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***Gender production networks: Sustaining
cocoa-chocolate sourcing in Ghana and India***

Stephanie Barrientos¹

¹ University of Manchester, UK

stephanie.barrientos@manchester.ac.uk

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Abstract

Transformation of global sourcing over recent decades has significant implications for gender relations of production in the developing world. Analysis of global production networks and value chains (GPN/GVC) provides important insights into the changing dynamics of global sourcing and its embeddedness within diverse societies and countries. However, the gender dimension of this process is often overlooked. Feminist analysis provides important insights into a changing gender division of labour within global production, but rarely links it to the commercial dynamics of GPN/GVCs. This paper develops a gender production network analysis to inform a comparative examination of gender production relations in cocoa. It draws on case studies in Ghana and India. It asks in what ways are GPN/GVCs bearers of gender transformation, and what are the implications for the sustainability of quality cocoa sourcing by chocolate manufacturers? The paper finds that gendered social norms and practices in both countries mean that women's contribution to cocoa production has long been undervalued, with women largely relegated to the position of unpaid family or casual labour. However, within the gender division of labour women do play an important role in certain activities that are increasingly recognised in the industry as critical to ensuring good yields and quality production. These are of increasing importance to consumer-focused brand name chocolate companies. Recognition and support for women's role could make an important contribution, both to the empowerment of women cocoa farmers and workers, but also to the future sustainability of quality cocoa sourcing.

Keywords: Global production networks, global value chain, gender, cocoa, chocolate, Ghana, India

Stephanie Barrientos is Associate Director of the Brooks World Poverty Institute and Senior Lecturer in Global Development with the Institute for Development Policy and Management, University of Manchester, UK.

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1. Introduction

The transformation of global production and consumption over recent decades has significant implications for gender relations of production in the developing world. However, this has been given insufficient attention in the literature on global production networks. Agriculture is one sector where important changes have taken place in the participation of women and men as farmers and workers. In many countries in Africa and Asia, men have moved away from farming and agricultural wage labour in search of work in service and manufacturing sectors. Women have often remained as the mainstay of farm production and work in rural areas, leading to a 'feminisation of agriculture' (World Bank, 2009). However, this has not been an even process, with important variations by region and sector.

Cocoa production is a sector that continues to be deemed a 'male crop' in many countries. Whilst women work on family farms and as wage labour, they often do so as unpaid family or casual labour whose contribution is unrecognised. But cocoa sourcing is coming under strain, with potentially important gender implications. Much cocoa is now sourced by a concentrated group of intermediary transnational cocoa processors, selling to dominant chocolate manufacturers and brands. However, these transnational companies are becoming increasingly concerned about the sustainability of both the quantity and quality of cocoa sourcing in the global South (Neilson, 2007). Some predictions from within the sector are that cocoa demand could seriously outstrip supply by 2020 (Fairtrade, 2011; Ryan, 2011).

However, this prediction assumes the persistence of current patterns of production, with little consideration of the unrecognised role of women and migrant cocoa farmers and workers (Knudsen and Fold, 2011). In this paper, we focus on the gender dimension of cocoa sourcing in global production networks, and investigate the implications for the sustainability of production if women's contribution is taken into account.

This raises important analytical challenges. Global value chain (GVC) analysis has made a significant contribution to our understanding of the transformation of global sourcing (Gereffi et al. 2001; Kaplinsky and Morris, 2002). In relation to cocoa-chocolate, Fold (2002) has developed the concept of a bi-polar value chain to unpack the interconnection between two dominant groups of buyers – transnational cocoa processors and chocolate manufacturers and brands. However, the GVC literature has largely focused on inter-firm relations, and the changing dynamics of the commercial segments of value chains. Bringing the gender dimension of production into the frame (particularly unpaid family and casual female labour) requires extending the analysis beyond commercial to social dimensions of production. Global production network (GPN) analysis provides an important contribution to a broader approach, through its emphasis on the societal, territorial and institutional embeddedness of production (Henderson et al.,

2002; Coe et al., 2008). This allows us to explore more deeply the interconnections between the commercial and social dimensions of production and distribution. However, to date the gender dimension of those interconnections has received little attention in either the GVC or the GPN literatures (Bair, 2008; Coe et al., 2008). A wider body of feminist economic research (not usually taking a GVC/GPN perspective) helps to throw light on the gendering of societal and institutional norms which contextualise much global sourcing in developing countries (Elson and Pearson 1981; Collins, 1993; Pearson, 1998; Kabeer, 2000). This paper addresses the gender gap in the GVC/GPN literature by linking it to this wider body of feminist economic work. It develops gender production network analysis as a lens for analysing the changing contribution of women to the cocoa-chocolate value chain.

Both GPN and feminist analysis highlight diversity in the interaction between the commercial and social dimensions of global sourcing, playing out differently for women and men across countries and regions (Kabeer, 2000; Coe et al., 2008). In this paper we explore those diversities by comparing two different cocoa sourcing countries/regions: Ghana (Western, Eastern and Ashanti regions) and India (Tamil Nadu and Andhra Pradesh). Research in both countries was undertaken through independent projects commissioned by Cadbury, to investigate the social sustainability of chocolate sourcing in its value chain.¹ Whilst neither project had a specific gender focus, their findings, combined with those of other studies, help to throw light on the gender production relations which underlie cocoa sourcing.

Ghana is one of the oldest cocoa producers still performing a key role in global production, and is currently the world's second largest cocoa producer/exporter, largely characterised by small-scale farming. Cocoa is deemed a 'male crop', with little recognition of female farmers, but with much input through unpaid female family labour. India is one of the smallest cocoa producer/exporters, with most cocoa going to domestic processing and manufacture. Tamil Nadu and Andhra Pradesh are relatively new states engaged in cocoa production, characterised by large-scale farming based on wage labour. Women are largely employed as casual day workers.

This comparison facilitates exploration of the diversity of gendered production relations across two very different regional contexts. But it also helps to highlight some of the commonalities, as the global commercial drivers of cocoa-chocolate sourcing engage, through multi-layered interaction, with diverse gendered regional social norms and institutions. The cocoa feeds into products, such as a bar of milk chocolate, which looks, tastes and is branded the same, wherever it is sold in the world.

¹ Barrientos et al. (2008) and Barrientos and Asenso-Okyere (2009); Berlan et al. (2013, forthcoming). Note: Cadbury was acquired by Kraft Foods Inc. in 2010, during the process of the Indian research.

This paper contributes to research in this area by developing a gender production network analysis to inform a comparative examination of gender production relations in cocoa in Ghana and India. It asks: in what ways are GPNs bearers of gender transformation, and what are the implications for the sustainability of quality cocoa sourcing by chocolate manufacturers? The paper finds that gendered social norms and practices in both Ghana and India mean that women's contribution to cocoa production has long been undervalued, with women largely relegated to the position of unpaid family or casual labour. However, within the gender division of labour, women do play an important role in certain activities in both countries – particularly early plant care, fermentation and drying. These activities are recognised in the industry as critical to ensuring good yields and quality production, which are of increasing importance to consumer-focused brand name chocolate companies (Daniels et al., 2012, and Cadbury personal communication). Recognition and support for the role of women could therefore make an important contribution, both to the empowerment of women cocoa farmers and workers, but also to the future sustainability of quality cocoa sourcing.

The paper is divided into four further sections. Section 2 provides a brief overview of the changing commercial context in which cocoa-chocolate value chains have evolved since the 1980s. Section 3 develops a gender production network analysis, combining GPN analysis with insights from feminist economics and geography. Section 4 explores the issues empirically, through a comparison of cocoa production in the selected regions of Ghana and India. Based on these findings, Section 5 considers the analytical implications of GPNs as bearers of gender transformation; and the final section concludes.

2. Changing dynamics of cocoa-chocolate sourcing

Globally, the cocoa-chocolate value chain has undergone significant transformation over the past two decades. The most obvious changes have occurred at the consumer, manufacture and processing segments of the chain. However, changes are now taking place at the production level, which could affect the sustainability of cocoa sourcing. This section provides a brief overview of the cocoa-chocolate value chain (from consumer to producer levels). This contextualises subsequent analysis of gender production networks as a framework for the more detailed exploration of the gender dynamics of sourcing in Ghana and India which follows.

Consumer demand for chocolate has grown steadily over the past decade, but is now experiencing a fillip, with emerging economies catching onto a taste for chocolate. The world consumption of chocolate confectionery in the 19 leading consuming nations for which data is available was estimated to be 5,330,000 tonnes in 2008, with an annual average increase of 1.3 percent for the period 2000-2008 (ICCO, 2010). In value, the global chocolate confectionery market experienced a significant appreciation, rising from

US\$50 billion in 2000 to US\$89 billion in 2009. But rapid expansion is now occurring in emerging economies, with countries such as India and China experiencing annual growth rates nearer to eight to 10 percent (albeit from a low base). The consumer market for chocolate has become distinguished by three segments: (a) low price and high volume; (b) mainstream quality; and (c) high quality niche chocolate (Barrientos and Asenso-Okyere, 2009). Overall, food safety standards pertain in all three segments. Consumers in the latter two segments place increasing importance on quality, including taste as well as the social and environmental origins of production. At the higher end of the market, sales of organic, certified Fairtrade and 'Origin' chocolate have been increasing at a high rate (also from a low base).² Chocolate companies therefore need to ensure both quantity and quality of supply across different product ranges.

In the middle of the value chain, significant concentration has occurred amongst the main chocolate manufacturers over the last two decades (Fold 2002; Kaplinsky 2004; Fold 2008). In 2005, 10 manufacturers accounted for 43 percent of world sales of chocolate confectionery (ICCO, 2007). By 2010 takeovers and acquisitions, particularly by Kraft and Mars, resulted in four companies accounting for an estimated 43 percent of total sales (Candy Industry 2010).³ Cadbury was bought by Kraft in 2009, and is now a fully owned subsidiary of Kraft Foods Inc. Kraft is now positioned as the world's largest chocolate confectionery company, with US\$16.8m sales, followed by Mars with US\$15m and Nestlé US\$11.3m sales in 2010 (Candy Industry January 2011). Three significant changes have occurred at the level of cocoa trading and processing since the 1980s: (a) a decline in the number of specialised cocoa traders who buy and sell cocoa as a traded commodity on forward and spot markets; (b) an increasing concentration amongst companies specialising in cocoa grinding and processing; and (c) increasing separation between companies specialising in processing cocoa beans, and those specialising in the manufacture of chocolate confectionery (Fold, 2002; Kaplinsky, 2004; Gilbert, 2007). Fold (2002) has analysed the rise of two groups of lead firms dominating different segments of the sector in terms of bi-polar value chains, with governance and power relations playing out differently along the chain.

In many countries, cocoa production is undertaken by smallholder farmers (particularly in West Africa and parts of Asia). In Africa, state marketing boards or stabilisation funds

² The Fairtrade Foundation reported that sales of Fairtrade-certified sugar and cocoa saw big sales increases from 2009, with cocoa sales up from £44.5 million in that year to £320.9 million in 2012 (Fairtrade Foundation, 2012). This is linked to the decision of several major confectionery manufacturers, such as Cadbury, Nestlé's, Green & Black's and Ben & Jerry's, to adopt Fairtrade on some or all of their leading brands. Fairtrade labelling is also being established to market Fairtrade products within some countries in the Global South, including South Africa and Kenya.

³ Candy Industry (2010) cited a Euromonitor International report estimating the market share for chocolate companies following the Kraft takeover of Cadbury to be approximately: Kraft 15 percent; Mars 15 percent; Nestlé 8 percent and Hershey 5 percent. They noted the battle for market share was intense and rapidly changing.

controlled cocoa during the 1960-70s. But these were disbanded (with the exception of COCOBOD in Ghana) under IMF and World Bank structural adjustment programmes in the 1980s. Government support was radically reduced for agriculture in general, and cocoa in particular, through withdrawal of extension services and export facilitation. Cocoa producers became much more directly exposed to international markets and price fluctuations. Expansion of production also took place in emerging countries (particularly in Asia), increasing global supply. Cocoa saw a secular decline in prices during the 1990s and 2000s, which has only recently reversed (Barrientos and Asenso-Okyere, 2009). However, the long term trend in real prices has seen a 2 percent annual decline between 1950 and 2010 (LMC 2011). Challenges faced in many countries since liberalisation have included: (a) the maintenance of quality (due to poor agricultural practices and producers short-cutting drying and fermentation); (b) low productivity in small-scale farming; and (c) an ageing farmer profile, with the youth leaving cocoa production altogether (Barrientos and Asenso-Okyere, 2009; Ryan, 2011).

Within most producing countries, cocoa is viewed as a 'male crop'. This partly reflects gendered socio-economic norms relating to the male ownership of cocoa farms in contexts where land is largely passed to male heirs. Men have primary control of financial assets and market access, with gendered constraints on access for women cocoa farmers. This reflects perceptions of cocoa production as 'physically arduous', involving 'risky activities', such as the use of machetes or cutting instruments. However, as will be analysed later in the comparison of production in Ghana and India, women can play a critical, albeit hidden, role. On small-scale farms, women are usually engaged as unpaid family labour – in both the production of related crops (cocoa is shade grown and usually mixed with other crops), and cocoa. On larger farms, women often form a significant part of the casual labour force on which production depends. As we will see, the gender division of labour often involves women concentrating on activities which are critical to levels of productivity and quality in the final output. Therefore it is a misnomer to view cocoa as a solely 'male crop'.⁴

In recent years, large cocoa processors and chocolate manufacturers have become increasingly worried about their future ability to source cocoa, particularly the quality beans needed for more discerning, high-value market segments. If expansion of cocoa production fails to keep up with growing chocolate demand, current predictions are that there could be a deficit of cocoa of approximately 0.8million tons by 2020 (Amajaro 2011; Fairtrade 2011).⁵The ability to expand production on smallholder farms is limited,

⁴ Studies have shown that women play can play a key, but often hidden, role in both, either as unpaid family labour and/or as seasonal waged labour. It is estimated that in some African countries, 70 percent of farmers are women (even if they are not formally farm owners), and in some export crops, such as flowers, women can constitute over 80 percent of the paid labour force (World Bank, 2008; Dolan and Sorby, 2003).

⁵ Amajaro is a major cocoa trader, and this prediction sent shockwaves through the industry. However, a more nuanced analysis of trends in cocoa supply and demand was provided to the

and there is increasing evidence that younger more productive farmers are exiting cocoa production for better opportunities elsewhere (Barrientos and Asenso-Okyere 2009; LMC 2011). There are moves in some countries (such as India) to expand production on larger commercial farms using wage labour, but there are challenges persuading farmers of the potential benefits of producing cocoa (Berlan et al. forthcoming). Given the increasing importance of productivity and quality for chocolate manufacture within changing consumer markets, women's engagement could play an important role in addressing the future socio-economic sustainability of cocoa production. Before exploring this further, the next section analyses how global production interacts with embedded gendered social norms and practices that frame sourcing of crops such as cocoa.

3. Gender value chains and production networks – pushing the analytical boundaries

An analytical challenge faced in examining the gender dimension of global value chains and production networks is the often 'hidden' nature of women's engagement, relative to that of men. Feminist analysis has highlighted that this arises from a long established gender division of labour in market economies between productive activities, which enter into market exchange, and reproductive activities, which take place mainly in the household. In most countries, gender social norms and practices ascribe men to the former, public sphere, and women to the latter, private sphere (Folbre, 1994; McDowell, 1999). Feminist economists critique conventional economic theory for being 'gender blind', by focusing primarily on market interactions and failing to incorporate the economic contribution of women's unremunerated activity through reproduction of the current and future workforce (Elson, 1991; Folbre, 1994). GVC/GPN analysis challenges the premise of conventional economics that market exchange and trade between countries take primacy in contemporary commercial relations. To date, GVC/GPN analysis has been limited in unpacking the gender dimensions of those interactions (Barrientos et al., 2003; Bair, 2008; Kelly, 2009). But it provides a potent analytical tool for examining the ways in which extended commercial activity (often beyond borders) is reaching into the reproductive sphere, and transforming the gender dynamics of global production. This section will develop gender production network analysis, drawing on a combination of the GVC/GPN and feminist economic literatures.

The concept of a global value chain has provided an important analytical tool for examining changes across many sectors of industry and agriculture. In essence, it facilitates analysis of the interlinkages between firms at every level (suppliers of raw materials, processors, manufacturers, distribution and retailers). The GVC literature has highlighted issues of governance, upgrading and economic rents in buyer-led chains

World Cocoa Foundation by LMC International (LMC 2011), which nevertheless pointed out the challenges to sustaining production.

where lead firms play a key role (Gereffi et al., 2001; Kaplinsky and Morris, 2002; Gereffi et al., 2005). In relation to cocoa, insightful GVC analysis has been undertaken by Fold (2002) and Kaplinsky (2004). A gap in the GVC literature to date has been its concentration on inter-firm relations, with insufficient attention to labour and gender (Barrientos et al., 2003; Collins, 2003; Bair, 2008; Coe and Jordhus-Lier, 2010). However, from the perspective of developing a gender analysis, understanding these commercial interlinkages remains critical, as changes which take place in one segment of the chain can have repercussions (often unintended) at other, far removed levels. In order to incorporate a gender perspective, it is important to extend the value chain concept beyond firms (the productive sphere) to the broader set of participants and institutions that engage with and influence the commercial functioning of the chain (including the reproductive sphere).

GPN analysis has made an important contribution to the literature by extending exploration of inter-firm linkages to the wider social actors and institutions that engage with and can influence commercial relations (Dicken et al., 2001; Henderson et al., 2002; Coe et al., 2008). Whilst the chain metaphor helps to identify the linear relations between a specific set of firms, the concept of a network broadens analysis to a more complex set of actors.⁶ From a gender perspective, the network metaphor can also facilitate analysis of the interaction between commercial and social networks (of consumers, producers and workers) that extend beyond the productive to the reproductive sphere (Coe et al., 2008; Kelly, 2009), helping to overcome the narrow conventional economic focus on markets. GPN analysis highlights three dimensions of production networks: firstly, societal, territorial and institutional embeddedness; and, secondly, power relations (Henderson et al., 2002; Hess, 2004; Coe et al., 2008). These can be further developed to enhance a gender dimension to the approach, which is done here drawing on feminist economic thinking. They provide a basis for subsequent analysis of the role women play in value creation within the cocoa value chain in India and Ghana.

The concept of embeddedness in GPN analysis has its roots in the work of Polanyi, who provided an early critique of the rise of market economies (Hess, 2004). In essence, Polanyi posits that, in contrast to earlier societies built on relations of reciprocity, economic and social relations become separated or 'dis-embedded' within an economy based on market exchange (Polanyi, 1944). In contrast to prevailing economic analysis, he argues that markets do not evolve naturally, but are socially constructed, with inherent tensions between the rapid advance of market exchange relations and their social underpinnings. GPN analysts apply a Polanyian perspective to the contemporary global economy, where interconnections between network nodes (both commercial and social) have become intensified across borders (Hess, 2004). Some feminist economists also draw on a Polanyian approach to analyse the gender dimension of economic relations (Elson, 1999; Beneria, 2007). They critique conventional economics for

⁶ Ponte presentation to workshop, National University of Singapore, November 2011.

elevating the separation between economic and social relations, isolating analysis of market interactions from their social context. In doing so, they argue that conventional economics is 'blind' to the gender division between productive and reproductive labour and to gender social relations of production that are central to economic sustainability.

GPN analysis further develops the notion of embeddedness by analysing how commercial networks operate across international boundaries, 'touching down' in quite diverse societal and territorial contexts (Dicken et al., 2001; Coe et al., 2008). Analysis of societal and territorial embeddedness helps to unpack both the commonalities of global commercial integration, and also the diverse ways this plays out in different national and regional contexts in which varying social norms, cultures and practices prevail. Feminist analysis also explores commonality and diversity in gendered social relations between different national and regional contexts (Massey, 1994; Perrons, 1995; Afshar and Barrientos, 1998). Some emphasise the role of patriarchy in perpetuating the subordination of women in the gender division of labour, others emphasise capitalist relations of production exploiting and reinforcing women's subordination (McDowell, 1999). This is particularly relevant within rural communities, where social relations are often steeped in traditions which go back centuries, and can vary enormously by culture, religion, caste, ethnicity, lineage, and locality within regions, let alone between countries (Deere and Leon, 1987; Whitehead, 2001; Harriss-White and Janakarajan, 2004). Linking this to GPN analysis, a gender perspective facilitates understanding of how the expansion of global production touches down across countries where women have long played diverse but subordinate roles, and are now being drawn increasingly into productive activity.

GVC and GPN approaches raise the importance of institutions in shaping (and being shaped by) global commercial interactions between firms. This can be traced to both the influence of institutional economics on GVC thinking, and also to Polanyi's influence on GPN analysis of embeddedness (Hess, 2004; Gibbon and Ponte, 2005; Bair, 2008; Neilson and Pritchard, 2009). Institutions are defined both as formal organisations, and as the wider set of informal social norms and practices that shape behaviour (Neilson and Pritchard, 2009). Feminist economists also emphasise the importance of analysing gender institutions as purveying and reinforcing a gender division of labour and social relations of production that perpetuate the subordination of women (Folbre, 1994; Elson 1999; Beneria et al., 2001). This analysis has been pertinent in examining the expansion of labour markets as gendered institutions in which the feminisation of labour is based on women's concentration in flexible and casual employment (Elson and Pearson 1981; Pearson, 1998; Collins, 2003; Dolan and Sorby, 2003; Barrientos and Kritzing, 2004; Kabber and Mahmud, 2004). They argue that institutional norms and regulations are shaped by and reinforce pre-existing gender patterns through rules covering ownership, inheritance and rights that relegate women to a subordinate position (or even exclude them from such rights). The complexity of gendered rural social relations makes it

difficult to generalise in terms of specific roles of men and women across countries and regions, with significant differences found between Africa and Asia (Boserup, 1970; Whitehead and Kabeer, 2001; Harriss-White and Heyer, 2010). Whilst not necessarily taking a GVC/GPN perspective, a number of feminist writers have examined the rise of labour-intensive sectors in developing countries, where sourcing through value chains prevails (Kabeer, 2000; Dolan and Sorby, 2003; Barrientos and Kritzing, 2004). This provides important insights into the extended operation of value chains within diverse and remote regions, where gendered institutional arrangements constrain the rights or equal participation of women as farmers and workers.

Analysis of embeddedness within GPNs helps to bring out issues of power and social contestation, either overt or covert, as shifting commercial relations open up new opportunities and bargaining positions for different actors (Coe et. al. 2008; Henderson et. al. 2002). Feminist analysis has also highlighted the potential for women's agency, and the importance of changes in women's bargaining position through their economic empowerment, which enhances their 'fallback' position or alternatives available to them (Sen, 1990). Outsourcing through value chains has played an important role in reshaping social norms through the expansion of female wage labour in societies where women have traditionally been confined to a reproductive role (Barrientos and Evers, forthcoming). GPN analysis has begun to analyse labour agency (Coe and Jordhus-Lier, 2010).

Complementing this with a gendered analysis highlights that women are not necessarily drawn into production as passive actors, but as active social agents. Paid work can help to promote their economic and social empowerment, both through enhancing women's bargaining power within the household and by enhancing their wider social interaction and economic engagement in the public sphere (Lim, 1990; Barrientos and Kritzing, 2004; Kabeer and Mahmud, 2004; Coe and Jordhus-Lier, 2010). An important issue from a GPN perspective is the extent to which commercial activity by lead firms within agriculture contributes to or constrains this process, and the potential influence women's participation might have on shaping commercial sourcing. But the many case studies available indicate that the GPNs have become intricately bound up with gendered institutions and social norms, which imbue their embeddedness in diverse regional contexts. In the next section, we explore these issues further, through a comparative case study of cocoa in Ghana and India.

4. Gender embeddedness of global cocoa production: Ghana and India

Analysis of gender production networks, drawing together GPN and feminist economic literatures, provides important insights into the gender embeddedness of production in diverse social and institutional contexts. However, further analysis is needed to better understand the implications for the commercial dynamics prevailing within value chains. Whilst many researchers have examined the expansion of women's work in a global economy, few have done so through a specific value chain lens (Collins, 2003; Dolan and Sorby, 2003; Barrientos and Kritzing, 2004). This section draws on comparative research in Ghana and India, involving women farmers and workers, that focused mainly on the production segment of the cocoa value chain. However, combining this with wider analysis of value chain dynamics, it reveals a changing scenario of the gender dimension of global cocoa production. This section provides an overview of the role of women in cocoa production in Ghana and India. This is then comparatively analysed in more depth from a GPN perspective in the following section.

We first provide an overview of the socio-economic challenges to the sustainability of cocoa production in Ghana and India, based on independent research commissioned by Cadbury/Kraft.⁷ We then draw on these studies, combined with secondary information on gender in cocoa production, to compare the gendered dimension in both. Each of the Cadbury studies was tasked with mapping socio-economic sustainability within the cocoa value chain and, whilst there were some differences, each followed a similar research methodology. Whilst neither was focused specifically on gender, it came up as an issue which needs further investigation, and has been investigated in other studies which provide complementary insights (Quisumbing et al., 2004; Carr, 2008; Agyare-Kwabi, 2009; Vigneri and Holmes, 2009).

The study in Ghana was undertaken in 2007-08 across 12 cocoa-growing communities in the Western, Eastern and Ashanti regions. It involved interviews with 40 value chain actors, a survey of 217 farm households and focus group discussions (45 with farmers, 12 with women, 12 with youth), 24 life histories, and key informant interviews with actors in each community. The study in India was undertaken in 2009-10 in key cocoa-growing locations within Andhra Pradesh (AP) and Tamil Nadu (TN).⁸ It involved interviews with 50 key informants at national and regional levels (commercial, government, professional, civil society and trade unions), a survey of 126 farmers and 175 workers, and 10 focus group discussions with farmers, workers and youth. Neither study involved a

⁷ For the full report, see: Barrientos et al., 2008; and Berlan et al., forthcoming. Whilst Cadbury commissioned the research, it took the view from the outset that the research should be independent and made publicly available, because: (i) the issues were of concern to the whole chocolate confectionery industry; and (ii) a single company, even as large as Cadbury, was unable to address the issues alone.

⁸ Tamil Nadu (Coimbatore, Theni, Erode and Thanjavur) and Andhra Pradesh (West Godavari and East Godavari).

representative sample of all cocoa farmers and workers in those regions, but they provided in-depth case studies involving purposive samples across selected value chain nodes/actors and key sourcing locations. Within India, the study also included research in Kerala, which is characterised by smallholder farming. However, for climatic reasons, cocoa cannot be easily dried in Kerala, so most beans are sold wet and taken to commercial drying facilities elsewhere (e.g. Tamil Nadu). We are therefore unable to undertake the same gender analysis of the value chain in Kerala as TN and AP, and focus on these two here as a basis for comparison with Ghana.

4.1 Socio-economic challenges of cocoa production in Ghana and India

Ghana is the world's second largest producer and exporter of cocoa, but has very limited consumption of chocolate internally. Ghanaian cocoa has a quality premium over other supply sources, due to its refusal to dismantle COCOBOD (the cocoa marketing board) during structural adjustment. However, the market for chocolate within Ghana is very small. The cocoa sector is characterised by small-scale, family-based farming, with 720,000 farmers – an estimated 25 percent of whom are women (Agyare-Kwabi, 2009). The study found that cocoa farmer incomes were very low, with a mean per capita daily income of \$0.42 from cocoa alone, and \$0.63 from all sources. Levels of productivity on cocoa farms were also low, at an average of 40 percent of potential output. With little scope for expansion on virgin lands, future supply depended on raising productivity in existing growing regions. The average age of farmers was 52 years for men and 56 years for women, in a country where current life expectancy is 58 years. Productivity was found to be lower amongst older farmers. Ageing smallholder farmers were found to be less innovative or responsive to price movements, and were not able to expand production or increase productivity easily (Barrientos et al., 2008).

Although COCOBOD and the Ministry of Agriculture had invested in programmes to enhance production, the study found many challenges. These included poor access to farm-level services and lack of farmer information or awareness. Hazardous work remained a problem on poor family farms, which were unable to afford rising labour costs.⁹ Social services and infrastructure in the cocoa regions were limited. An important finding was that youths were deserting the cocoa sector, which they viewed as an occupation of last resort and low status. They sought a better life in the urban sector, in occupations perceived as more modern, with higher earning potential (Barrientos et al., 2008). The study found that the move out of cocoa production (and agriculture more generally) by many small-scale producers reflected challenges that are deeply

⁹ Following media exposures on child labour in West African cocoa, the International Cocoa Initiative was formed to address the problems. Its members include the International Union of Food Workers (IUF) and key chocolate manufacturers, Cadbury being one. See: <http://www.cocoainitiative.org/>

embedded in the social and economic fabric of cocoa sourcing, which market or technical solutions alone were unable to solve.

Unlike many other cocoa-producing countries, India has a significant and growing internal market for confectionery, due to changing consumer tastes and disposable incomes among the expanding middle classes. Cadbury controls more than 70 percent of the chocolate market in India, and Nestlé has approximately 25 percent of market share, with domestic brands the rest. Domestic production currently provides around 50 percent of Cadbury's cocoa requirements in India and it is reliant on imports for the rest (with a 30 percent import tariff). While Kerala and Karnataka are traditionally the main states for cocoa production, there are limits to expansion in those two areas. As a result, expansion has been encouraged, and is taking place, in Andhra Pradesh and Tamil Nadu. Cadbury supports a scheme along with the Indian government to promote cocoa production, and provides extension services to farmers from whom it sources. Productivity on cocoa farms in India is relatively high, subject to natural limitations in particular locations.

However, India faces socio-economic challenges in expanding cocoa output, as these AP and TN do not have a culture of cocoa production. Many farmers are risk averse, and need to be persuaded of the benefits and supported in moving into what is often a new crop. Plantations employing hired agricultural labour are common in Andhra Pradesh and Tamil Nadu. However, a particular socio-economic challenge for larger commercial farms in these states is the rising cost and shortage of labour for cocoa, with the move of workers (particularly men) out of agriculture in search of better opportunities in other sectors.

4.2 Women's role in cocoa production in Ghana and India

In both Ghana and India, cocoa is largely perceived as a male crop. Reasons vary between socio-cultural contexts, but one aspect is the view that cocoa involves arduous work, which is more suited to men. However, studies in both countries revealed that women do play an often 'hidden' role, either as unpaid family labour or as casual wage labour. But if we take a value chain perspective, a critical aspect is *what* role women play in production. As will be shown, women are particularly engaged in those aspects of production critical for attaining quality.

Within Ghana, women's role in cocoa is either as unpaid family labour on smallholder farms, or as cocoa farmers in their own right. Women's role in agriculture is shaped by long-established social norms. Land tenure systems in Ghana are complex and based on customary norms, which vary by locality and ethnic group. Land heritage can involve both matrilineal and patrilineal processes, where elder women help to decide land transfer in collaboration with village chiefs. But the norm is for land to pass to male family

Table 1: Gender roles in the cocoa value chain – small-scale farmers in Ghana

Activities	Women	Men
Weeding and land preparation	Mostly women	Some men
Purchasing of cocoa seeds/ seedlings	Some women	Mostly men
Planting	All	All
Intercropping of food crops	Mostly women	Few men
Cocoa spraying	Exceptional cases, BUT women fetch water for mixing of chemicals	Mostly men
Thinning and pruning	Few – considered hazardous and dangerous for women	Mostly men
Harvesting/plucking	Some women	Mostly men
Pod breaking	All	All
Carrying to homestead/ depots	Mostly women and hired labourers	Some men
Fermenting	All	All
Drying and portorage	All	All
Bagging	Some women	Mostly men
Sale to local buying agencies	Few women, who own their farms	Mostly men

Source: Adapted from Agare-Kwabi (2009).

members, and female spouses do not normally inherit land if their partner dies. The law was revised in 1999 to facilitate spouse inheritance, but this is often not implemented in practice (Quisumbing et al., 2004).

Within Ghana's traditional division of labour, women's role is focused on household-related activities, such as caring for subsistence crops, and men focus on market-related activities, such as care and marketing of cash crops. Women who own land and operate as farmers in their own right often face greater constraints than male farmers. Vigneri and Holmes (2009) found that they have smaller land holdings, less access to inputs (fertilisers, credit), and lower incomes. However, she found that these constraints did not reduce their ability as farmers. In the Cadbury study, of those reporting, more men (73 percent) than women (61 percent) had access to credit and finance if needed. Vigneri and Holmes (2009) found no significant difference in land productivity between male and female farmers, and women used hired labour, which they employed more efficiently. The Cadbury study also found little difference in yield (bags of cocoa harvested per acre) between men and women. As Vigneri points out, however, women farmers often achieve this with lower levels of input than men.

Even on farms where the man is the owner or caretaker, women have been found to play a role in cocoa production. Given cocoa is largely grown on small-scale farms, the division between reproductive (household) and productive (market) activity is often blurred. Young trees are grown alongside subsistence and other crops, which women tend. Drying and fermentation often takes place outside the homestead or in nearby village facilities. In reality, the gender division of labour is blurred. A study by Agyare-Kwabi (2009) found that women's activities were particularly concentrated in planting, young plant care, pod breaking, carrying, fermenting and drying of cocoa (Table 1). Given they are unpaid family labourers, their role is often unrecognised. The Cadbury study did not find much difference between men and women farmers in terms of the length of time they fermented cocoa beans. The vast majority (81 percent of male and 79 percent of female farmers) reported fermenting their beans for four to six days, which is close to the recommended period of five to six days for best quality using the heap method. However, the Cadbury study found a larger difference in the length of time men and women dried their beans. The recommended time for drying to attain quality is five to 12 days,¹⁰ but farmers often keep drying times to a minimum in order to sell and earn an income on their beans. The study found that the majority of men (77 percent) and only a minority of women farmers (42 percent) reported drying in six days or less, whereas a higher ratio of women (38 percent) to men (21 percent) reported drying their beans for seven to 10 days. Women were therefore more likely than men to practise the longer drying times needed to attain better quality.

¹⁰ See <http://www.divinechocolate.com/about/bean-to-bar.aspx>

India has long and deeply embedded traditions of gender and caste subordination within society. This is particularly prevalent within rural areas of South India, where lower caste women predominate amongst casual agricultural labourers, whose labour is deemed to be amongst the lowest forms of work (Harriss-White and Janakarajan, 2004; Harriss-White and Heyer, 2010). This was reflected in the findings from our study of cocoa workers in Andhra Pradesh and Tamil Nadu. In AP, 38 percent of male and 50 percent of female workers were casual, and in TN, 20 percent of male and 50 percent of female workers were casual. Men also worked more days on a casual basis during the year (in TN men worked 100 days more than women on average). Women were found to have lower levels of education than men – in AP, 62 percent of women and 43 percent of men had no education, whilst in TN the figures were 51 percent and 37 percent, respectively. Unlike men, the average wage women received in both states was below the prevailing minimum wage of Rs.100 per day (in AP women received Rs.79 per day and in TN Rs.93). There was a significant gender wage gap in both states: women earned on average 67 percent in AP and 59 percent in TN of the hourly wage of a male worker. The gender gap in wages in both is greater than the national Indian picture, where, overall, casual female labour wage in agriculture was 69 percent of the male wage in the sector in 2004-05; for the regular workers category, this ratio was 79 percent in agriculture (Srivastava and Srivastava, 2010).

Reasons given by farmers for this gender gap was that ‘women’s work is different’, and included differences in tasks performed and working hours/days. Differences in the length of the working day can be accounted for by examining hourly wages, yet still a significant gender wage gap persists. If we examine gendering of tasks, whilst there are some differences, with men more involved in heavier work and lifting and women in harvesting through to post-harvest processing, women still reported engagement to some extent in most activities (Table 2). In line with other research in agriculture in South India, differences in working hours or tasks did not appear sufficient to account for the significant gender wage gap, and can be attributable to embedded gender social norms and practices involving the subordination of women (Harriss-White and Janakarajan, 2004).

In both Ghana and India, one reason given for cocoa being a ‘male crop’ is that the work is deemed physically arduous. Yet, when we look at the breakdown of activities in both countries, women are involved in most activities – with the exception of pod carrying and, to a lesser extent, spraying, pruning mature trees and harvesting. In both countries, women’s activity is more concentrated in the early care of young trees, and in post-harvest fermentation and drying of the beans, shown by the shaded rows in Tables 1 and 2. An important difference when comparing Ghana and India is the prevailing culture of production. Ghana has much lower levels of yield per tree than India. This is partly accounted for by ageing trees and disease. However, according to cocoa specialists,

**Table 2. Gender roles in the cocoa value chain – seasonal labour in India
(% respondents reporting engagement by activity)**

Activity	Andhra Pradesh		Tamil Nadu	
	Male	Female	Male	Female
Land/crop preparation	76%	57%	76.8%	62.5%
Weeding	59%	52%	72.5%	68.8%
Spraying	92%	24%	47.8%	12.5%
Pruning	81%	47%	43.5%	22.9%
Harvesting pods	81%	43%	33.3%	31.3%
Fermentation	59%	67%	21.7%	31.25%
Drying beans	57%	52%	18.8%	27.1%
Carting dried beans	32%	5%	21.7%	20.8%

Source: Field survey.

another reason is that in Ghana the prevailing culture of production is that young trees should not be pruned back, which means energy goes into later growth of the tree, rather than cocoa pods (Cadbury personal communication). In India, the production culture is to prune trees at an early stage, in order to maximise the later crop yield. Women play a crucial role in this process in both countries.

These findings raise an important anomaly in relation to the gendering of tasks, especially when considering them in the context of GPNs. Within the cocoa sector, a number of trade professionals indicate that early plant care, fermentation and drying are critical to enhancement of cocoa quality (and hence the value of the final chocolate). As the highlighted rows in Tables 1 and 2 indicate, women play a critical role in the activities most important to attaining higher value. The early care of the trees affects their later pod yield and pod density. Once the crop is harvested, the time and process of fermentation and drying is critical to quality. Farmers often shortcut this process in order to get their beans to market (usually men have dominated this activity), adversely affecting later quality, yet cocoa specialists say women often care more for the beans and better understand the implications for quality (Cadbury personal communication).

Therefore, from a GPN perspective, women are engaged in those activities most likely to contribute to the generation of quantity and quality. Yet, in both countries, they are perceived to play a subordinate role, and receive less reward compared to men.

5. GPNs as bearers of gender transformation?

Analysis of global production networks helps to examine interaction between the underlying gender embeddedness of production, and the commercial dynamics of the cocoa-chocolate value chain. This section elucidates this interaction by considering the implications of the comparative findings from Ghanaian and Indian cocoa for a wider gender production network analysis. First, it examines the role that quality plays in value creation and capture within GPNs, and it positions women's work in enhancing quality in that context. This leads into a discussion of how these findings can be explained by an analysis of gender embeddedness, based on an integration of GPN and feminist economic analysis discussed previously. Finally, this helps to consider the potential role women could further play in promoting quality production, if properly recognised and supported. This could enhance both the economic and social empowerment of women cocoa workers and farmers, and the sustainability of quality cocoa sourcing.

The concept of value creation and capture has been raised in both the GVC/GPN literature (Henderson et al., 2002; Kaplinsky and Morris, 2002), but has not been adequately explained or clarified (Gibbon et al., 2008). The challenges of such analysis are: (i) analytical – how to define concepts of 'value' within integrated global chains; and (ii) empirical – how to measure and gain access to information that is often highly commercially sensitive and guarded. Some studies provide data on the allocation of value along a chain in terms of share of final price. But that does not reveal relative costs, skill levels or productivity of the different firms involved. An important aspect of the GVC/GPN approach is that, whilst markets continue to exist, they have also been transformed through global integration. The creation of value in one firm or market is not isolated, but related to activity at another point of the chain. Hence production, distribution and marketing may formally take place in separate firms and countries, but governance of the chain allows lead firms to capture (i.e. realise) value at the consumer end (Kaplinsky and Morris 2002).

Applying this to the findings from Ghana and India helps to explain the increasing importance of quality enhancement. Traditionally, agriculture has been production-led, with higher rewards for hard physical work, largely undertaken by men. Yet, within buyer-led GPNs, focus has increasingly shifted to quality of output, as higher quality can generate higher value along the commercial value chain. The gender division of labour that prevails in both Ghanaian and Indian cocoa means that women play a significant role in those activities which enhance quality. Yet they receive little reward for their contribution. It is unlikely much of this value was reaped by cocoa farmers themselves (Oxfam, 2009). Indeed, the World Bank estimates that developing country claims on

value added in the cocoa sector declined from around 60 percent in 1970-72 to around 28 percent in 1998-2000 (World Bank, 2008). Therefore much of the value capture would appear to be further along the chain, at the processor/manufacturer end. However, chocolate companies have little awareness of the gender origin of value creation within their chains and, as we will see, are only just waking up to the contribution of women cocoa farmers and workers.

Explanation needs to be sought, therefore, in the deeper gender embeddedness of GPNs within the social and cultural norms of the regions within which cocoa is sourced. As discussed above, feminist analysis has long identified gender roles as socially ascribed, based on a division of labour founded on women's role in the home. When women enter production, they are often assigned similar roles. These 'skills' are therefore not innate, but are socially acquired in the home, where girls are trained to perform dexterous tasks, such as sewing and food preparation (Elson, 1981; Collins, 2003). Value creation by women is based on the transfer of these socially acquired 'skills', based on their reproductive roles. In cocoa, a number of professionals interviewed indicated that women innovate and 'care' more for crops and therefore enhance quality. However, women's subordinate position in society (and embedded inequality) means that, when these skills are transferred to productive work or paid employment, they are not adequately remunerated. Given that women's contribution to quality enhancement is not proportionately rewarded, the value captured by processing and manufacturing firms further along the chain is boosted. Gender discrimination is deeply embedded in most societies, and whilst not caused by, is exploited through the social embeddedness of commercial relations of value creation and value capture within GPNs.

As discussed above, both GPN and feminist analysis highlight power relations within commercial and social relations as terrains contested between different actors through bargaining strategies adopted within and outside the household (Sen, 1990; Coe and Jordhus-Lier, 2010). Contestation can be both overt (agency) and covert (unintended responses or outcomes to situations). An anomaly in agriculture generally is the trend for men to move away from farming, with women undertaking primary responsibility for many activities. Whilst cocoa is still deemed a 'male crop', the analysis of Ghana and India indicates that in fact women play an important role. In both countries, there are rising concerns about younger male farmers and workers leaving the sector. The case studies examined here indicate that women could therefore become increasingly important actors in the sector. Their contribution to production could help to counter the dire predictions by Amajaro of an impending shortage in cocoa output. However, to facilitate this requires much greater support for women, both as farmers and as workers. In Ghana, and to a lesser extent in India, there are indications that this is beginning to happen.

In Ghana, Kuapa Kokoo provides an example of an early initiative to support women in cocoa. Kuapa is a cooperative and Licensed Buying Co (LBC) established in 1993 after the sector was partially liberalised. It has 62,000 members, 26 percent of whom are women. Kuapa is the only Fairtrade certified cooperative (19 percent output), which it attained through support from international organisations, including Christian Aid, Twin and Body Shop.¹¹ From the beginning, Twin supported Kuapa in developing a gender strategy to enable women cocoa farmers amongst its members. It carried out a gender assessment (1996), and established a Gender Programme (1998). This targeted support to women members (training, skills, credit), and promoted women's representation at all levels of the organisation – 12 out of 20 of its National Executive Committee are now women. Due to the pricing system under COCOBOD, farmers do not receive differential payment for quality cocoa. The programme has had positive impacts on the empowerment of women in their communities and in the organisation (Chan, 2010). It has contributed to Kuapa as an outward-looking organisation, that currently has a female president, with women often representing it nationally and internationally.

If Ghanaian farmers could be persuaded to adopt different early cultivation and processing practices, this might contribute to raising yields. This message is conveyed through extension services, which largely (with some exceptions) reach male farmers and regular (male) workers. However, it is possible the message is being channelled to the wrong people, given that it is women who are often responsible for key activities, such as early tree care and post-harvest processing. Training programmes (such as Sustainable Tree Crop Programme) are beginning to target women farmers. Within Ghana, some chocolate companies are beginning to wake up to the gender dynamics of cocoa supply and the role that promoting greater gender equity and recognition of women might play in attaining quality. For example, Cadbury/Kraft, Cargill, working with NGO Care, have supported women farmers' cooperative groups since 2006. The Cocoa Partnership, established by Cadbury, has included a gender focus when supporting local cocoa-growing communities. The certification organisation UTZ also has a proactive gender programme (UTZ, 2009). These initiatives are important and necessary, but on their own are insufficient to address more deeply embedded gender constraints on women's participation.

A key dimension of women's subordination is their lack of access to land, or permanent employment. In Ghana there are indications that changes in the law on spouse inheritance, combined with the wider growth of commercial farming, has led some male farmers to co-own or 'gift' land to their female spouse, increasing her recognised role in production (Quisumbing et al., 2004). However, it is important to recognise not only those women farmers who have land in their own right, but also the large number of women who work in unrecognised roles as unpaid family or casual labour.

¹¹ Kuapa Kokoo part-owns *Divine Chocolate* in the UK and USA.

In India, cocoa growing is more recent in Tamil Nadu and Andhra Pradesh, and evidence of promotion of women farmers and workers is limited. However, there were some early indications of change. The initiative by Cadbury India and the government to promote a seedlings programme for farmers led to the setting up of a hybrid seedlings research and development programme at Kerala State University, run mainly by women. The programme also involved model farms, one of which in Tamil Nadu, visited during the research study, was owned and run by a woman farmer (whose husband had died). When interviewed, a Cadbury official responsible indicated that, when informed, women really understand how best to grow cocoa. There was little indication that farmers provided support or training for casual cocoa workers (who were mainly women). Yet farmer interviews indicated complaints about the quality of labour available, and that there was an increasing shortage of labour, with pressure to raise wages. They attributed this to the introduction of the National Rural Employment Guarantee Scheme (NREGS) by the Indian government (which guaranteed workers 100 days of work at Rs.100 per day each year). In some locations (particularly near Tirrupur) the shortage was also attributed to the garment sector's rising demand for rural female labour.

From a GPN perspective, it is interesting that the driver for many of these initiatives to enhance women's participation comes through external actors linked to the value chain. Kuapa Kokoo was first encouraged to develop a gender programme by its UK supporters (particularly Twin). The initiatives by companies and NGOs arise from a growing awareness of the importance of supporting women's participation in production. However, in both Ghana and India, government interventions (through land reform and employment guarantee schemes) are also affecting deeply embedded gender norms and practices that deny women access to land and relegate them to low-paid work. Whether these interventions translate into greater economic empowerment of women casual workers remains to be seen, but the combination of commercial and governmental changes was clearly creating pressure for change. Global production is thus a channel through which women's traditionally subordinate and often hidden role is being challenged, and GPNs can act as a potential disrupter of societally embedded gender roles.

6. Conclusion

GPN analysis has helped to explore how the rapid advance of outsourcing across networks of firms has become ever more complex, with lead firms becoming more intertwined through multiple layers of sub-contracting within and across countries. Combining this with gender analysis helps to explore how, as this process has advanced, commercial activity has become ever more grounded within diverse but highly gendered social norms and institutions. This has both facilitated the expansion (for lead firms) of highly profitable production, and contributed (for better or worse) to a process of changing gender norms within those societies. This paper has explored the dialectical interaction between the dynamics of commercial sourcing, as it adapts to local gender

norms for the purposes of value creation and capture, and its mediation of those gendered norms as women engage as social agents within agricultural production and processing.

Comparison of women's role in cocoa production within Ghana and India provides insights into the socio-economic diversity which can arise within agricultural commodity sourcing for the chocolate value chain. Within Ghana, cocoa production is primarily on small-scale farms; within India the production profile varies according to state, with large commercial producers dominating in newer regions within Andhra Pradesh and Tamil Nadu. In both countries, cocoa is viewed as a 'male crop', yet in both women play a critical role, especially in the quality- and productivity-sustaining aspects of production. Cocoa produced in both countries feeds into chocolate-confectionery value chains dominated by large multinationals (such as Cadbury/Kraft, Nestlé and Mars). To all these companies, the quality and productivity of cocoa matter. There are significant differences in the gendered socio-economic norms that prevail in each country, which underpin the lack of recognition of women's contribution to cocoa. In both countries there are pressures on the future socio-economic sustainability of quality cocoa production. The analysis here indicates that proper recognition and support for women's role as farmers and workers could make a critical contribution to the future sustainability of cocoa. This requires fundamental disruption to deeply embedded gender norms and practices, but the changing dynamics of global production networks could play an important role in this process.

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The University of Manchester
Brooks World Poverty Institute

Executive Director

Professor David Hulme

Research Directors

Professor Armando Barrientos

Professor Rorden Wilkinson

Contact:

Brooks World Poverty Institute
The University of Manchester
Arthur Lewis Building
Oxford Road
Manchester
M13 9PL
United Kingdom

Email: bwpi@manchester.ac.uk

www.manchester.ac.uk/bwpi

The Brooks World Poverty Institute (BWPI) creates and shares knowledge to help end global poverty.

BWPI is multidisciplinary, researching poverty in both the rich and poor worlds.

Our aim is to better understand why people are poor, what keeps them trapped in poverty and how they can be helped – drawing upon the very best international practice in research and policy making.

The Brooks World Poverty Institute is chaired by Nobel Laureate, Professor Joseph E. Stiglitz.

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