and contradictory. These tensions are manifested both horizontally (across local growing districts in South Sulawesi) and vertically (among supply chain actors).

The myriad of actors associated with a particular supply chain within the specialty coffee sector have positioned themselves to benefit from the quality associations of the place-related product identity. Within the Sulawesi coffee supply chains, physical limitations of geography and the construction and control of rights over geographical identities have emerged as key determinants of each actor's ability to successfully benefit from these quality associations. In the Sulawesi context, new and innovative sets of relationships between supply chain actors are evolving in response to the distinctive demands of ensuring geographic authenticity. In order to elaborate these arguments, six interrelated findings from this research are presented in this conclusion, prior to a discussion on the theoretical relevance of these findings. Together, these form the basis of an argument for the increased centrality of traceability within global agri-food systems.

11.1 Summary of research findings

11.1.1 THE HETEROGENEITY OF GEOGRAPHICAL EMBEDDEDNESS OF COFFEE PRODUCTION ACROSS SULAWESI

Coffee production in South Sulawesi is revealed in this thesis as a composite mosaic of diverse growing environments embedded within distinct social, biophysical and agroecological systems. This geographical embeddedness varies in ways which are evoked, in different degrees by individual supply chain actors, as key determinants of product quality. These determinant characteristics include local topographic features, altitude, soil types, rainfall patterns, processing techniques, environmental management practices, cultural individuality, and village trade networks. The pre-colonial introduction of coffee cultivation to the Latimojong Mountains of Sulawesi, and the Toraja *Kabupaten* in particular, facilitated a unique embedding of smallholder production within the existing agroecological and social setting. In Toraja, the nature of this embeddedness has resulted in a coffee which possesses a number of quality attributes sought after by the international specialty coffee sector. These features are not shared by all the coffee-growing regions in Sulawesi. In a context of increasing quality concerns in the specialty coffee sector, this heterogeneity takes on pressing relevance.

11.1.2 CONSTRUCTIONS OF QUALITY ARE CONSTANTLY NEGOTIATED THROUGHOUT THE SUPPLY CHAINS

Actors inhabiting different sites within Sulawesi coffee supply chains (growers, local traders, exporters, importers, roasters and consumers) prioritise quality in starkly contrasting ways, dependent upon their own interests, and related to the ways they are embedded within socio-economic, cultural and ecological contexts. Quality concerns are presently incongruent and fragmented along the supply chain. Furthermore, quality attributes are constantly negotiated between adjacent actors in the supply chain. The ability of each actor's own quality perceptions to be effectively transmitted throughout the supply chain is intimately linked with their ability to drive chain governance. These insights underline the vital importance of connecting the debate on how quality is constructed, to the wider arguments about governance in global commodity chains.

11.1.3 QUALITY IS PRESENTED AS A FUNCTION OF PRODUCTION EMBEDDEDNESS

The geographies of production (real or imagined) in Sulawesi coffee chains maintain a presence in quality conceptualisations throughout their length. At a local level in Sulawesi, there are clear price premiums paid for coffee which is effectively presented to mills and exporters as being Torajan-grown. This existing quality differentiation is based upon an assumption of inherent taste characteristics associated with the embedded geographies of production. The authentication of origin is widely achieved through the maintenance of domestic, trust-based relationships between growers, local traders and mills. At the site of consumption, geographies of production are frequently re-constructed, predominantly by roasters, in an attempt to value-add and differentiate the coffee within increasingly fragmented sites of consumption. In this context, Sulawesi coffee is presented as possessing distinct quality attributes due to the cultural embeddedness of production in Torajan society. Increasing consumer demand for environmentally and socially sustainable coffee further exemplifies the complex and varied ways in which quality is associated with embedded geographies of production.

11.1.4 EXISTING SUPPLY CHAIN STRUCTURES ARE MOSTLY UNABLE TO AUTHENTICATE QUALITY

Existing supply chain structures in Sulawesi are, for the most part, unable to enforce traceability from cultivation through to consumption. Since quality is widely associated with the geographical embeddedness of production, the ability to authenticate quality claims through traceability is paramount. An important exception here is the vertically integrated operations of Key Coffee, which owns its own estate plantation and implements a strict purchasing program at an extremely localised scale in northern Toraja. The majority of Sulawesi coffee exports however, continues to be handled by Makassar-based exporters, who overwhelmingly rely on provincial-scale traders sourcing coffee from the various growing *kabupaten*. In contrast, quality control is currently maintained by importers and roasters through cupping and industrial standards. Large minimum purchasing requirements of major international buyers, relative to Torajan production, for the US market have further complicated efforts to attain geographical integrity. Quality is currently compromised as a result.

11.1.5 TRACEABILITY REQUIREMENTS ARE DRIVING INDUSTRY RESTRUCTURING

Consumer demands for coffee products exhibiting particular manifestations of geographical embeddedness are forcing roasters to implement improved traceability systems. This requirement is a key driving force for industry restructuring, as efficient and accurate information exchange become corporate priorities. With many roasting companies shifting supply management functions to green bean importers, it is these latter actors who are increasingly responsible for implementing traceability in producing countries. In the Sulawesi coffee sector, the largest single international buyer has already moved to establish a joint-venture with a local-based huller-exporter to improve quality-control capabilities. A number of exporters have also established hulling operations and/or purchasing stations in Toraja to intercept coffee grown in this region. Key Coffee's vertically integrated operation has already been mentioned above. Just as roasters are developing intimate working relationships with importers on a global scale, processor-exporters in Sulawesi are forging trust-based linkages with market traders who can supply desired origins at a local scale. Market traders, like importers, are chief purveyors of quality-related product information and do not actually perform processing themselves. Supply networks are effectively shortened for coffee from Toraja, compared with other *kabupaten* in South Sulawesi, as a result of quality-driven traceability requirements.

11.1.6 TRACEABILITY CONCERNS ARE DETERMINING MODES OF SUPPLY CHAIN GOVERNANCE

Quality-informed traceability imperatives are constructed through, and contextualised by, relations of economic power. Evidence from the Sulawesi coffee chains indicate a shift towards privately-regulated traceability systems managed by corporate interests. In these systems, quality management is addressed through indirect coordination of supply chains and a reliance on auditing and codes of conduct. Whilst Key Coffee has adopted vertical integration of the supply chain, influential actors supplying the US and European markets have maintained this coordinating role at a distance, without integrating their operations, or integrating them only partially. Third-party certification does not currently exist for Sulawesi coffee. In this absence, powerful industry actors have assumed a self-regulatory role in the authentication of geographical embeddedness. Thus, traceability appears to be inadvertently strengthening the ability of global capital to control supply chains.

11.2 Theoretical Significance of Findings

11.2.1 THE POLITICAL ECONOMY OF AGRICULTURE AND FOOD

This thesis contributes to current debates on the re-regulation of global agri-food systems in an era of apparent retreat by direct state intervention (Watts and Goodman, 1997). The description of new forms of food governance along Sulawesi coffee supply chains adds to our understanding of how issues of control are constructed and mediated within the emerging neo-liberalist project (Le Heron, 2003). The following discussion contextualises the research findings within the literature addressing recent developments in the political economy of agriculture and food. This is followed by specific implications for the use of global commodity chain analysis and embeddedness as analytical tools.

It is suggested here that concern for traceability within the Sulawesi coffee supply chains is indicative of wider trends occurring across the global agri-food system, as emerging governance structures adapt to demands for product traceability. To this end, converging systems of traceability include consumer interest in food that is halal or kosher, organically-grown, free from genetic modification (GM), or otherwise ‘sustainably’ produced. Nation-states are concurrently evolving new regulatory frameworks with enhanced traceability requirements in response to security (such as the 2003 US Biosecurity Act) and health (Europe’s restriction on imports of GM food products, and their legislative response to food health scares). Although the impetus for these systems derives from divergent rationales, the result is a shift toward industry-driven (and corporate) governance apparatus (Le Heron, 2003).

The forum of the WTO provides legitimacy for the pursuit of neo-liberal economic policy at a global scale. Trade promotion follows a capitalist logic of resource maximisation according to comparative advantage, which in itself does not incorporate issues of social and environmental sustainability, health or security. Moreover, producing for an external market has been shown to contribute to the devaluation and degradation of local environments (Marsden, 1997). However, the myriad forms of re-regulation emerging within the global food provisioning system (Watts and Goodman, 1997) indicate that local pressures and political priorities are constantly reshaping the parameters of economic globalisation. As argued by Le Heron (1993), and by Larner and Le Heron (2002), the globalisation of agriculture is foremost a political process. The local embeddedness of coffee production in Sulawesi is of fundamental interest to consumers and supply chain

actors in quite distant sites of the global food system. In the Sulawesi coffee supply chains, these concerns are currently shaped by issues of product quality. Social and environmental concerns may be more pertinent elsewhere. It would seem that the deregulation of agriculture and trade, through reductions in state subsidies and tariff protection (where this is occurring), is still incapable of establishing a standardised global playing field. The interconnectedness of global society has, moreover, opened up new avenues for social re-regulation, as we live in a place polygamy (Beck, 2000), where distant geographies fill our own lives. As a result, new forms of political action become possible.

Ongoing, and socially-constructed, re-regulation of global supply chains challenges our ability to formulate a coherent structural account of the dominant food regime. Current patterns of national deregulation, increased privatisation, the ascendancy of global capital, and multilateral trade regulation are certainly integral to the broad contours of an emergent food regime (McMichael, 1992; Friedmann, 1993). The politically mediated forms of supply chain regulation, however, have produced a diverse array of response within the global food system (Goodman and Watts, 1997). Whilst this is true, societal concerns over the consequences of agri-food globalisation have not resulted in dramatic reconfiguration of the systems of capitalist accumulation. Rather, alternative systems co-exist alongside the dominant regime. Within the coffee industry alone, a number of alternative trade networks have emerged as a reaction against the entrenched powers of transnational coffee companies (Whatmore and Thorne, 1997; Rice, 2001; Renard, 2003). However, for the most part, re-regulation has resulted in minor alterations of economic priorities by dominant actors to adjust to the shifting demands of society. Research findings presented in this thesis demonstrate how traceability is an important outcome of the dialectical relationship between local embeddedness and the requirements of global capital. Traceability systems provide a conduit for addressing a variety of societal concerns within the neo-liberalist project. In this context, traceability is asserting itself as a defining feature of the global food system.

There are a number of concerns over the use of traceability tools within global supply chains to address a variety of divergent and locally-specific issues. Traceability provides powerful corporate actors with a means of engagement with local issues, but cannot account for the complexity of individual contexts. Even well-intentioned remote controls over environmental management practices can have detrimental impacts on local ecologies. In the Indian coffee industry, Damodaran (2002) describes how WTO-related environmental standards actually contributed to loss of biodiversity due to the inability of traceability to

holistically consider the embedded dynamics of local production. For Sulawesi coffee, complex forms of distinctive local embeddedness are selectively dissected and then reconstituted by powerful non-local actors in a way which assists the construction of quality associations (to the benefit of non-local actors) for this geographically-specific product.

The social construction, and regulation, of quality in the Sulawesi coffee industry reinforces an argument against the 'linearity myth' of globalisation (Beck, 2000), and supports conceptualisations of globalisation as a social project (McMichael, 1996), where human agency is central (Larner and Le Heron, 2002). Neo-liberal globalisation is not the inevitable outcome of removing forms of political intervention. Rather, it is the consequence of deliberate political choice. In particular, traceability systems are created by, and depend on, highly-specific institutional arrangements. The institutional regulation of concerns over biotechnology, quality standards, environmental protection, social equitability, health and security are frequently created by public discourse. The case-study of a geographically-specific coffee product exemplifies the potential for various social and institutional outcomes within the contemporary global food system. The principles of legal protection for geographical indications are being debated by nation-states in the WTO, based on a combination of cultural beliefs and subjective economic advantage. The ability of coffee growers in Sulawesi to benefit from the quality associations of local embeddedness is significantly affected by these developments. Furthermore, institutional support for the development of geographical protection in many developed European countries contrasts with the absence of public support in countries such as Indonesia.

The liberalisation of trade regimes and the deregulation of national agricultures have created space for a diverse array of institutional regulation of global food systems. As with previous stages of market regulation, the specific forms of emerging regulatory systems are determined by social and political priorities. It is a mistake to consider the current development of a neo-liberal globalisation project as politically neutral. Rather, the construction of new systems of regulation, and the social and environmental consequences of these systems, assumes pressing relevance in the study of the global agri-food system. In this context, the trend towards systems of traceability offers important insights into the development of new governance structures defining the future of global food provisioning.

11.2.2 GLOBAL COMMODITY CHAINS AND EMBEDDEDNESS

The use of a global commodity chain framework of analysis, combined with an elucidation of geographical embeddedness, has helped to highlight the insights outlined above. The GCC literature emphasises the ability of powerful actors to drive governance structures and control strategic sites in the supply chain. There is, however, a tendency to assume an internal economic logic to chain coordination, which does not always address the emerging forms of re-regulation taking place in the global food system. This thesis demonstrates how powerful global actors must adjust sourcing strategies to conform to the demands of a geographically specific product. The spatially fixed nature of production systems that utilise geographical identities clearly does not allow transnational capital to selectively seek out globally the cheapest sites of production. The inferred association between coffee quality and geographic origin has affected the nature of trade relationships along the entire supply chain. Global commodity chains not only influence development outcomes where they touch down, but the horizontal embeddedness at each site has ramifications for wider supply chain structures.

The potential for industrial upgrading, for developing country actors in global commodity chains, is considered by Gerrefi (1999) to be associated with the capacity for actors to maximise organisational learning from within the commodity chain itself. Through a GCC approach, Talbot (2002b) has shown how state intervention and locally specific features, such as the presence of a local capitalist class and sizeable domestic market have strongly affected the ability to perform upgrading. With regard to these debates on industrial upgrading, the widespread application of traceability systems within global commodity chains stands to create a new set of entry barriers. Developing countries may lack the institutional support to control and manage these changes.

This thesis has further argued that the ability to control quality constructions throughout the supply chain can be critical to economic consolidation. Control over quality discourses can be a pivotal mechanism allowing certain actors to drive supply chain governance. Ponte's (2002b) demonstration of how the construction of standards in the specialty coffee industry has set new entry barriers and confers power to the institutions setting the standards is particularly salient here. Whilst coffee quality in the specialty coffee sector is often presented as a function of the embeddedness of production, the ability of corporate actors to author, negotiate, and appropriate quality attributes through internally-controlled structures makes this issue explicitly political.

In the case of Sulawesi coffee, non-local actors have reconstituted for their own benefit the embedded geographies of production. This finding makes an important contribution to recent debates on the value of particular forms of embeddedness in facilitating rural development (Murdoch et al., 2000). This thesis, which applies a developing country case study, problematises the ability of producers to benefit from the potentially favourable conditions of their own embeddedness in the absence of supportive institutional arrangements. Unlike wines and cheeses for example, coffee is a tropical commodity grown principally in the less developed regions of Africa, Latin America and Asia. This geographic reality has been influential in preventing coffee growers from benefiting from the widespread implementation of systems of geographic protection, such as those for the wine industry, that have been successfully applied to authenticate origins and improve prices paid at the farm gate. A contrasting system of corporate regulation has emerged in South Sulawesi.

Formal deregulation of the global economy may be exposing particular manifestations of embeddedness in a way which asserts social institutions as mediators of economic processes. Interestingly, forms of embeddedness are often culturally defined and already an intimate part of local economies, so that the extent of embeddedness may not be readily acknowledged by participants and observers alike. The inability of WTO members to reach agreement on agricultural issues is a direct consequence of the influence local forms of embeddedness exert over agricultural production systems. Whilst many commentators (Granovetter, 1985; Brinton and Nee, 1998) have argued for the distinctiveness of embeddedness and institutionalism, the boundaries appear to disintegrate upon closer examination. The integration of the already well developed concerns of institutional economics within the economic sociology of embeddedness will help to overcome Goodman's (2003: 1) critique that the "concept of social embeddedness, although widely utilized, has tended to escape close interrogation and theoretical refinement".

Protected Geographical Indications are an institutional construction that does not have universal support, as reflected in the WTO case launched by the US and Australia against the EU over the protection of 'generic' expressions as intellectual property. For the use of geographical identities, the boundaries of embeddedness and institutions have become increasingly blurred. Cultural practices are central to both the construction of *terroir* in France (Barham, 2003) and to quality associations for Sulawesi coffee. The potential for institutional support however is differential and contested. The construction of quality in the

Sulawesi coffee industry provides an example of how the relational embeddedness of supply chain actors is interlinked with issues of governance. Within the context of widespread industry re-regulation, the incorporation of embeddedness concepts helps to unravel the process affecting new relations of economic power and inequality.

11.2.3 FINAL THOUGHTS ON THE GLOBAL COFFEE INDUSTRY

Since the colonial period, use of particular geographic expressions as common trade names for Sulawesi coffee, such as 'Boengie', 'Celebes', 'Kalosi', and 'Toraja' have been regulated by non-local actors in the supply chains. Product differentiation through the presentation to consumers of quality attributes associated with geographical embeddedness does not necessarily result in economic benefits for coffee growers. As argued by Friedberg (2003: 98),

quality in countries and regions where producers have few alternative sources of income [...] are not necessarily less exploitative than others

In the Sulawesi coffee chains, distant actors have been able to appropriate the value of the embedded geographies of Sulawesi coffee production. This is illustrated most dramatically in the case of Key Coffee, which has maintained an exclusive legal right to the use of the 'Toraja' name in the Japanese market. By claiming the Torajan identity as its own intellectual property, Key Coffee has commercially appropriated the value of local geographical attributes. The corporate governance of quality through private regulation of embeddedness attributes, codes of conduct and indirect coordination has similarly acted to exclude local producers from capturing benefits from the process of quality construction. Quality differentiation is widely achieved through marketing and brand management in consuming countries, often using geographic imagery from sites of production without. However, the potential economic gains for producers are nonetheless minimal in Sulawesi. The potential for increased grower enrolment in quality construction requires greater attention to the role of social institutions, particularly the use of intellectual property as a tool for regulating quality associations. Traceability systems internalised within corporate management structures ensures quality construction is ultimately extracted wholesale from local geographical contexts.

Whilst the role of institutional arrangements in determining development outcomes is critical to the applied benefits of embeddedness, the ability of particular actors to enrol institutions is of fundamental importance. Roasting firms in consuming countries have

established themselves as lead firms driving governance structures in global coffee commodity chains. This is achieved, in the case of Sulawesi coffee, through controlling the means of quality construction along the supply chain, and importantly its presentation to consumers. Quality governance, particularly through corporate codes of conduct, often assumes the guise of institutional regulation, and therefore pre-empts external regulation. The mechanisms by which quality attributes are presented and verified in internally-regulated supply chains are determined by the ability of lead actors to drive chain governance.

These findings further complicate development strategies for tropical commodity producers premised on the assumption that increased 'quality' will generate meaningful price premiums and respite from currently depressed economic conditions. The period since 1989 has been characterised in the global coffee industry by a booming specialty coffee sector and widespread product differentiation. It is a telling fact that despite increased global demand for Sulawesi coffee through the specialty coffee sector, average export prices currently paid for this 'gourmet' product are below prices paid for undifferentiated green coffee on the major international coffee exchanges during most years of the ICA regime.

Increased direct foreign investment in the domestic sector has similarly failed to meaningfully increase prices paid at the farmer level in Sulawesi, despite increasingly stringent quality control criteria enforced by these actors. Organisational learning from within the commodity chain offers few opportunities to perform industrial upgrading. State regulation of the domestic coffee sector in Indonesia has been progressively dismantled, with AEKI currently performing an ineffectual regulatory role. Amidst a climate of minimalist state intervention, powerful actors throughout the trade network have shown a remarkable ability to create new systems of regulation. Trade relationships between supply chain actors have emerged to coordinate information flows along the trade network. These relationships now override the ability of collective action by Indonesian-based actors to influence the distribution of income along the chain. A greater understanding of the dynamics of supply chain coordination, and the increasing centrality of traceability systems, may provide a more sensitive platform for policy development.

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APPENDIX A: GLOSSARY OF NON-ENGLISH WORDS

Word	Language	Meaning
Adat	Bahasa Indonesia	Traditions / traditional law
Alang	Bahasa Toraja	colourfully decorated and carved rice barns in Toraja
Aluk	Bahasa Toraja	The way of doing things, laws for living
Aluk To'dolo	Bahasa Toraja	Way of the ancestors: religious belief system of Toraja now officially incorporated within the Hindu religion by national administration
Anoa	Biological	Taxonomically somewhere between an ox, buffalo and antelope, endemic to Sulawesi
Aren	Bahasa Indonesia	Palm tree used for making wine and sugar
Bahasa Indonesia	Bahasa Indonesia	Indonesia's National Language
Bahasa Toraja	Bahasa Indonesia	Local Torajan language
Balu batu	Bahasa Toraja	Stone terraces constructed in coffee plots and around villages
Bangga	Bahasa Toraja	Palm tree used for uprights of rice barns in Toraja
Barbirusa	Biological	Pig-deer, endemic to Sulawesi
Bayam	Biological/Bahasa Toraja	Local timber used for construction
Betau	Biological/Bahasa Toraja	Local timber used for construction
Bo'bok	Bahasa Toraja	Local timber used for carvings and hollowed-out barrels
Bupati	Bahasa Indonesia	Administrative head of kabupaten
Celebes	Dutch	former name for the island of Sulawesi during colonial period
Culturstelsel	Dutch	Cultivation system' implemented by Dutch in the 19th century, where government demands forced deliveries of agricultural products from indigenous farmers
Cuscus	Biological	Marsupial, endemic to Sulawesi
Dadap (Erythrina lithosperma)	Bahasa Indonesia	Shade tree commonly used for coffee in Toraja and Enrekang

Dapo'	Bahasa Toraja	Kitchen, hearth and central section of Torajan house
Dharul Islam	Bahasa Indonesia	Religiously-inspired separatist movement widespread in rural Java and South Sulawesi in the 1950s and 1960s
Goni	Bahasa Indonesia	Coffee trader's sack
Gotong Royong	Bahasa Indonesia	Mutual work assistance
Haj	Arabic	Sacred pilgrimage to Mecca for adherents of Islam
Haji	Arabic	Muslim elders who have returned from the sacred pilgrimage to Mecca
Hemelia vasatrix	Biological	Leaf rust
Indo' pare	Bahasa Toraja	Torajan female deity, rice goddess and symbol of fertility
Kaa	Bahasa Toraja	Coffee
Kabupaten	Bahasa Indonesia	An Indonesian administrative division below the provisional level and frequently referred to as a district or regency
Kalapi	Biological/Bahasa Toraja	Local timber used for construction
Kalosi	Bahasa Toraja	Betel nut palm
Kaunan	Bahasa Toraja	Slave-like caste in Toraja: workers beholden to a noble family in return for food, board and support
Koffie	Dutch	Coffee
Kopi	Malay	Coffee
Kopi Jember	Bahasa Toraja	S-lineage coffee variety (S&(% , S333, S288, S1934)
La Galligo	Bahasa Bugis	Religio-historical chronicle of creation and early Bugis kingdoms
Lakipadada	Bahasa Bugis	The creation spirit
Lontar	Bahasa Indonesia	Palm leave used for early writing across Southeast Asia
Luwak	Biological	Civet-like animal found on Java and Sumatra, fond of eating coffee cherries and able to process the bean within its digestive tract, thus demanding high prices in the intrnational market
Ma'badong	Bahasa Toraja	Funeral chant
Ma'bungka alang	Bahasa Toraja	Thanksgiving ritual perfomed when opening the rice barn

Ma'lambuk	Bahasa Toraja	Rice pounding ritual
Ma'nammu	Bahasa Toraja	Rice harvest ceremony
Ma'nene	Bahasa Toraja	Ritual offering to tau-tau effigies
Ma'pakalapu	Bahasa Toraja	Ceremony performed as the rice yellows
Ma'papangan	Bahasa Toraja	Presentation of betel nut and coffee to guests at funeral ceremony
Ma'pongo	Bahasa Toraja	Ceremony performed as rice is brought to village
Manglullu	Bahasa Toraja	Rice treading ceremony to release seeds for sowing
Merantau	Bahasa Indonesia	Journey made away from homeland in search of wealth, fame and fortune
Mitra Sapan	Bahasa Indonesia	The Sapan relationship': direct purchasing program implemented by Toarco Jaya in the high altitude villages of northern Toraja
Nilam	Bahasa Toraja	Patchouli
Pa'gellu	Bahasa Toraja	Dance performed by women during rambu tuka ceremonies
Pa'kambi	Bahasa Toraja	Stable boys
Pa'lak to'tallang	Bahasa Toraja	Forest gardens surrounding each tondok
Pa'lak tobanua	Bahasa Toraja	Food and commodity crops surrounding Torajan house
Pariama Lemba	Bahasa Toraja	Constellation identified for commencing rice planting
Pemali	Bahasa Indonesia	Taboo
Pemberitahuan Ekspor Barang	Bahasa Indonesia	Notification of Exported Goods Certificate
Pinisi	Bahasa Bugis	Traditional 3-masted wooden trading ships (prahu) with a high poop deck used by the Bugis and Makassar across eastern Indonesia
Prahu	Bahasa Indonesia	Indigenous sailing vessels (now frequently motorised) of Indonesia.
Puya	Bahasa Toraja	Transitional afterworld of the Toraja, which mirrors life on earth
Qahwah	Arabic	Coffee
Rambu solo'	Bahasa Toraja	Smoke descending': ceremonial realm of the west associated with funeral rites

Rambu tuka	Bahasa Toraja	Smoke ascending': ceremonial realm of the east associated with fertility rites, appeasement of the gods and thanksgiving
Reformasi	Bahasa Indonesia	Period of change across Indonesia following 1997 political, economic and social crisis
Relasi		Expression used by Toarco to refer to local coffee traders / suppliers
Salak	Bahasa Indonesia	Snake skin fruit
Sali	Bahasa Toraja	Northern room in Torajan house
Sangiang Seri	Bahasa Bugis	Bugis female deity
Sawah	Bahasa Indonesia	Wet-rice agriculture
Serre	Bahasa Indonesia	Lemongrass
Siong	Bahasa Indonesia	Leafy herb
Sirri	Bahasa Bugis	Strong sense of shame known to provoke violent response amongst Bugis people
Tallu lolona	Bahasa Toraja	Aluk concept of harmony between humans, plants and animals
Tarsier	Biological	Lemur-like animal endemic to Sulawesi
Tau-tau	Bahasa Toraja	Wooden effigies of the dead
Tedong Ballian	Bahasa Toraja	Highly-valued buffalo type, with particularly long horns
Tedong saleko	Bahasa Toraja	Albino buffalo
Tengkulak	Bahasa Indonesia	Traders who obligate coffee sales by extending a line of credit to farmers
Terroir	French	Spatially demarcated area in which an appellation applies
To'balanda	Bahasa Toraja	White-skinned foreigner
Tondok	Bahasa Toraja	Torajan village hamlets
Tongkonan	Bahasa Toraja	Traditional kinship houses
Tripang	Bahasa Indonesia	Sea cucumber (Beche de'mar) widely traded by Makassans to Chinese merchants
Typica		Coffee variety previously widespread prior to 19th century outbreaks of leaf rust across Indonesia
Uru	Bahasa Toraja	Local timber used for construction and carving

APPENDIX B: FIELDWORK DIARY

Fieldwork was performed for this thesis during three stages. Stage One (May to November in 2002) and Stage Two (March until September in 2003) involved extended stays in Indonesia. Stage Three involved a brief visit to northern Europe and the United States (October and November of 2003).

During the course of Indonesia-based fieldwork, the researcher was resident in the village of Tondon, five kilometres east of Rantepao in Toraja. From this central location, he performed both day and overnight fieldtrips to various coffee-growing regions, estates, markets, processing plants and exporters across South Sulawesi. A number of visits were also made to Jakarta, East Java and Bali during the first two stages of fieldwork. Prior to these visits, the candidate had previously lived in Indonesia for a sum total of six years. This period included research performed in Sulawesi during 1998 and 1999 for the purpose of writing an Honours thesis in the Geography Department at the University of New South Wales. The title of that earlier thesis is "*An Integrated Approach to Ecotourism Development in Tana Toraja, Indonesia*".

This fieldwork diary is divided into two sections. The first section provides a chronology of fieldwork performed in specific locations during each of the three stages. The second section lists interviews performed during each stage. During the duration of fieldwork, numerous informal interviews were also held with growers, traders, estate workers, importers, roasters, café owners and others, which are not listed here. This is particularly true for the period of participant-observation in Toraja.

SECTION ONE : FIELDWORK LOCATIONS

FIELDWORK - STAGE ONE: MAY-NOVEMBER, 2002

JAKARTA, JAVA

May 11th -28th

Arrange Research Permit from the Indonesian Institute of Sciences (LIPI)
Temporary Resident Permit from Immigration
Arrange Travelling Permit and Foreigner control Card from Police Headquarters
Socio-political clearance from Department of Internal Affairs

MAKASSAR, SOUTH SULAWESI

May 29th -June 8th

Report to Governors Office for South Sulawesi, advising of research plan in Sulawesi
Seminar Presentation at Research Institute UNHAS, to discuss theoretical considerations
and research methodology for Sulawesi fieldwork

TONDON VILLAGE, TANA TORAJA, SOUTH SULAWESI

June 9th - August 10th

Participant-observation within coffee-growing community
Interviews with growers, local traders, processors, estate owners/ managers, and local
government officials

MAKASSAR, SOUTH SULAWESI

August 11th -13th

Interviews and export data collection, Department of Industry and Trade and National
Statistics Agency, South Sulawesi branch

TONDON VILLAGE, TANA TORAJA, SOUTH SULAWESI

August 14th -26th

Participant-observation within coffee-growing community
Interviews with growers, local traders, processors, estate owners/ managers, and local
government officials

MAKASSAR, SOUTH SULAWESI

August 27th -30th

Interviews and export data collection, Department of Industry and Trade and National
Statistics Agency, South Sulawesi branch
Interviews with coffee exporters

JAKARTA, JAVA

September 1st - 7th

Interviews with AEKI representatives, development agencies and government officials

JEMBER, EAST JAVA

September 8st-12th

Visit to Indonesian Coffee and Cocoa Research Institute, Jember, East Java
Field visit to Andong Sari Research Station and coffee collection

KINTAMANI, BALI

September 13th-15th

Field Visit to coffee growing villages in Kintamani, Bali

TONDON VILLAGE, TANA TORAJA, SOUTH SULAWESI

September 18th - November 17th

Participant-observation within coffee-growing community
Interviews with growers, local traders, processors, estate owners/ managers, and local government officials

MAKASSAR, SOUTH SULAWESI

November 18th - November 20th

Export data collection, Department of Industry and Trade

JAKARTA, JAVA

November 21st-25th

Arrange Exit Permits
Interviews with Development agencies and AEKI representatives

END OF STAGE ONE OF FIELDWORK

FIELD WORK-STAGE TWO: MARCH-SEPTEMBER, 2003

JAKARTA, JAVA

February 28th -March 23rd

Interviews with AEKI representatives, CIRAD, Dirjen of Intellectual Property

MAKASSAR, SOUTH SULAWESI

March 24th - March 30th

Interviews and export data collection, Department of Industry and Trade and National Statistics Agency, South Sulawesi branch
Interviews with coffee exporters

TONDON VILLAGE , TANA TORAJA, SOUTH SULAWESI

April 1st- 19th

Participant-observation within coffee-growing community
Interviews with growers, local traders, processors, estate owners/ managers, and local government officials

MAKASSAR, SOUTH SULAWESI

April 20th -24th

Interviews and export data collection, Department of Industry and Trade and National Statistics Agency, South Sulawesi branch
Interviews with coffee exporters
Data collection at UNHAS

TONDON VILLAGE , TANA TORAJA, SOUTH SULAWESI

April 25th - May 19th

Participant-observation within coffee-growing community
Interviews with growers, local traders, processors, estate owners/ managers, and local government officials

MAKASSAR, SOUTH SULAWESI

May 20th -23rd

Interview with government officials, *Kabupaten Gowa*
Interviews with coffee exporters

TONDON VILLAGE , TANA TORAJA, SOUTH SULAWESI

May 24th - June 5th

Participant-observation within coffee-growing community
Interviews with growers, local traders, processors, estate owners/ managers, and local government officials

KABUPATEN GOWA, SOUTH SULAWESI

June 6th -9th

Trip to Bilenrengi, Lembangbune, Cikoro and Malakaji coffee growing villages, *Gowa Kabupaten*

KABUPATEN MAMASA, SOUTH SULAWESI (INCLUDING POLEWALI)

June 12th -19th

Field Trip to the Mamasa Valley, Boengie and Polewali,
Interviews with growers, traders and mill owners

KABUPATEN ENREKANG, SOUTH SULAWESI

June 23rd -24th

Alla growing districts, *Kabupaten Enrekang* (Pa'tekkong village, Sudu market)

June 26th

Baraka market and growing district

June 28th - 29th

Baraka growing districts,

Interviews with Passui traders, Buntu Dea mountain 'market' and Angin-Angin growing village

TONDON VILLAGE , TANA TORAJA, SOUTH SULAWESI

June 30th - July 23rd

Participant-observation within coffee-growing community

Interviews with growers, local traders, processors, estate owners/ managers, and local government officials

MAKASSAR, SOUTH SULAWESI

July 24th - 30th

Interviews with exporters and government officials

TONDON VILLAGE , TANA TORAJA, SOUTH SULAWESI

August 1st - September 8th

Participant-observation within coffee-growing community

Interviews with growers, local traders, processors, estate owners/ managers, and local government officials

MAKASSAR, SOUTH SULAWESI

September 9th - 14th

Interviews with exporters and government officials

Export Data Collection, Deperindag

FIELD WORK-STAGE THREE: OCTOBER-NOVEMBER, 2003

HAMBURG, GERMANY

October 13th - 14th

Interviews with coffee importers

HOORN, AMSTERDAM, LEIDEN, AND NIEWERBRUG, NETHERLANDS

October 15th - 19th

Interviews with coffee importers, roasters and retailers

ANTWERP, BELGIUM

October 20th - 21st

Interviews with coffee importers

LOS ANGELES, UNITED STATES

October 27th

Interview with SCAA

BERKELEY/ OAKLAND, UNITED STATES

October 27-November 3rd

Interviews with coffee Importers and roasters

SYDNEY, AUSTRALIA

January - March, 2004

Interviews with coffee Importers and roasters

SECTION TWO: LIST OF INTERVIEWS⁹⁶

Interviews During Earlier Fieldwork in Toraja (1998 - 1999)

1. Ne' Kila, Head of Hindu Aluk To'dolo Religious Organisation, Rante Lemo, Toraja (various meetings)
2. Ne' Arby, Cultural leader, Tondon Village, Toraja (various meetings)
3. Ne, Mallisan, Ritual specialist (*To'parenge*), Tondon Village, Toraja (various meetings)

INDONESIAN INTERVIEWS DURING FIELD WORK- STAGE ONE (2002)

4. *Prof. Badron Zakaria, Head of Research Institute, UNHAS, June 1st, 2002. UNHAS campus, Makassar*
5. *Dr Rusnadi Padjung, Head of Division of Spatial Planning and Regional Development, UNHAS, June 1st, 2002. UNHAS campus, Makassar*
6. *Yusuf Manda, Head of Export Division, Department Industry and Trade, South Sulawesi Region, Deperindag Office, Jl. Penghibur, Makassar*
7. *Pak Kalebu, PT. Bina Mitra Sejahtera, exporter of 'Kopi Tongkonan Toraja', June 12th, Rantepao, Toraja*
8. *Amping Siturru, (Bupati, Administrative Head of Kabupaten Tana Toraja), June 19th, Makale, Toraja*
9. *Jan Palimbong (Director of PT, Ceria Sae Lako, owner of Melosia Estate), June 19th, Makale, Toraja*
10. *Pa' Kumis Ma'doko, Market trader and supplier of coffee to PT Toarco Jaya, June 21st, Bolu, Toraja*
11. *Mr. Sarese, (Head of Statistics Office, Rantepao Branch), June 24th, Rantepao, Toraja*
12. *Frederick Lande, Director of Yayasan Tengko Situru (local agricultural-based community organisation), June 26th, Rantepao, Toraja*
13. *'Kornel', Director CV. Lion Lestari, July 1st, Bolu, Toraja*
14. *'Kornel', (Second Interview) Director CV. Lion Lestari, July 5th, Parinding, Toraja*
15. *Pa' Ketua, Head of 'Mitra Sapan' farming group, July 6th, Sapan, Toraja*
16. *Tulak, Coffee grower and School teacher, July 6th, Sapan, Toraja*
17. *Luther Pongrekun, Head of KUD Sane with part ownership of UUG coffee mill, July 9th, Rantepao, Toraja*
18. *Pak Yanti, Manager of Bumi Lion and Bumi Permata Allo estates, July 13th, Rantepao office, Toraja*
19. *Sarjana, Manager of 'KUD' purchasing station, July 15th, Lampan,*
20. *Kristian, Manager of 'KUD' processing Plant, July 20th, Mengkendek*
21. *Mrs Rita Tomaso, Founding Owner of Bumi Lion / Bumi Permata Allo Estates, July*

⁹⁶ Pseudonyms have been used when requested by informant

- 21st, Rantepao
22. Pak Otto, Technical Manager, Bumi Lion / Bumi Permata Allo Estates, July 23rd, Awan
 23. Andi, Employee, Bumi Lion / Bumi Permata Allo Estates, July 23rd, Awan
 24. Ne' Arrung, Sapan Village elder and administrative head (1932-1995), August 1st, Sapan
 25. Ne' Tomatua Melo, Coffee farmer and local cultural leader, August 3rd, Barrupu
 26. Yusuf Manda (Second Interview), Head of Export Division - Department of Industry and Trade, South Sulawesi Province, August 12th, Makassar
 27. Lina, Secretariat of Association of Indonesian Coffee Exporters (AEKI) South Sulawesi Branch Office, August 12th, Makassar
 28. Saleh Rahim, Director of PT. Kopi Jaya Corpora- Exporter, August 13th, Makassar
 29. Ibu Haiji Nursia, Provincial coffee for Gantos Coffee, Bolu, Toraja
 30. Hasida Kinya, Director of Production, PT. Toarco Jaya, August 19th, Bolu, Toraja
 31. Keiji Sato, Purchasing Manager, PT. Toarco Jaya), August 19th, Bolu, Toraja
 32. Bren Litha, Director Litha & Co coffee and cocoa exporter, Head of AEKI Office, South Sulawesi, and Head of Research and Development, AEKI Jakarta, August 28th, Makassar
 33. Hendra Suwiptandy, General manager PT. Megahputra Sejahtera commodity exporter, August 29th, Makassar,
 34. Tri Juli Kurniasih, Intellectual Property Development, AEKI Pusat, September 4th, Jakarta,
 35. Gabriel de Taffin, Representative for Indonesia, Centre for International Cooperation in Agricultural Research and Development-CIRAD, September 5th, Jakarta
 36. Agung Damarsongko, Team Leader for development of Geographical Indications Legislation in Indonesia, Directorate General for Intellectual Property Rights, Department of Justice, September 6th, Jakarta
 37. Winaryo, International Inspector for Organic Certification -SKAL International / Researcher at Indonesian Coffee and Cocoa Research Institute (ICCRI), September 10th, Jember
 38. Cahya Ismanadi, Researcher at ICCRI, September 12th, Jember,
 39. Soetanto Abdoellah, Head of Research and Communications, ICCRI, September 12th, Jember
 40. Dr Surip Mawardi, Project Leader for ICCRI - CIRAD Geographical Indications Project, September 13th, Denpasar, Bali
 41. Michel Jacquet, CIRAD researcher, September 13th, Denpasar, Bali
 42. Francois Tomaso, owner of PT. Bumi Permata Allo /Bumi Lion Kencana estate plantations, October 5th, Rantepao, Toraja
 43. Bapak Ossy, Head of Tourism Office, Tana Toraja, October 25th, Rantepao, Toraja
 44. Siktus, Senior Lecturer, Department of Soil Science, UNHAS, November 18th, Makassar

45. Agung Damarsono, (*Second Interview*), *Team Leader for development of Geographical Indications Legislation in Indonesia*, Directorate General for Intellectual Property Rights, Department of Justice, November 21st, Jakarta
46. Tri Juli Kurniasih, (*Second Interview*) *Intellectual Property Development*, AEKI Pusat, November 21st, Jakarta

INDONESIAN INTERVIEWS FIELD WORK STAGE TWO (2003)

47. Agung Damarsono, (*Third Interview*) *Team Leader for development of Geographical Indications Legislation in Indonesia*, Directorate General for Intellectual Property Rights, Department of Justice, March 13th, Jakarta
48. Dominique Boutin, *CIRAD Representative for Indonesia*, March 17th, Jakarta
49. Siktus (*Second Interview*), *Department of Soil Science*, UNHAS, March 27th, Makassar
50. Sato Keiji, (*Second Interview*) *Purchasing Manager*, PT. Toarco Jaya, April 11th, Bolu, Toraja
51. Kornel, (*Third Interview*) *CV. Lion Lestari exporter*, April 21st, Makassar
52. Sumbangan Baja, *Lecturer in Soil Science UNHAS*, April 23rd, Makassar
53. Pak Musarip, *Operations Manager Agro Wattie Estate*, May 6th, Awan, Toraja
54. Ibu Jagaruma, *Elderly house servant of former Dutch (Van Djik) Estate at Bolokan*, May 7th, Bolokan, Toraja
55. Francois Tomaso, (*Second Interview*) *Owner Bumi Permata Allo / Bumi Lion Kencana Estates*, *Series of meetings and informal interviews (May 11th -May 18th)*, Rantepao
56. Ibu Jenny, *Field Officer for agricultural Extension*, *Department of Commodity Crops*, Kabupaten Gowa, 19th May, Sungguminasa
57. Pak Yante, *government extension officer*, Kabupaten Gowa, June 6th
58. Pak Yusup, *Coffee farmer at Bilenrengi Village*, Malino, Kabupaten Gowa, June 6th,
59. Pak Haruna, *Coffee farmer at Lembangbune Village*, Cikoro, Kabupaten Gowa, June 7th,
60. Pasa', *Coffee farmer at Lo'ko Village*, Mambuliling, Kabupaten Mamasa, June 14th
61. Mama Murni, *Coffee Trader*, Malabo, Kabupaten Mamasa, June 16th,
62. Pa' Rannu, *Coffee farmer at Tamalantik Village*, Kabupaten Mamasa, June 17th
63. Haji Muchtar, *Coffee mill operator and major trader*, Polewali, June 18th
64. Haji Arif Riba, *Coffee mill operator and major trader*, Polewali, June 18th
65. Pa Rudi, *coffee farmer at Pa'tekkong Village*, Alla District, Kabupaten Enrekang, June 23rd
66. Pa'Inggi, *Coffee farmer*, Dadeko Village, Baraka District, Kabupaten Enrekang, June 26th
67. Haji Ambe Soma, *Coffee huller / trader*, Pasui Village, Baraka District, Kabupaten Enrekang, June 26th
68. Haji Mindarasangana, *Coffee grower*, Angin-Angin village, Baraka District, Kabupaten Enrekang, June 29th,

69. *Sato Keiji, (Third Interview) Purchasing Manager, PT. Toarco Jaya, June 29th, Bolu, Toraja*
70. *Pak Musarip, (second Interview) Operations Manager Agro Wattie Estate, July 1st, Awan, Toraja*
71. *Pak Samuel, Operations Manager, Sulutco Estate, July 2nd, Bolokan, Toraja*
72. *Thomas Tenge, Coffee farmer, July 5th, Pesondongan village, Minanga region, Toraja*
73. *Pak Birisan, Coffee farmer, July 9th, Sangbuah village, Mengkendek, Toraja*
74. *Minggu, Coffee farmer, July 14th, Barrupu Be'do village, Rindingallo, Toraja*
75. *Stephanie de Jong, tour leader for Indonesia tours, July 15th, Rantepao, Toraja*
76. *Pak Sulo, local coffee trader, July 15th, Pulu-Pulu Village, Rindingallo, Toraja*
77. *Ne'Ronald, local coffee grower, July 16th, Sapan Village, Rindingallo, Toraja*
78. *Bruce Wise, International Finance Corporation (IFC) Investment Promotion Advisor to the Investment Promotion Board (BPPMD) of South Sulawesi under the PENSA Project. July 25th, Makassar*
79. *Yani Ariosto, Exporter (CV. Sulawesi Beans), July 26th, Makassar*
80. *Frenky Jamal, Exporter (CV. Kopi Sulawesi), July 27th, Makassar*
81. *Pak To'baba, Domestic Coffee Roaster (Kopi Semangat), July 28th, Makassar*
82. *Petrus Trumanto, Exporter (PT. Batu Putih), July 30th, Makassar*
83. *Iskandar, Main cup tester (PT. Toarco Jaya), August 6th, Tondok Litak, Toraja*
84. *Sato Keiji, Purchasing Manager and cup tester (PT. Toarco Jaya), August 6th, Tondok Litak, Toraja*
85. *Sattu, Local trader and agent of Batu Putih exporter, August 11th, Bolu, Toraja*
86. *Ne' Arby, Ritual specialist in the Tondon area, August 13th, Talimme, Toraja*
87. *Francois Tomaso, (email correspondence), March 15th, 2004*

INTERVIEWS FIELD WORK STAGE THREE (2003)

88. *George Willekes, Holland Coffee (International Green bean trader), New Jersey, United States (email correspondence), October 7th*
89. *Thimo Drews, Interamerican Coffee-Neumann Kaffee Gruppe (International Green bean trader), October 14th, Hamburg, Germany*
90. *Stefan Sprengel, List & Beisler, (International Green bean trader), October 14th, Hamburg, Germany*
91. *Liesbeth Pronk, Koffietuin, Importer / Roaster, October 15th, Nieuwerbrug, Holland*
92. *Alex Pronk, Wijs & Zonen, Specialty Coffee Retailer, October 15th, Amsterdam, Holland*
93. *Bob Willekes, Holland Coffee (International Green bean trader), October 17th, Hoorn, Holland*
94. *Michel Ophoff, Trade Officer Efico Green Coffee, October 20th, Antwerp, Belgium*

95. *Ted Lingle, Executive Director of the Specialty Coffee Association of America (SCAA), October 27th, Los Angeles*
96. *Scott Reid, Royal Coffee (International Green bean Trader), October 29th, Oakland*
97. *Jim Reynolds, Vice President at Peets Coffee and Tea (Specialty Coffee Roaster), October 30th, Berkeley*
98. *Andrew Mackay, Coficom (Volcafe group), Sydney, Australia (telephone interview), March 4th, 2004*
99. *Scott Bennett, H.A. Bennett and Sons (green Bean Trader), Melbourne, Australia (email correspondence), March 11th, 2004*

APPENDIX C: SUBJECT INFORMATION SHEET (SIS)

Working Research Title

Geographical Specificity as a Mode of Ordering: Coffee Production Spaces and associated Trade Networks for Sulawesi Coffee

Principle Investigator

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Purpose of the Research

The current research project is being conducted as part of the requirements of the Doctor of Philosophy Program (PhD) at the University of Sydney within the Division of Geography, School of Geosciences, Faculty of Science. The award of this Doctorate requires the presentation of an integrated thesis as a result of original research demonstrating that a substantial contribution to knowledge has been made. In addition to the thesis, the results of this research may be published in various academic journals and/or book chapters. Extensive Fieldwork for the research will be conducted across primary sites of production and export in South Sulawesi. A second component of the fieldwork program involves interviews with importers, roasters and consumers of Sulawesi coffee in Northern Europe, the United States and Australia.

Research Aims

The primary aims of the research are to investigate:

- Current restructuring of global coffee commodity networks, and in particular the position of Sulawesi coffee within the global coffee industry,
- The role of geography in influencing both bean quality and industry structure,
- The use of geographical identities throughout the trade network.

Voluntary Participation in Interview

Participation in the interview is voluntary and you are under no obligation to participate. Please feel free to end or withdraw from the interview at any time without penalty or prejudice. Your identity shall remain anonymous in the research results if desired. Any person with concerns or complaints about the conduct of a research study can contact the Manager of Ethics and Biosafety Administration, University of Sydney, on (02) 9351 4811.

APPENDIX D: SAMPLE INTERVIEWS / QUESTION LISTS

1. Coffee Farmer Survey (2003)

Name _____ Desa: _____ Age ____ Sex ____

Estimated Number of coffee trees: _____ Arabica _____ Robusta

Estimated area under cultivation: _____ ha. Age of current tree's: _____

Arabica Variety Cultivated and source: _____

Approximate yield per tree: _____ cherries, _____ parchment coffee

Variety of shade trees used: _____

Production Costs:

- Fertilisers _____
- Pesticides _____
- Hired labour _____
- Other _____

Unpaid Labour:

- Maintenance (weeding, pruning, soil conservation) _____
- Harvesting _____
- Processing (pulping, drying, sorting) _____

Buyer / Price: _____

Other crops grown _____

Alternative Income Source _____

Land Tenure of coffee plots _____

History of Coffee cultivation by farmer / of land _____

Notes: _____

2. Questionnaire for estate plantations in Toraja (2002)

1. Name of Lease Holder:
2. Year and duration of lease:
3. Total Area of lease: Area already planted:
4. Age of crop:
5. Varieties Cultivated:
6. Total production (green beans): in 2001, in 2002
7. Previous landuse:
8. Incidences of pests / disease:

9. Pesticides used:

10. Fertilisers used:

11. Shade trees used:
12. Number of Employees:
13. Workforce (M/F, casual/ permanent/ contract, skilled/non-skilled)

14. Purchasing from local community?
15. Government taxes:

16. Description of processing activities:

17. Coffee sales and marketing:

3. Questions for International buyers of Sulawesi coffee (2003)⁹⁷

1. What year did your company commence buying coffee in Sulawesi?
2. What, if any, changes has your company witnessed in the regional coffee industry of Sulawesi since that time? Comment on any fluctuations in quality if relevant.
3. What do you consider to be the cup characteristics of a good Sulawesi coffee? Do you routinely cup samples prior to purchase to ensure desired characteristics?
4. What geographical identities does the company use for marketing purposes to signify Sulawesi coffee? (eg. 'Toraja', 'Kalosi', 'Kalosi Toraja', 'Celebes', 'Sulawesi', 'Makassar' or other place-related expressions)
5. What, if any, cultural images are employed to sell Sulawesi coffee?
6. Are you concerned to know the local district of production for coffee purchased in Sulawesi, or is all coffee sourced from the peninsula considered to be of a similar quality? Is it feasible for your company to make attempts to ensure the exact origin of Sulawesi coffee prior to purchasing?
7. Would you support producer efforts to regulate the use of place-related product identities, such as 'Toraja', 'Kalosi' or at a localised scale such as 'Toraja Sesean' through the establishment of a registered Geographical Indication? Do you think such protection would result in improved bean quality? Would your company be willing to pay a premium price for such 'geographically authentic' coffee?
8. To the best of your knowledge, is Sulawesi coffee sold by your clients (coffee roasters) as a single-origin coffee or is it blended? If sold as a single-origin coffee, what is the most common geographic identity at the point of retail sale?
9. How often do company representatives visit Sulawesi? During such visits, are growing regions and processing conditions routinely monitored?
10. Sulawesi coffee is sometimes marketed as a 'rare' coffee. Do you believe that consumer demand for this coffee outstrips current production?
11. *What are the primary difficulties or hindrances encountered when buying coffee in Sulawesi?*
12. Much enthusiasm in the industry has been created by the so-called 'specialty coffee revolution'. Do you think that consumers are increasingly able to differentiate between the taste characteristics of different coffee origins?
13. Do you see consumer demand for geographically specific coffees increasing, declining or levelling out in the future?

⁹⁷ The term 'Sulawesi' coffee is used here to denote all coffee exported from the port of Makassar (Ujung Pandang), usually trade as 'Kalosi' or 'Torajan' coffee.

APPENDIX E: EXPORT DATABASE

Date	Exporter	Importer	Destination	Volume (kg)	Value (US\$)	Grade	Identity	Price (US\$/kg)
10 Jan 2002	Megahputra	Holland Coffee	USA	16,500	28,050	1	Mandheling	1.70
11 Jan 2002	Ben Nibion	Holland Coffee	USA	66,000	113,850	1	Mandheling	1.73
11 Jan 2002	KJUB Puspeta Luwu	Holland Coffee	Germany	33,000	49,471	1	Sulawesi Toraja Kalossi	1.50
12 Jan 2002	Litha & Co	List & Beisler	Germany	16,500	41,250	1	Kalossi Toraja	2.50
12 Jan 2002	Litha & Co	List & Beisler/Bellingall Inc	USA	16,500	41,250	1	Sulawesi Toraja Kalossi (brownish 1999 crop)	2.50
17 Jan 2002	Batu Putih Raya	Daarhouwers & Co/ Barthco Int	Belgium	18,000	29,700	1	Makassar Arabica (Kalossi)	1.65
22 Jan 2002	Megahputra	Holland Coffee	USA	16,500	28,215	1	Mandheling	1.71
23 Jan 2002	KJUB Puspeta Luwu	Royal Coffee	USA	17,040	25,545	1	W Toraja Arabica	1.50
23 Jan 2002	KJUB Puspeta Luwu	Royal Coffee	USA	17,040	25,545	1	W Toraja Arabica	1.50
23 Jan 2002	Toarco Jaya	Sulawesi Development Co	Japan	30,000	101,773	1	Toraja	3.39
24 Jan 2002	Kopi Jaya Enterprises	Holland Coffee	Singapore	36,000	76,000	1	Aged Toraja Kalosi	2.11
25 Jan 2002	Kopi Jaya Enterprises	Holland Coffee	USA	16,500	28,875	1	Mandheling	1.75
28 Jan 2002	Kopi Jaya Enterprises	Holland Coffee	USA	33,000	56,100	1	Mandheling	1.70
31 Jan 2002	Sulawesi Beans	Toyota Tsusho Corp	Japan	3,000	13,800	1	Kalosi Toraja Special	4.60
03 Feb 2002	Toarco Jaya	Sulawesi Development Co	Japan	30,480	102,385	1	Toraja	3.36
05 Feb 2002	Toarco Jaya	Sulawesi Development Co	Japan	15,120	49,887	1	Toraja	3.30
13 Feb 2002	Megahputra	Interamerican Commodities	USA	18,000	32,400	1	Sulawesi Kalossi	1.80
19 Feb 2002	KJUB Puspeta Luwu	Holland Coffee	USA	16,500	24,736	1	Sulawesi Toraja Kalossi	1.50
19 Feb 2002	KJUB Puspeta Luwu	Holland Coffee	USA	16,500	24,736	1	Sulawesi Toraja Kalossi	1.50
26 Feb 2002	Batu Putih Raya	EFICO N.V	Belgium	18,000	31,500	1	Makassar (Java Arabica Kalossi)	1.75
11 Mar 2002	KJUB Puspeta Luwu	Royal Coffee	USA	17,040	25,545	1	W Toraja Arabica	1.50
22 Mar 2002	Megahputra	Holland Coffee	USA	16,500	29,865	1	Toraja Kalossi Arabica	1.81
23 Mar 2002	Megahputra	S. Ishimitsu & Co	Japan	9,000	20,925	1	Toraja Arabica bintang	2.33
23 Mar 2002	Megahputra	S. Ishimitsu & Co	Japan	3,000	6,075	1	Toraja Peaberries	2.03
25 Mar 2002	Kopi Jaya Enterprises	Daarhouwers & Co/ Barthco Int	Belgium	18,000	31,500	1	Makassar EFICO	1.75
28 Mar 2002	Kopi Sulawesi	Toyota Tsusho Corp	Japan	5,100	27,870	1	Kalosi Toraja Special	5.46

31 Mar 2002	Sulawesi Beans	Toyota Tsusho Corp	Japan	6,000	24,500	1	Mamasa Toraja special Grade	4.08
08 Apr 2002	KJUB Puspeta Luwu	Holland Coffee	USA	33,000	49,471	1	Sulawesi Toraja Kalossi	1.50
15 Apr 2002	Megahputra	Siong Eng & Co	Singapore	6,000	11,000	1	Selected Arabica (Toraja)	1.83
22 Apr 2002	Sulawesi Beans	UCC Ueshima Coffee	Japan	15,000	55,500	1	Toraja Arabica	3.70
25 Apr 2002	Kopi Jaya Enterprises	Coffee Point, Hamburg	USA	34,200	60,021	1	Mandheling	1.76
26 Apr 2002	Batu Putih Raya	Coffee Point, Hamburg	USA	34,200	59,166	1	Mandheling	1.73
30 Apr 2002	Sulawesi Beans	Toyota Tsusho Corp	Japan	3,000	12,275	1	Kalossi Toraja Special DP	4.09
02 May 2002	KJUB Puspeta Luwu	Bennet & Sons	Australia	18,000	35,715	1	Kalossi, Bukit Marante	1.98
06 May 2002	KJUB Puspeta Luwu	Royal Coffee	USA	33,000	62,700	1	W Toraja Arabica	1.90
08 May 2002	Megahputra	Holland Coffee	Singapore	6,000	12,000	1	Mandheling	2.00
08 May 2002	Megahputra	Holland Coffee	Singapore	49,500	90,397	1	Mandheling	1.83
09 May 2002	Kopi Sulawesi	Sumitmo Corp	Japan	3,000	6,900	1	Kalossi Arabica DP	2.30
11 May 2002	Batu Putih Raya	EFICO N.V	Belgium	18,000	33,806	1	Makassar Arabica (Kalossi)	1.88
14 May 2002	Toarco Jaya	Sulawesi Development Co	Japan	12,849	41,439	1	Toraja	3.23
20 May 2002	Kopi Jaya Enterprises	Holland Coffee	Singapore	6,000	19,500	1	Arabica Coffee (Peabody Kalosi 1999 crop)	3.25
20 May 2002	Kopi Jaya Enterprises	Mitsubishi	Japan	9,600	17,700	1	Kalosi	1.84
25 May 2002	KJUB Puspeta Luwu	Royal Coffee	USA	33,000	61,839	1	W Toraja Arabica	1.87
27 May 2002	Toarco Jaya	Sulawesi Development Co	Japan	13,800	46,175	1	Toraja	3.35
31 May 2002	Toarco Jaya	Sulawesi Development Co	Japan	13,300	46,861		Toraja	3.52
02 Jun 2002	Megahputra	Rucquoy Freres	Belgium	17,100	37,620	1	Kalossi	2.20
06 Jun 2002	KJUB Puspeta Luwu	Volcafe	USA	16,500	33,413	1	Celebes Toraja	2.03
07 Jun 2002	Toarco Jaya	Sulawesi Development Co	Japan	13,800	45,515		Toraja	3.30
08 Jun 2002	Kopi Jaya Enterprises	Coffee Point, Hamburg	USA	34,200	63,612	1	Mandheling	1.86
08 Jun 2002	Megahputra	Interamerican Commodities	USA	16,500	37,125	1	Celebes Kalossi	2.25
11 Jun 2002	KJUB Puspeta Luwu	Brooks Coffee	Japan	18,000	40,140	1	Toraja Green Coffee	2.23
11 Jun 2002	Kopi Jaya Enterprises	Atlantic Specialty Coffees	USA	16,500	37,125	1	Tedong Brand' (Sulawesi Toraja Kalosi)	2.25
14 Jun 2002	Batu Putih Raya	EFICO N.V	Belgium	18,000	38,700	1	Makassar Arabica (Kalossi)	2.15
15 Jun 2002	Toarco Jaya	Sulawesi Development Co	Japan	28,980	93,807	1	Toraja	3.24
19 Jun 2002	Bina Jasa Mulia	Barthco / Starbucks	USA	18,000	40,050	1	Kalossi Arabica (of Torajah District)	2.23
19 Jun 2002	Megahputra	Holland Coffee	Germany	16,500	33,000	1	Kalossi Arabica	2.00

19 Jun 2002	Megahputra	Holland Coffee	USA	16,500	33,000	1	Kalossi Arabica	2.00
19 Jun 2002	Toarco Jaya	Sulawesi Development Co	Japan	30,000	101,766	1	Toraja	3.39
25 Jun 2002	Sulawesi Beans	UCC Ueshima Coffee	Japan	15,000	57,000	1	Toraja Arabica	3.80
28 Jun 2002	Megahputra	Starbucks	USA	18,000	36,900	1	Kalossi (of the Torajah district)	2.05
28 Jun 2002	Toarco Jaya	Sulawesi Development Co	Japan	45,000	159,094	1	Toraja	3.54
28 Jun 2002	Toarco Jaya	Sulawesi Development Co	Japan	30,000	103,841	1	Toraja	3.46
29 Jun 2002	Kopi Jaya Enterprises	Coffee Point, Hamburg	USA	34,200	63,612	1	Mandheling	1.86
30 Jun 2002	Megahputra	Kanematsu Corp	Japan	12,000	41,095	1	Arabica Kalossi Supergrade	3.42
03 Jul 2002	Megahputra	Siong Eng & Co	Singapore	10,000	18,000	1	Selected Arabica (Toraja)	1.80
05 Jul 2002	Toarco Jaya	Sulawesi Development Co	Japan	30,000	108,496	1	AWP G1, G4, M/P	3.62
07 Jul 2002	KJUB Puspeta Luwu	Royal Coffee	USA	36,000	79,200	1	W Toraja Arabica	2.20
09 Jul 2002	KJUB Puspeta Luwu	Brooks Coffee	Japan	18,000	40,140	1	Toraja Green Coffee	2.23
09 Jul 2002	Kopi Sulawesi	Toyota Tsusho Corp	Japan	5,100	28,177	1	Kalossi Toraja Special DP	5.52
10 Jul 2002	Megahputra	Holland Coffee	USA	33,000	66,000	1	Toraja Kalossi Arabica	2.00
10 Jul 2002	Sari Hasil Utama	Holland Coffee	USA	16,500	33,000	1	Sulawesi Kalossi Arabica	2.00
11 Jul 2002	Batu Putih Raya	EFICO N.V	Belgium	18,000	37,800	1	Makassar Arabica (Kalossi)	2.10
12 Jul 2002	Kopi Jaya Enterprises	Holland Coffee	USA	49,500	89,100	1	Toraja Kalossi Arabica	1.80
14 Jul 2002	Batu Putih Raya	Daarhouwers & Co/ Barthco Int	USA	18,000	38,700	1	Toraja Kalossi Arabica	2.15
14 Jul 2002	Toarco Jaya	Sulawesi Development Co	Japan	45,000	152,942	1	Toraja	3.40
16 Jul 2002	Ben Nibion	Holland Coffee	USA	33,000	66,000	1	Sulawesi Kalossi UW	2.00
16 Jul 2002	Kopi Jaya Enterprises	B&S Trading, N.V	USA	16,500	35,475	1	Kalosi Toraja Estate	2.15
16 Jul 2002	Kopi Jaya Enterprises	List & Beisler Hamburg/ P.W Bellingcall Inc	USA	18,000	46,800	1	Sulawesi Kalossi Arabica Toraja	2.60
16 Jul 2002	Litha & Co	List & Beisler	Germany	16,500	33,000	1	Kalossi Toraja	2.00
19 Jul 2002	KJUB Puspeta Luwu	Royal Coffee	USA	33,000	61,839	1	W Toraja Arabica	1.87
19 Jul 2002	Toarco Jaya	Sulawesi Development Co	Japan	30,000	97,113	1	Toraja	3.24
21 Jul 2002	Megahputra	Holland Coffee	USA	33,000	66,000	1	Kalossi Arabica	2.00
22 Jul 2002	Kopi Jaya Enterprises	Starbucks	USA	18,000	36,900	1	UW Celebes Arabica Kalossi	2.05
25 Jul 2002	Batu Putih Raya	EFICO N.V	Belgium	18,000	35,100	1	Makassar Arabica (Kalossi)	1.95
25 Jul 2002	Megahputra	Siong Eng & Co	Singapore	18,000	32,520	1	Selected Arabica (Toraja)	1.81

25 Jul 2002	Sulawesi Beans	Toyota Tsusho Corp	Japan	6,000	24,500	1	Mamasa Toraja special Grade	4.08
25 Jul 2002	Toarco Jaya	Sulawesi Development Co	Japan	30,000	103,960	1	Toraja	3.47
26 Jul 2002	Kopi Jaya Enterprises	Holland Coffee	USA	33,000	58,080	1	Sulawesi Kalossi AC	1.76
26 Jul 2002	Kopi Jaya Enterprises	Holland Coffee	USA	16,500	29,040	1	Sulawesi Kalossi AC	1.76
26 Jul 2002	Sari Hasil Utama	Cooper Corp	USA	18,000	36,450	1	Kalossi Arabica	2.03
01 Aug 2002	KJUB Puspeta Luwu	Barthco (Starbucks)	USA	36,000	79,200	1	Royal Coffee Washed Toraja Arabica	2.20
04 Aug 2002	Toarco Jaya	Sulawesi Development Co	Japan	24,000	79,754	1	Toraja	3.32
05 Aug 2002	Sulawesi Beans	UCC Ueshima	Japan	15,000	57,000	1	Toraja / Kalosi Arabica	3.80
08 Aug 2002	Batu Putih	Coop	Switzerland	33,000	59,400	1	Sulawesi Kalossie Arabica	1.80
08 Aug 2002	Toarco Jaya	Sulawesi Development Co	Japan	30,000	101,135	1	Toraja	
10 Aug 2002	Sulawesi Beans	Marubeni	Japan	16,800	57,800	1	Kalosi Toraja Sesean Mountain	3.44
10 Aug 2002	Sulawesi Beans	UCC Ueshima	Japan	16,500	61,800	1	Toraja Arabica Coffee	3.75
13 Aug 2002	Hasil Bumi Indonesia	Lian Aik Trading	Singapore	1,000	1,500	1	HBI 1-17	1.50
14 Aug 2002	KJUB Puspeta Luwu	Brooks	Japan	54,000	112,590	1	Toraja Green Coffee	2.09
14 Aug 2002	Megahputra	Holland Coffee	USA	33,000	62,700	1	Kalossie Arabica	1.90
14 Aug 2002	Toarco Jaya	Sulawesi Development Co	Japan	29,160	93,704	1	Toraja	3.21
19 Aug 2002	Toarco Jaya	Sulawesi Development Co	Japan	30,000	100,022	1	Toraja	3.33
22 Aug 2002	Toarco Jaya	Sulawesi Development Co	Japan	30,000	96,914	1	Toraja	3.23
23 Aug 2002	Sari Hasil Utama	Efico Green Coffee	Belgium	18,000	34,200	1	Kalossie Arabica	1.90
01 Sep 2002	Megahputra	Efico Green Coffee	Belgium	18,000	34,200	1	Kalossie DP	1.90
04 Sep 2002	Toarco Jaya	Sulawesi Development Co	Japan	30,000	101,363	1	Toraja	3.38
09 Sep 2002	KJUB Puspeta Luwu	Barthco (Starbucks)	USA	36,000	79,200	1	Royal Coffee Washed Toraja Arabica	2.20
09 Sep 2002	Kopi Jaya Enterprises	Holland Coffee	USA	16,500	28,050	1	Mandheling Arabica	1.70
09 Sep 2002	Kopi Jaya Enterprises	Holland Coffee	USA	16,500	28,215	1	Mandheling Arabica	1.71
09 Sep 2002	Toarco Jaya	Sulawesi Development Co	Japan	15,000	50,336	1	Toraja	3.36
11 Sep 2002	KJUB Puspeta Luwu	Brooks	Japan	36,000	68,400	1	Toraja Green Coffee	1.90
11 Sep 2002	KJUB Puspeta Luwu	Brooks	Japan	54,000	108,810	1	Toraja Green Coffee	2.02
11 Sep 2002	Kopi Jaya Enterprises	Holland Coffee	USA	16,500	29,040	1	Toraja Kalossie Arabica	1.76
12 Sep 2002	Kopi Sulawesi	Toyota Tsusho Corp	Japan	5,100	27,105	1	Kalosi Toraja Special A /DP	5.31

16 Sep 2002	Sari Hasil Utama	Holland Coffee	USA	16,500	28,875	1	Mandheling Arabica	1.75
18 Sep 2002	Megahputra	Mingning Development Corporation	Taiwan	1,800	3,240	1	Arabica coffee/ DP Super Quality	1.80
19 Sep 2002	Batu Putih	Efico Green Coffee	Belgium	18,000	31,860	1	Makassar arabica	1.77
22 Sep 2002	KJUB Puspeta Luwu	Royal	USA	33,000	62,700	1	Royal Coffee Washed Toraja Arabica	1.90
24 Sep 2002	Megahputra	Holland Coffee	USA	16,500	29,700	1	Kalossie Arabica	1.80
24 Sep 2002	Megahputra	Holland Coffee	USA	16,500	29,700	1	Kalossie Arabica	1.80
27 Sep 2002	Batu Putih	Daarnhouwer	Germany	18,000	31,500	1	Toraja Kalossi Arabica	1.75
27 Sep 2002	Sulutco	Marubeni	Japan	18,000	66,425	1	Rante Karua Kalosi Toraja	3.69
28 Sep 2002	Megahputra	Holland Coffee	Singapore	4,500	8,100	1	Aged Kalossie Arabica	1.80
30 Sep 2002	KJUB Puspeta Luwu	Brooks	Japan	72,000	133,920	1	Toraja Green Coffee	1.86
02 Oct 2002	KJUB Puspeta Luwu	Brooks	Japan	72,000	134,650	1	Toraja Green Coffee	1.87
07 Oct 2002	Sari Hasil Utama	Efico Green Coffee	Belgium	18,000	32,640	1	Kalossie Arabica	1.81
09 Oct 2002	Sulawesi Beans	UCC Ueshima	Japan	16,500	60,660	1	Kalosi	3.68
10 Oct 2002	Megahputra	Holland Coffee	USA	33,000	57,175	1	Mandheling Arabica	1.73
10 Oct 2002	Megahputra	S. Ishimitsu & Co	Japan	3,000	8,175	1	Bintang Toraja Arabica Coffee	2.73
10 Oct 2002	Megahputra	Siong Eng	Singapore	18,000	33,440	1	Sulawesi Toraja (PEB)	1.86
11 Oct 2002	Kopi Jaya Enterprises	Holland Coffee	Germany	33,000	57,750	1	Mandheling Arabica	1.75
15 Oct 2002	Batu Putih	Efico Green Coffee	Belgium	18,000	31,950	1	Makassar Arabica Kalossie (PEB)	1.78
22 Oct 2002	Kopi Jaya Enterprises	P.W. Bellingall	USA	18,000	49,500	1	Sulawesi Arabica Kalosi Toraja	2.75
23 Oct 2002	Sari Hasil Utama	Holland Coffee	USA	16,500	30,112	1	Kalossie Arabica	1.82
24 Oct 2002	Batu Putih	Phoenix Trading	Belgium	18,000	32,400	1	Makassar Sulawesi Kalossi (PEB)	1.80
24 Oct 2002	KJUB Puspeta Luwu	Bennett & Sons	Australia	18,000	34,650	1	Cooperative Bukit Marante Kalossie Toraja	1.93
24 Oct 2002	Megahputra	Rucquoy Freres SPRL	Belgium	17,100	30,352	1	Kalossie	1.77
24 Oct 2002	Sulutco	CofiCom	Australia	18,000	54,775	1	Sulutco Kalosi Toraja	3.04
28 Oct 2002	Firma Kopi Jaya	Holland Coffee	Singapore	1,800	5,850	1	Aged DP Peaberry Kalosi (PEB)	3.25
02 Nov 2002	Megahputra	Efico Green Coffee	Begium	16,000	33,480	1	Kalossie Arabica Makassar	2.09

06 Nov 2002	KJUB Puspeta Luwu	Royal	USA	16,500	31,350	1	Toraja arabica	1.90
08 Nov 2002	KJUB Puspeta Luwu	Royal	USA	16,500	31,350	1	Toraja arabica	1.90
20 Nov 2002	Batu Putih	Holland Coffee	USA	16,500	30,112	1	Toraja kalosi (PEB)	1.82
20 Nov 2002	Megahputra	Holland Coffee	USA	16,500	28,875	1	Kalossie	1.75
21 Nov 2002	KJUB Puspeta Luwu	Royal	USA	33,000	64,350	1	Toraja arabica	1.95
21 Nov 2002	Kopi Jaya Enterprises	List & Beisler	Singapore	16,500	42,075	1	Kalosi Toraja Sulawesi	2.55
22 Nov 2002	Firma kopi Jaya	List & Beisler	Germany	16,500	33,480	1	Kalosi Toraja	2.03
26 Nov 2002	Batu Putih	Phoenix Trading	Belgium	18,000	34,470	1	Sulawesi Kalossi (PEB)	1.92
27 Nov 2002	Kopi Sulawesi	Toyota Tsusho Corp	Japan	5,100	27,105	1	Kalosi Toraja Special A /DP	5.31
27 Nov 2002	Megahputra	Efico Green Coffee	Belgium	18,000	32,040	1	Kalossie Arabica	1.78
29 Nov 2002	Ben Nibion	Holland Coffee	Germany	16,500	28,875	1	Mandheling	1.75
29 Nov 2002	Ben Nibion	Holland Coffee	USA	16,500	28,875	1	Mandheling	1.75
30 Nov 2002	KJUB Puspeta Luwu	Brooks	Japan	90,000	168,300	1	Toraja arabica	1.87
04 Dec 2002	Batu Putih	Sylvia Hoisen	USA	17,100	33,345	1	Indonesian Arabica	1.95
20 Dec 2002	Batu Putih	Daarnhouwer	Germany	18,000	34,200	1	Toraja kalosi (PEB)	1.90
20 Dec 2002	Megahputra	Holland Coffee	USA	16,500	28,875	1	Kalossie Arabica	1.75
22 Dec 2002	Megahputra	S. Ishimitsu & Co	Japan	3,000	8,000	1	Bintang Toraja Arabica Coffee	2.67
23 Dec 2002	Megahputra	Efico Green Coffee	Belgium	18,000	33,210	1	Kalossie	1.85
23 Dec 2002	Megahputra	Efico Green Coffee	Belgium	18,000	33,480	1	Kalossie	1.86
24 Dec 2002	Ben Nibion	Barthco, List & Beisler (Starbucks)	USA	16,500	28,875	1	Sulawesi Toraja Kalosi	1.75
24 Dec 2002	Ben Nibion	Barthco, List & Beisler (Starbucks)	USA	33,000	57,750	1	Sulawesi Toraja Kalosi	1.75
25 Dec 2002	Kopi Jaya Enterprises	List & Beisler	Singapore	16,500	42,075	1	Sulawesi Toraja Kalosi	2.55
28 Dec 2002	Ben Nibion	List & Beisler	Singapore	18,000	31,500	1	Kalossie Toraja	1.75
24 Dec 2002	Litha & Co	Holland Coffee	USA	16,500	28,875	1	Kalossie (Oakland)	1.75
24 Dec 2002	Litha & Co	Holland Coffee	USA	16,500	28,875	1	Kalossie (Seattle)	1.75
29 Dec 2002	Batu Putih	Interamerican Commodities	USA	17,100	32,917	1	Celebes Kalosi Toraja	1.92
29 Dec 2002	Kopi Jaya Enterprises	Holland Coffee	USA	33,000	61,650	1	Mandheling	1.87
29 Dec 2002	Kopi Jaya Enterprises	Holland Coffee	USA	33,000	61,650	1	Mandheling	1.87
			TOTAL:	3,644,209	8,157,111		AVERAGE:	2.24

Date	Exporter	Importer	Destination	Volume (kg)	Value (US\$)	Grade	Identity	Price(US\$ /kg)
6/01/2003	Megahputra	EFICO N.V	Belgium	18,000	35,550	1	Kalossie	1.98
12/01/2003	Megahputra	Holland Coffee	USA	16,500	30,937	1	Kalossie	1.87
12/01/2003	Megahputra	Holland Coffee	USA	16,500	30,937	1	Kalossie	1.87
20/01/2003	Kopi Jaya	Holland Coffee	Singapore	33,000	77,058	1	Mandheling	2.34
22/01/2003	Sulawesi Beans	Toyota Tsusho Corp	Japan	8,100	33,475	1	Mamasa Toraja	4.13
25/01/2003	Megahputra	EFICO N.V	Belgium	18,000	33,210	1	Kalossie	1.85
30/01/2003	KJUB Puspeta Luwu	Royal Coffee	USA	33,000	64,350	1	Toraja	1.95
4/02/2003	Sulawesi Beans	Toyota Tsusho Corp	Japan	3,000	12,525	1	Kalosi Toraja	4.18
5/02/2003	Megahputra	EFICO N.V	Belgium	18,000	35,550	1	Kalossie	1.98
6/02/2003	KJUB Puspeta Luwu	Royal Coffee	USA	16,500	32,588	1	Toraja	1.98
6/02/2003	KJUB Puspeta Luwu	Royal Coffee	USA	16,500	33,398	1	Toraja	2.02
13/02/2003	Ben Nibion	Holland Coffee	Germany	33,000	57,750	1	Kalossie	1.75
13/02/2003	Ben Nibion	Holland Coffee	USA	16,500	28,875	1	Kalossie	1.75
13/02/2003	Ben Nibion	Holland Coffee	USA	25,000	43,750	1	Kalossie	1.75
13/02/2003	Lion Lestari	Holland Coffee	USA	7,980	14,763	1	Calossie	1.85
15/02/2003	Megahputra	Holland Coffee	Singapore	20,000	39,050	1	Mandheling (aged)	1.95
16/02/2003	Megahputra	SA Sucre export	Belgium	18,000	33,480	1	Kalossi	1.86
20/02/2003	Sari Hasil Utama	Andira Netherland	Ireland	18,000	36,900	1	Kalossi	2.05
20/02/2003	Megahputra	Daarhouwers & Co/ Barthco Int	Belgium	18,000	34,650	1	Kalossie	1.93
28/02/2003	Litha & Co	Holland Coffee	Germany	16,500	28,875	1	Kalossie	1.75
28/02/2003	Litha & Co	Holland Coffee	USA	16,500	28,875	1	Kalossie	1.75
28/02/2003	Litha & Co	Holland Coffee	USA	16,500	28,875	1	Kalossie	1.75
3/03/2003	Megahputra	Siong Eng & Co	Singapore	15,000	29,175	1	Sulawesi Toraja	1.95
4/03/2003	Batu Putih Raya	EFICO N.V	Belgium	18,000	34,560	1	Kalossie	1.92
14/03/2003	Megahputra	Ishimitsu	Japan	3,000	9,075	1	Bintang Toraja	3.03
28/04/2003	KJUB Puspeta Luwu	Royal Coffee	USA	17,100	30,780	1	Toraja	1.80
29/04/2003	Hasil Bumi Indonesia	Fresh Café	Singapore	1,000	1,750	1	Toraja	1.75
12/05/2003	Megahputra	Ishimitsu	Japan	1,500	4,837	1	Bintang Toraja	3.22
20/05/2003	Kopi Sulawesi	Toyota Tsusho Corp	Japan	3,600	18,470	1	Kalosi Toraja	5.13
26/05/2003	Hasil Bumi Indonesia	Liesbeth Pronk	Netherlands	8,750	27,385	1	Toraja	3.13



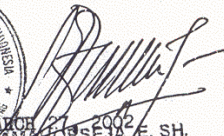
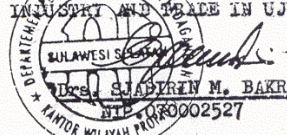
27/05/2003	Sari Hasil Utama	Daarhouwers & Co/ Barthco Int / Starbucks	USA	18,000	34,650	1	Kalossi of the Torajah District	1.93
28/05/2003	Megahputra	Kanematsu	Japan	6,000	24,595	1	Kalosi	4.10
28/05/2003	Kopi Sulawesi	Steinberg Warehousing (List & Beisler)	Singapore	16,500	39,187	1	Kalosi Toraja	2.37
31/05/2003	Sulawesi Beans	UCC Ueshima Coffee	Japan	15,000	56,100	1	Toraja	3.74
2/06/2003	Toarco Jaya	Sulawesi Development Co	Japan	12,780	44,470	1		3.48
12/06/2003	Toarco Jaya	Sulawesi Development Co	Japan	6,840	51,163	1		7.48
15/06/2003	Toarco Jaya	Sulawesi Development Co	Japan	6,840	26,026	1		3.80
16/06/2003	Batu Putih Raya	EFICO N.V	Belgium	18,000	34,650	1	Kalossie	1.93
16/06/2003	Lion Lestari	Orebi et cie	France	12,000	27,000	1	Arabica Lion Estate Celebes Toraja 'Burung Maleo'	2.25
16/06/2003	Batu Putih Raya	Pheonix Trading	Belgium	18,000	34,650	1	Sul / Makassar /Kalossi	1.93
19/06/2003	Toarco Jaya	Sulawesi Development Co	Japan	14,400	43,425	1		3.02
25/06/2003	KJUB Puspeta Luwu	Royal Coffee	USA	18,000	35,100	1	Toraja	1.95
26/06/2003	Kopi Jaya	Mitsubishi	Japan	9,000	17,100	1	Kalosi	1.90
27/06/2003	Sulutco	Marubeni	Japan	6,000	22,025	1	Rante Karua Kalosi Toraja	3.67
27/06/2003	Megahputra	Starbucks	USA	18,000	34,650	1	Kalossi (of the Torajah District)	1.93
28/06/2003	Batu Putih Raya	Daarhouwers & Co/ Barthco Int / Starbucks	USA	18,000	34,650	1	Kalossi of the Torajah District	1.93
28/06/2003	Toarco Jaya	Sulawesi Development Co	Japan	28,800	99,656	1	Toraja	3.46
29/06/2003	Kopi Jaya	Hamburg Coffee Co	Germany	18,000	33,300	1	Sulawesi Kalosi	1.85
1/07/2003	Lion Lestari	Holland Coffee	USA	16,500	29,700	1	Sulawesi kalosi	1.80
1/07/2003	Toarco Jaya	Sulawesi Development Co	Japan	28,800	94,259	1	Toraja	3.27
3/07/2003	KJUB Puspeta Luwu	Bennet & Sons	Australia	18,000	32,400	1	Kalosi Toraja	1.80
4/07/2003	Lion Lestari	Holland Coffee	USA	16,500	29,700	1	Sulawesi Kalosi Estate	1.80
8/07/2003	Toarco Jaya	Sulawesi Development Co	Japan	22,500	78,706	1	Toraja	3.50
8/07/2003	Toarco Jaya	Sulawesi Development Co	Japan	22,500	74,889	1	Toraja	3.33
9/07/2003	Sari Hasil Utama	EFICO N.V	Belgium	18,000	34,650	1	Kalossie	1.93
11/07/2003	KJUB Puspeta Luwu	Royal Coffee	Netherlands	18,000	35,100	1	Toraja	1.95
14/07/2003	Megahputra	EFICO N.V	Belgium	18,000	35,280	1	Kalossie	1.96
14/07/2003	Toarco Jaya	Sulawesi Development Co	Japan	28,000	96,064	1	Toraja	3.43

18/07/2003	Toarco Jaya	Sulawesi Development Co	Japan	22,500	74,968	1	Toraja	3.33
18/07/2003	Toarco Jaya	Sulawesi Development Co	Japan	22,500	77,117	1	Toraja	3.43
20/07/2003	Lion Lestari	Holland Coffee	USA	16,500	29,700	1	Sulawesi Kalosi Estate	1.80
24/07/2003	Toarco Jaya	Sulawesi Development Co	Japan	14,520	49,375	1	Toraja	3.40
30/07/2003	Batu Putih Raya	Holland Coffee	USA	49,500	84,150	1	Kalossie	1.70
30/07/2003	Kopi Jaya	List & Beisler, Hamburg	Netherlands	16,500	28,050	1	Sulawesi kalosi Toraja	1.70
30/07/2003	Kopi Jaya	List & Beisler, Hamburg	USA	33,000	54,440	1	Sulawesi kalosi Toraja	1.65
30/07/2003	Megahputra	Starbucks	USA	18,000	31,950	1	Kalossi (of the Torajah District)	1.78
30/07/2003	Sulawesi Beans	UCC Ueshima Coffee	Japan	15,000	57,600	1	Toraja	3.84
31/07/2003	KJUB Puspeta Luwu	Royal Coffee	USA	16,500	32,175	1	Toraja	1.95
31/07/2003	Toarco Jaya	Sulawesi Development Co	Japan	14,400	51,100	1	Toraja	3.55
31/07/2003	Toarco Jaya	Sulawesi Development Co	Japan	14,400	52,136	1	Toraja	3.62
31/07/2003	Toarco Jaya	Sulawesi Development Co	Japan	14,400	40,963	1	Toraja	2.84
5/08/2003	Sari Hasil Utama	EFICO N.V	Belgium	18,000	33,300	1	Kalossie	1.85
5/08/2003	Lion Lestari	Holland Coffee	USA	16,500	29,700	1	Sulawesi Kalosi Estate	1.80
8/08/2003	KJUB Puspeta Luwu	Royal Coffee	USA	36,000	70,200	1	Toraja	1.95
8/08/2003	Sulawesi Beans	Toyota Tsusho Corp	Japan	9,000	36,450	1	Mamasa Toraja	4.05
10/08/2003	Toarco Jaya	Sulawesi Development Co	Japan	28,800	93,704	1	Toraja	3.25
13/08/2003	Lion Lestari	Holland Coffee	USA	16,500	29,700	1	Sulawesi Kalosi Estate	1.80
13/08/2003	Lion Lestari	Holland Coffee	USA	16,500	29,700	1	Sulawesi Kalosi Estate	1.80
13/08/2003	Lion Lestari	Holland Coffee	USA	16,500	29,700	1	Sulawesi Kalosi Estate	1.80
14/08/2003	Sari Hasil Utama	EFICO N.V	Belgium	18,000	33,120	1	Kalossie	1.84
17/08/2003	Lion Lestari	Holland Coffee	USA	16,500	29,700	1	Sulawesi Kalosi Estate	1.80
17/08/2003	Megahputra	Ishimitsu	Japan	4,500	14,783	1	Toraja	3.29
17/08/2003	Megahputra	Ishimitsu	Japan	1,500	4,178	1	Toraja	2.79
22/08/2003	Batu Putih Raya	Starbucks	USA	36,000	65,160	1	Kalossi (of the Torajah District)	1.81
23/08/2003	KJUB Puspeta Luwu	Royal Coffee	USA	16,500	32,175	1	Toraja	1.95
24/08/2003	Lion Lestari	Holland Coffee	USA	16,500	29,700	1	Sulawesi Kalosi Estate	1.80
24/08/2003	Sari Hasil Utama	Holland Coffee	USA	16,500	28,298	1	Sulawesi Kalosi Estate	1.72
26/08/2003	Toarco Jaya	Sulawesi Development Co	Japan	43,200	148,646	1	Toraja	3.44
27/08/2003	Lion Lestari	Holland Coffee	USA	16,500	29,700	1	Sulawesi Kalosi Estate	1.80
27/08/2003	Lion Lestari	Holland Coffee	USA	16,500	28,463	1	Sulawesi Kalosi Estate	1.73

29/08/2003	Toarco Jaya	Sulawesi Development Co	Japan	28,800	98,989	1	Toraja	3.44
1/09/2003	Sulutco	Coficom	Australia	18,000	55,665	1	Sulutco Kalosi Toraja	3.09
1/09/2003	KJUB Puspeta Luwu	Royal Coffee	USA	33,000	61,875	1	Washed Toraja	1.88
1/09/2003	Toarco Jaya	Sulawesi Development Co	Japan	28,800	94,100	1	Toraja	3.27
4/09/2003	Lion Lestari	Holland Coffee	USA	16,500	28,463	1	Sulawesi Kalosi Estate	1.73
5/09/2003	Megahputra	Starbucks	USA	18,000	34,950	1	Kalosi	1.94
5/09/2003	Kopi Sulawesi	Sumitomo	Japan	6,000	21,950	1	Kalosi	3.66
6/09/2003	Lion Lestari	Holland Coffee	USA	16,500	28,875	1	Kalosi Estate	1.75
8/09/2003	Toarco Jaya	Sulawesi Development Co	Japan	28,800	97,760	1	Toraja	3.39
10/09/2003	Lion Lestari	Holland Coffee	USA	16,500	28,463	1	Kalosi Estate	1.73
10/09/2003	KJUB Puspeta Luwu	Royal Coffee	USA	18,000	35,100	1	Washed Toraja	1.95
10/09/2003	Batu Putih Raya	Starbucks	USA	18,000	32,580	1	Kalosi	1.81
11/09/2003	Megahputra	Kanematsu	Japan	6,000	24,595	1	Kalosi Supergrade	4.10
12/09/2003	Litha & Co	Rucquoy Freres	Belgium	18,000	32,400	1	Kalosi	1.80
13/09/2003	Toarco Jaya	Sulawesi Development Co	Japan	28,800	96,706	1	Toraja	3.36
15/09/2003	Lion Lestari	Holland Coffee	USA	16,500	28,463	1	Kalosi Estate	1.73
15/09/2003	Lion Lestari	Holland Coffee	USA	16,500	28,463	1	Kalosi Estate	1.73
15/09/2003	Sari Hasil Utama	Holland Coffee	USA	16,500	28,297	1	Kalosi	1.71
16/09/2003	KJUB Puspeta Luwu	Royal Coffee	USA	54,000	105,300	1	Toraja	1.95
17/09/2003	Megahputra	Barthco/Starbucks	USA	36,000	63,900	1	Kalosi	1.78
19/09/2003	Sulawesi Beans	Marubeni	Japan	18,000	61,200	1	Kalosi Toraja Special	3.40
19/09/2003	KJUB Puspeta Luwu	Royal Coffee	USA	16,500	29,700	1	Toraja	1.80
19/09/2003	Megahputra	Rucquoy Freres	Belgium	18,000	35,550	1	Kalosi	1.98
19/09/2003	Megahputra	Starbucks	USA	18,000	32,580	1	Kalosi	1.81
20/09/2003	Lion Lestari	Holland Coffee	Singapore	18,000	45,000	1	Kalosi, semi-washed	2.50
20/09/2003	Lion Lestari	Holland Coffee	USA	16,500	28,875	1	Kalosi Estate	1.75
20/09/2003	Lion Lestari	Holland Coffee	USA	16,500	28,875	1	Kalosi Estate	1.75
20/09/2003	Batu Putih Raya	Pheonix Trading	Belgium	36,000	63,450	1	Makassar Kalosi	1.76
23/09/2003	KJUB Puspeta Luwu	Volcafe Specialty Coffee	USA	18,000	36,000	1	Celebes Kalosi	2.00
25/09/2003	Toarco Jaya	Sulawesi Development Co	Japan	28,800	99,483	1	Toraja	3.45
25/09/2003	Toarco Jaya	Sulawesi Development Co	Japan	28,800	82,491	1	Toraja	2.86
26/09/2003	Megahputra	Starbucks	USA	18,000	34,920	1	Kalosi	1.94
28/09/2003	Lion Lestari	EFICO N.V	Belgium	18,300	31,050	1	Sulawesi Kalosi Estate	1.70

30/09/2003	Megahputra	Starbucks	USA	18,000	32,580	1	Kalosi	1.81
3/10/2003	Toarco Jaya	Sulawesi Development Co	Japan	33,060	65,846	1	Toraja	1.99
6/10/2003	Batu Putih Raya	Starbucks	USA	36,000	65,160	1	Kalosi Toraja	1.81
9/10/2003	Sulawesi Beans	Toyota Tsusho Corp	Japan	3,000	12,150	1	Kalosi Toraja	4.05
14/10/2003	Batu Putih Raya	EFICO N.V	Belgium	18,000	31,950	1	Makassar arabica	1.78
20/10/2003	Megahputra	Ishimitsu	Japan	1,500	4,928	1	Bintang Toraja	3.29
20/10/2003	Megahputra	Siong Eng & Co	Singapore	15,000	27,900	1	Kalosi	1.86
22/10/2003	KJUB Puspeta Luwu	Royal Coffee	USA	18,000	35,100	1	Washed Toraja	1.95
23/10/2003	Sari Hasil Utama	Holland Coffee	USA	33,000	56,265	1	Sulawesi Kalosi	1.71
24/10/2003	Batu Putih Raya	Starbucks	USA	36,000	66,960	1	Kalosi	1.86
24/10/2003	Megahputra	Starbucks	USA	18,000	33,480	1	Kalosi	1.86
26/10/2003	KJUB Puspeta Luwu	Bennet & Sons	Australia	18,000	32,400	1	Washed Sulawesi Toraja	1.80
29/10/2003	KJUB Puspeta Luwu	Royal Coffee	USA	36,000	70,200	1	Washed Toraja	1.95
29/10/2003	Megahputra	Starbucks	USA	36,000	65,160	1	Kalosi	1.81
30/10/2003	KJUB Puspeta Luwu	Royal Coffee	USA	16,500	29,700	1	Toraja	1.80
1/11/2003	Megahputra	L.J.Cooper Company	USA	18,000	31,950	1	Kalosi	1.78
1/11/2003	Megahputra	Starbucks	USA	18,000	33,480	1	Kalosi	1.86
3/11/2003	Batu Putih Raya	EFICO N.V	Belgium	18,000	31,950	1	Makassar arabica	1.78
6/11/2003	KJUB Puspeta Luwu	Royal Coffee	USA	36,000	70,200	1	Toraja	1.95
7/11/2003	KJUB Puspeta Luwu	Royal Coffee	USA	18,000	35,100	1	Toraja	1.95
16/11/2003	Megahputra	Ishimitsu	Japan	1,500	2,700	1	Bintang Toraja	1.80
16/11/2003	Ben Nibion	List & Beisler, Hamburg	Netherlands	16,500	26,400	1	Kalosi Toraja	1.60
16/11/2003	Ben Nibion	List & Beisler, Hamburg	USA	18,000	28,800	1	Kalosi (Old Crop)	1.60
18/11/2003	KJUB Puspeta Luwu	Royal Coffee	USA	17,100	31,635	1	Washed Toraja	1.85
18/11/2003	KJUB Puspeta Luwu	Royal Coffee	USA	33,000	59,400	1	Washed Toraja	1.80
18/11/2003	Megahputra	Rucquoy Freres	Belgium	18,000	35,550	1	Kalosi	1.98
20/11/2003	Litha & Co	Holland Coffee	USA	66,000	105,600	1	Kalosi	1.60
20/11/2003	Litha & Co	Holland Coffee	USA	33,000	52,800	1	Kalosi	1.60
20/11/2003	Litha & Co	Holland Coffee	USA	49,500	79,200	1	Kalosi	1.60
			Total 2003	2,970,970	6,499,759		Average Price 2003	2.19

APPENDIX F: EXPORT DATA DOCUMENTS

PART A: FOR USE BY AUTHORITIES OF ISSUING COUNTRY		ICO CERTIFICATE OF ORIGIN		
FIRTS COPY - for use by ICO London	1 Exporter/Consignor C.V. KOPI SULANESI JL. G. MERAPI 68A, UJUNG PANDANG, INDONESIA <div style="text-align: right; border: 1px solid black; width: 40px; float: right;">4 7 0</div>	Form approved by the : <div style="text-align: center;">  INTERNATIONAL COFFEE ORGANIZATION 22 Barners Street, London W1P 4DD, England Tel: 071-580 8591 Fax: 071-580 6129 Telex: 267659 INTCAF </div>		
	2 Notify address TOYOTA TSUSHO CORPORATION, NAGOYA, JAPAN. <div style="text-align: right; border: 1px solid black; width: 40px; float: right;"> </div>	3 Internal reference No. ICO - L 3668		
	6 Country of destination JAPAN <div style="text-align: right; border: 1px solid black; width: 40px; float: right;">0 6 0</div>	4 Country code 015	Port code 18	Serial No. 68
	8 Country of trans-shipment DIRECT <div style="text-align: right; border: 1px solid black; width: 40px; float: right;"> </div>	5 Producing country INDONESIA <div style="text-align: right; border: 1px solid black; width: 40px; float: right;">0 1 5</div>		
	10 ICO Identification mark 015 / 470 / 1 PRODUP INDONESIA KALOSI TORAJA SPECIAL A/DP.GRADE - 1 KOPSUL/TJ.6237  YOKOHAMA, JAPAN 60.KOSNETT 1 - 85	7 Date of export (DD/MMYY) 28/03/02		
	14 Description of coffee <input checked="" type="checkbox"/> Green Arabica <input type="checkbox"/> Green Robusta <input type="checkbox"/> Roasted <input type="checkbox"/> Soluble <input type="checkbox"/> Other	9 Name of carrier PRE-CARRIAGE BY RIMBA TUJUH V.08 OCEAN VESSEL MASOVIA VOY. 201N		
	15 Other relevant information DOCUMENTARY CREDIT NO. :682/212/13142, DD.020222.	11 Shipped in Bags <input checked="" type="checkbox"/> Bulk <input type="checkbox"/> Containers <input type="checkbox"/> Other <input type="checkbox"/>		
	16 IT IS HEREBY CERTIFIED THAT THE COFFEE DESCRIBED ABOVE WAS GROWN IN THE COUNTRY NAMED IN BOX 5 AND HAS BEEN EXPORTED ON THE DATE SHOWN BELOW. AN. KEPALA KANTOR INSPEKSI TYPE A1 D.J.B.C. UJUNG PANDANG  MARCH 27 2002 UJUNG PANDANG Signature of authorized Customs officer and Customs stamp of issuing country	12 Net weight of shipment 5.100.		
	 Date MARCH 28, 2002 Place UJUNG PANDANG Signature of authorized Certifying officer and stamp of Certifying Agency	13 Unit of weight <input checked="" type="checkbox"/> Kg <input type="checkbox"/> lb		
	PART B: FOR USE BY ISSUING AUTHORITY OR THE ICO 17			

International Coffee Organisation Certificate of Origin (SAMPLE)

PEMBERITAHUAN EKSPOR BARANG (PEB)

BC.3.0

A. Jenis PEB : 1		1. Biasa	2. Berkala	Halaman 1 dari 1	
B. Jenis Barang Ekspor : 1		1. Umum 2. Terkena Pajak Ekspor 3. Yang Mendapat Fasilitas Ekspor / Hapkesta 4. Lainnya		<input checked="" type="checkbox"/> a. Barang Kiriman; b. Barang Pindah; c. Barang Diplomatik; d. Barang Milik Keagamaan, Kemanusiaan, Olah Raga, Kesenian, Kebudayaan dan Pendidikan; e. Barang Asal Impor dikembalikan; f. Barang yang Dikirim ke Luar Negeri yang Akan Dimasukkan Kembali ke Daerah Pabean; g. Barang Cendera Maja; h. Barang Cendeki; i. Barang Keperluan Penelitian; j. Barang Badan Internasional Reserwa Pejabat-pejabatnya.	
C. Cara Perdagangan : 1		1. Biasa 2. Jumlah Dagang		SIGHT L/C 7	
D. Cara Pembayaran :					
E. DATA PEMBERITAHUAN					
1. Identitas Eksportir : NIMW 01.125.556.9.801.000 2. Nama, Alamat Eksportir : C.V. KOPI SULAWESI JL. G. MERAPI 68A, MKS. 3. No. & Tgl. SIUI : 54/2023/PB/II/93.TGL.170293			G. DIHISI OLEH BEA DAN CUKAI No. & Tgl. Pendaftaran : 27 MAR 2002 Nama Kantor : MAKASSAR 170100		
4. Nama, Alamat Penerima/Pembeli : JPNGO TOYOTA TSUSHO CORPORATION, NAGOYA, JAPAN			14. No. Invoice : 001/KS/INV/02. Tgl. 27.03.02		
5. Identitas PPJK : NPWP --			15. No. LPSB : ----- Tgl. : -----		
6. Nama, Alamat PPJK : --			16. Propinsi Asal Barang : 7300 17. Neg. Tujuan : JP SULAWESI SELATAN JAPAN		
7. No. & Tgl. Surat Izin PPJK : -----			18. Izin Karantina : NO.61-18-SM2.1-02-12.03.02 KARANTINA : SMS/PM : Lain-lain : PACKING LIST TERLAMPIR.		
8. Cara Pengangkutan : 1. Laut; 2. Kereta Api; 3. Jalan Raya; 4. Udara; 9. Lainnya : 1			9. Perkiraan tgl. Ekspor : 03.02		
10. Nama Sarana Pengangkut/No. Voy/Flight : KEMBA RIJUH 08			19. Cara Penyerahan Brg. : COST AND FREIGHT CPR		
11. Pel. Muat : II. PAKDANG			20. Nilai FOB : USD 27.870.00		
12. Pel. Bongkar : JPYOK			21. Freight : 1.200.00		
13. Pel. Transit DN : TG. FRIOK			22. Asuransi : -----		
24. Merek dan Nomor Kemasan/No. Pel. Kemasan : 1x20FT			23. FOB : 27.870.00		
25. Jumlah dan Jenis Kemasan : 85 (EIGHTY FIVE) BAGS			26. Berat Kotor (Kg) : 5.185.00		
27. Berat Bersih (Kg) : 5.100.00			28. Nilai PE dalam Rupiah : 27.870.00		
28. HPE Barang pada tgl. Penerbitan : ---			29. Jumlah & Jenis Satuan : 5,1.00 TON		
30. Nilai PE dalam Rupiah : ---			31. Nilai PE dalam Rupiah : ---		
32. Nilai PE dalam Rupiah : ---			33. Nilai PE dalam Rupiah : ---		
33. Nilai PE dalam Rupiah : ---			34. Nilai PE dalam Rupiah : ---		
34. Nilai PE dalam Rupiah : ---			35. Nilai PE dalam Rupiah : ---		
35. Nilai PE dalam Rupiah : ---			36. Nilai PE dalam Rupiah : ---		
36. Nilai PE dalam Rupiah : ---			37. Nilai PE dalam Rupiah : ---		
37. Nilai PE dalam Rupiah : ---			38. Nilai PE dalam Rupiah : ---		
38. Nilai PE dalam Rupiah : ---			39. Nilai PE dalam Rupiah : ---		
39. Nilai PE dalam Rupiah : ---			40. Nilai PE dalam Rupiah : ---		
40. Nilai PE dalam Rupiah : ---			41. Nilai PE dalam Rupiah : ---		
41. Nilai PE dalam Rupiah : ---			42. Nilai PE dalam Rupiah : ---		
42. Nilai PE dalam Rupiah : ---			43. Nilai PE dalam Rupiah : ---		
43. Nilai PE dalam Rupiah : ---			44. Nilai PE dalam Rupiah : ---		
44. Nilai PE dalam Rupiah : ---			45. Nilai PE dalam Rupiah : ---		
45. Nilai PE dalam Rupiah : ---			46. Nilai PE dalam Rupiah : ---		
46. Nilai PE dalam Rupiah : ---			47. Nilai PE dalam Rupiah : ---		
47. Nilai PE dalam Rupiah : ---			48. Nilai PE dalam Rupiah : ---		
48. Nilai PE dalam Rupiah : ---			49. Nilai PE dalam Rupiah : ---		
49. Nilai PE dalam Rupiah : ---			50. Nilai PE dalam Rupiah : ---		
50. Nilai PE dalam Rupiah : ---			51. Nilai PE dalam Rupiah : ---		
51. Nilai PE dalam Rupiah : ---			52. Nilai PE dalam Rupiah : ---		
52. Nilai PE dalam Rupiah : ---			53. Nilai PE dalam Rupiah : ---		
53. Nilai PE dalam Rupiah : ---			54. Nilai PE dalam Rupiah : ---		
54. Nilai PE dalam Rupiah : ---			55. Nilai PE dalam Rupiah : ---		
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60. Nilai PE dalam Rupiah : ---			61. Nilai PE dalam Rupiah : ---		
61. Nilai PE dalam Rupiah : ---			62. Nilai PE dalam Rupiah : ---		
62. Nilai PE dalam Rupiah : ---			63. Nilai PE dalam Rupiah : ---		
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64. Nilai PE dalam Rupiah : ---			65. Nilai PE dalam Rupiah : ---		
65. Nilai PE dalam Rupiah : ---			66. Nilai PE dalam Rupiah : ---		
66. Nilai PE dalam Rupiah : ---			67. Nilai PE dalam Rupiah : ---		
67. Nilai PE dalam Rupiah : ---			68. Nilai PE dalam Rupiah : ---		
68. Nilai PE dalam Rupiah : ---			69. Nilai PE dalam Rupiah : ---		
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71. Nilai PE dalam Rupiah : ---			72. Nilai PE dalam Rupiah : ---		
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81. Nilai PE dalam Rupiah : ---			82. Nilai PE dalam Rupiah : ---		
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88. Nilai PE dalam Rupiah : ---			89. Nilai PE dalam Rupiah : ---		
89. Nilai PE dalam Rupiah : ---			90. Nilai PE dalam Rupiah : ---		
90. Nilai PE dalam Rupiah : ---			91. Nilai PE dalam Rupiah : ---		
91. Nilai PE dalam Rupiah : ---			92. Nilai PE dalam Rupiah : ---		
92. Nilai PE dalam Rupiah : ---			93. Nilai PE dalam Rupiah : ---		
93. Nilai PE dalam Rupiah : ---			94. Nilai PE dalam Rupiah : ---		
94. Nilai PE dalam Rupiah : ---			95. Nilai PE dalam Rupiah : ---		
95. Nilai PE dalam Rupiah : ---			96. Nilai PE dalam Rupiah : ---		
96. Nilai PE dalam Rupiah : ---			97. Nilai PE dalam Rupiah : ---		
97. Nilai PE dalam Rupiah : ---			98. Nilai PE dalam Rupiah : ---		
98. Nilai PE dalam Rupiah : ---			99. Nilai PE dalam Rupiah : ---		
99. Nilai PE dalam Rupiah : ---			100. Nilai PE dalam Rupiah : ---		

Pemberitahuan Ekspor Barang (PEB) / Export Notification Certificate issued by the Department of Industry and Trade, Makassar (SAMPLE)

APPENDIX G: TOARCO JAYA EVALUATION SHEET

<Evaluation of Table Test>

Pegan ,Kelihatan dan Bau
 Smell(Bau) Jamur ,Fermentase ,Kontaminasi
 Color(Warna) Hitam ,Melah ,Mulai hitam ,Binti-Binti(putih)
 Uniform(Keseragaman) Lata-lata sumua atau ada campur
 Process(Cara) Kondisi process baik ? (masih ada kulit ,lendir dll.)

Nilai	grade
◎*****	+50 /kali
○*****	± 0 /kali
△*****	-50 /kali
×*****	Reject/kali

<Evaluation of Defects Test>

180cc sasa(%/g)

Defect	Coments
kosong	tidak ada isih
broken	pecah /rusak / luka / hilang / injak
lubang	hama insects
batu	campur batu
kulit	petik bulum masak
tipis	tidak ada isih
busuk	biji berwarna hitam ,coklat ,hijau
robusta	campur robusta
cherry	campur cherry
small	teralu kecil
triangle	segi 3
Elephant	teralu besar
lain-lain	cengkeh ,coklat ,caban pohon

Nilai	grade
2.0 % keatas	× 1.04
2.1 - 3.0%	× 1.03
3.1 - 4.0%	× 1.02
4.1 - 5.0%	× 1.00
5.1 - 6.0%	× 0.98
6.1 - 7.0%	× 0.97
7.1 - 8.0%	× 0.96
8.1% keatas	Reject

<Evaluation of Liquoring>

3 cups

Rasa jamur ,fermentase ,minyak tanah ,lain-lain
 Rasa biji mudah , stenga masak

Nilai	grade
◎*****	+50
○*****	± 0
△*****	-50
×*****	Reject

No. _____ Tgl. -

	petugas 1	petugas 2	petugas 3
Smell	meja		
Color	meja		
Uniform	meja		
Process	meja		
Defects			
Liquoring			
Evaluation			

manager petugas 1 petugas 2 petugas 3

No. _____ Tgl. -

	petugas 1	petugas 2	petugas 3
Smell	*	defect	
Color	*	defect	
Uniform	*	defect	
Process	*	defect	
Defects		defect(%)	
Liquoring			
Evaluation	defect(Rp)	defect(Rp)	

manager petugas 1 petugas 2 petugas 3

No. _____ Tgl. -

	petugas 1	petugas 2	petugas 3
Smell	*	*	
Color	*	*	
Uniform	*	*	
Process	*	*	
Defects		*	
Liquoring			rasa
Evaluation	*	*	rasa

manager petugas 1 petugas 2 petugas 3