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Men's Crops and Women's Crops: The Importance of Gender to the Understanding of Agricultural and Development Outcomes in Ghana's Central Region

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Summary. — The study of gender and development is an area of inquiry fraught with tension between “theoretical” and “practical” concerns. This article seeks to intervene in the standoff between these concerns by examining the mismatch between the conclusions one can draw about gendered patterns of agriculture in Ghana if one adopts either a “mainstream” or a feminist post-structuralist approach to gender. By illustrating the ways in which mainstream approaches to gender and development conceal important variability in the vulnerabilities experienced by those often lumped into the categories of “woman” and “man,” this examination shows how contemporary writing on gender and development might inform “practical” development efforts in a manner that results in measurably improved project outcomes.

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Key words — gender, agriculture, vulnerability, Ghana

1. INTRODUCTION

The field of development contains an uneasy tension often characterized as a division between “theoretical” and “practical” concerns. Practitioners have long grumbled about the seeming irrelevance of theoretical and conceptual literatures to the everyday practice of development, while conceptual writers often complain about the apparent thick-headedness of the practitioners who seem destined to repeat the errors of the past. One important area in which this tension plays out is gender and development, where a number of writers (e.g., Ferguson, 1994; Geisler, 1993; Jackson, 1993a, 1993b, 1998; Peters, 1995) argue that the common use of gender in the development literature not only fails to move development toward its most liberatory goals, but also reinforces, at least in some cases, the very systems of oppression that a focus on gender in development was meant to address. Though such critiques seem to cut to the heart of the development project, to judge by the sizeable majority of work on gender and development that

has been undertaken in the wake of these writings, these authors have had little impact on the overall use of gender in either development studies or development practice.

This article seeks to further the goals of this critical literature by illustrating how these often-theoretical critiques might provide a conceptual basis for “practical” development efforts that result in measurably improved project outcomes. To do so, this article examines a

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specific area of inquiry, gendered crops. Generally speaking, the work on gendered crops (such studies include Arndt & Tarp, 2000; Cloud, 1986; Doss, 2002; Ezumah & Di Domenico, 1995; Gladwin, 1992; Sachs, 1996; Shiva, 1988), like other work on gender in the mainstream development literature, ignores the concerns of contemporary conceptual writing on gender and development in important ways. Studies of gendered crops usually treat the category of "woman" as singular, and by implication suggest that the experience of, for example, all women in a particular country or agroecological zone is the same. If gender categories are indeed place-specific, this assumption is untenable. Therefore, by ignoring current arguments that gender categories take place-specific forms, this literature risks overgeneralizing gender categories and getting the scale of analysis wrong.

The issues of theory raised by the example of gendered crops are not a mere quibble with a particular approach to gender, for by failing to consider the contemporary literature on gender and development in favor of mainstream assumptions, this mainstream literature risks analyses that are little more than exercises in identifying patterns that have no meaningful connection to gender and only a tenuous connection to vulnerability for much of the population under investigation. Gendered vulnerabilities are not the simple outcome of a social categorization, but are created and recreated through social practices that operate at scales as small as the household. The aggregation of these experiences into the general categories "woman" or "man", can erase very real and practical differences between those contained within these categories as well as across them.

To illustrate the claims above, I will employ a feminist post-structural approach to gender in an analysis of data I have gathered on gender and agriculture in Ghana's Central Region. This approach brings forth the lived experiences of women masked by the sorts of gender and development research of which the literature on gendered crops is representative. The highly variable agricultural practices and vulnerabilities of women in the context of two villages in the Central Region illustrate that, in this case, research conducted under mainstream gender approaches in development capture the experience of only a fraction of the population. Further, these mainstream approaches to gender conflate two disparate

groups of women, and in so doing further obscure the particular vulnerabilities of an even larger percentage of the population in the research context.

2. GENDERED CROPS AND DEVELOPMENT

The role of gender in agriculture production has been an important focus of the "women in development" literature since the 1970s (e.g., Barrientos, Kritzing, Opondo, & Smith, 2005; Barry & Yoder, 2002; Bassett, 2002; Bhuyan & Tripathy, 1988; Boserup, 1970; Bryceson, 1995; Carney, 1996; Carr, 2005a; Chikwendu & Arokoyo, 1997; Creevey, 1986; Dixon, 1982; Egharevba & Iweze, 2004; Feldman & Welsh, 1995; Ferguson, 1994; Gairola & Todaria, 1997; Goebel, 2002; Goheen, 1988; Grier, 1992; Harrison, 2001; Harriss-White, 1998; Jackson, 1993a, 1998; Jha, 2004; Leach & Fairhead, 1995; Mama, 2005; Mbata & Amadi, 1993; Moser, 1993; Peters, 1995; Riley & Krogman, 1993; Rocheleau, Thomas-Slayter, & Wangari, 1996). This literature has presented compelling evidence for the argument that we cannot simply lump agricultural producers together, regardless of gender, and hope to model their behaviors, land uses and crop choices in such a way as to gain meaningful information. After more than three decades of research, it is clear that men and women play different roles within particular systems of agricultural production, and occupy different socioeconomic positions as a result of these different roles. Of particular concern is the fact that, by virtue of often farming different crops or farming the same crops for different reasons, men and women experience different vulnerabilities to such things as climate change and shifts in global markets for the crops under production, shifts that can filter down through households and other social units to impact the long-term well-being of affected communities and individuals.

To highlight the different labor, incomes, and vulnerabilities of men and women who rely on agriculture for their livelihoods, many authors have focused on the idea of gendered (i.e., men's *vs.* women's) crops (such studies include Arndt & Tarp, 2000; Cloud, 1986; Ezumah & Di Domenico, 1995; Gladwin, 1992; Sachs, 1996; Shiva, 1988). The hope of many studying

gendered crops lies in the idea that if we could clearly classify crops as either men's or women's, we could use such knowledge to simplify the examination of the variable effects of agricultural policies and various types of shock on men and women, and in so doing create a stronger body of development policy (Doss, 2002).

The vast majority of work focused on gendered crops is based on what Lawson (1995) calls a feminist empiricist approach to gender. This approach, which has also been called the efficiency approach (Jackson, 1998; Moser, 1993), relies upon a fixed and often highly generalized category of "woman" to identify the different vulnerabilities women experience in the context of development, and to identify the challenges to growth and efficiency that such vulnerabilities present. For example, much of the literature on gendered crops and agricultural strategies (such studies include Arndt & Tarp, 2000; Cloud, 1986; Doss, 2002; Ezumah & Di Domenico, 1995; Gladwin, 1992; Sachs, 1996; Shiva, 1988) seeks to identify such crops or strategies as a means of exploring the particular vulnerabilities (and, less commonly, the capabilities) of women, the ways in which development does and does not address these vulnerabilities, and the potential impact of these vulnerabilities on the larger development outlooks for the regions and countries in which they are found.

All of this work takes the category of woman as something of a given to be leveraged to better address the presence or absence of women's crops, and therefore gendered agricultural vulnerability. Such an approach to the interface of gender and development is not surprising, for this approach dominates not only the study of gendered crops and gendered agricultural strategies, but also the majority of development practice undertaken in the last 30 years.

Just because one is in the mainstream, however, does not mean that one is necessarily adopting the appropriate approach to the question at hand. By using gender as a social fact to be leveraged for the purposes of research, this literature leaves aside an important, but often marginal, body of feminist post-structural approaches to gender and development. This literature (for an overview, see Lawson, 1995) rejects the idea of a universal, generalizable "woman" and argues that gender categories are specific to the place and time in which they are found (e.g., Big-

ombe Logo & Bikie, 2003; Pearson & Jackson, 1998). These observations have given rise to a literature that examines gender not as a stand-alone identity, but as an identity that gains meaning through interplay with other identities, especially class (e.g., Goheen, 1991; Grigsby, 2004; Jackson, 1998; Pankhurst, 1991; Pearson & Jackson, 1998; Wangari, Thomas-Slayter, & Rocheleau, 1996).

Those writing on gendered crops might be forgiven for leaving the feminist post-structuralist literature aside, for this literature sees little productive interaction with the feminist empiricist literature that dominates development today. A clear example of this disconnect can be found in the approaches these two literatures take to the household, a key institution for both approaches to gender. In economics, a significant literature employing the feminist empiricist approach challenges the utility of the household to understanding development outcomes (e.g., Alderman, Haddad, Hoddinott, & Vosti, 1994; Doss, 1996; Elad & Houston, 2002; Folbre, 1984; Haddad & Hoddinott, 1994; Haddad & Kanbur, 1990; Haller, 2000; Udry, 1996). This literature makes absolutely no reference to the feminist post-structuralist literature that engages the same challenge (e.g., Carr, 2005a; Dwyer & Bruce, 1988; Geisler, 1993; Henderson, 1995; Jackson, 1998; Kabeer, 1998; Kandioti, 1998; Lele, 1991; Tadesse, 2003; Venema, 1986; Warner & Campbell, 2000). To be fair, the feminist post-structuralist literature that addresses the household makes little or no reference to feminist empiricist studies (*cf.* Carr, 2005a).

The gulf between feminist empiricist and feminist post-structuralist approaches to gender limits the ability of development thinkers and practitioners to effectively address issues of gender in contemporary development practice. The virtual exclusion of feminist post-structuralist thought from the mainstream of development thinking has significant impacts on how we ask questions of gender, and what kinds of understandings of the relationship between gender and development we can obtain from our research. As the following case study illustrates, the differences in both questions asked and understandings gleaned from these two approaches explain how mainstream development continues to have problems addressing the situations and needs of significant percentages of the population that gender and development approaches are meant to address.

3. GROUNDING GENDER IN GHANAIAN AGRICULTURE: DOMINASE AND PONKRUM

The following case study is drawn from data I gathered in 2005 as part of a larger ongoing project examining local strategies for managing economic and environmental uncertainty in Ghana's Central Region. The findings I present here are not meant to serve as a new basis for generalization about gender in Ghanaian agriculture. Instead, they illustrate the failings of previous efforts at generalization, and insofar as they identify the theoretical root of those previous failings, these findings point the way to the issues that require consideration and resolution if we are to improve the development outcomes that gender and development studies were intended to target.

During the 2005 field season I interviewed 42 residents of Dominase and Ponkrum (20 men and 22 women). This sample was an extension of fieldwork in 2000 and 2004. In the 2000 field season, limited interviewing on the structure of the household economy and agriculture suggested that there were gendered patterns of agricultural practice in these villages, and therefore gendered vulnerabilities to the various economic and environmental uncertainties facing the villagers. In 2004, I focused my fieldwork on eliciting these different patterns by conducting semi-structured interviews with 57 residents (28 men, 29 women), a sample of roughly half the adults in the study area. The sampling strategy followed a modified snowball methodology based on the overall continuous design model of the research. As the interviews progressed and new lines of inquiry and concepts emerged, my field assistant and I relied on existing participants in the study to identify and facilitate the participation of other residents that met our evolving needs to address such social cleavages as gender, age, and clan lineage. The interviews were discontinued when we reached the point of theoretical saturation (Glaser & Strauss, 1967): in other words, when interviews no longer introduced new concepts or paths of inquiry, but instead followed existing patterns (for a discussion of the 2004 sample, see Carr, 2005a). In 2005, I returned to Dominase and Ponkrum to re-interview the subjects from the previous year to capture change in livelihoods related to recent changes in the transportation network. The 2005 sample was somewhat smaller than the 2004 sample because some of the previous participants chose not to participate in the

2005 interviews. Others were attending funerals or other family business away from the villages during the relatively short field season, and were not available for repeat interviews. However, as in the 2004 sample, the 2005 interviews achieved theoretical saturation.

The use of theoretical saturation, and a continuous design model more generally, creates a different standard of validity than that associated with other forms of data analysis. This alternative standard is necessary for two reasons. First, examining the social relations surrounding livelihoods in these villages required extended interviews, the content of which was not easily categorized or subjected to useful quantitative analysis. Second, even when the data did lend itself to quantitative analysis, the sample size was far too small to allow rigorous testing. Therefore, support for the patterns in the data I present below lies not in quantitative analysis, but in the fact that these patterns emerged as other data "saturated" in the course of my interviews. Just as such saturation suggests that there was no need to continue interviewing to flesh out such issues as gender roles or land tenure rules across the population of the villages, so too the patterns of farming and livelihoods in this sample are likely representative of patterns across the entire suite of households in these villages. Therefore, all percentages and other numbers presented in this case study are merely empirical illustrations of these patterns, rather than probabilistic statements about trends in these villages, or across villages in the Central Region or Ghana as a whole.

(a) *Research context*

Dominase and Ponkrum are two closely linked villages with a total population of 216 people (Ghana Statistical Services, 2004) located at the southern edge of the Upper Guinea Forest in Ghana's Central Region (Figure 1). Since their settlement around 1820, these two villages have grown together as residents farmed heavily interspersed plots, planted new cash crops and took up similar non-farm employment (NFE) opportunities such as those provided by the start of logging to the north of these villages in the 1940s. In the late 1960s, a series of shocks to local livelihoods, including the loss of local NFE opportunity and the demise of the local road network, triggered the beginning of a complex migration from the area that only ended in the early 1990s, after 65% of

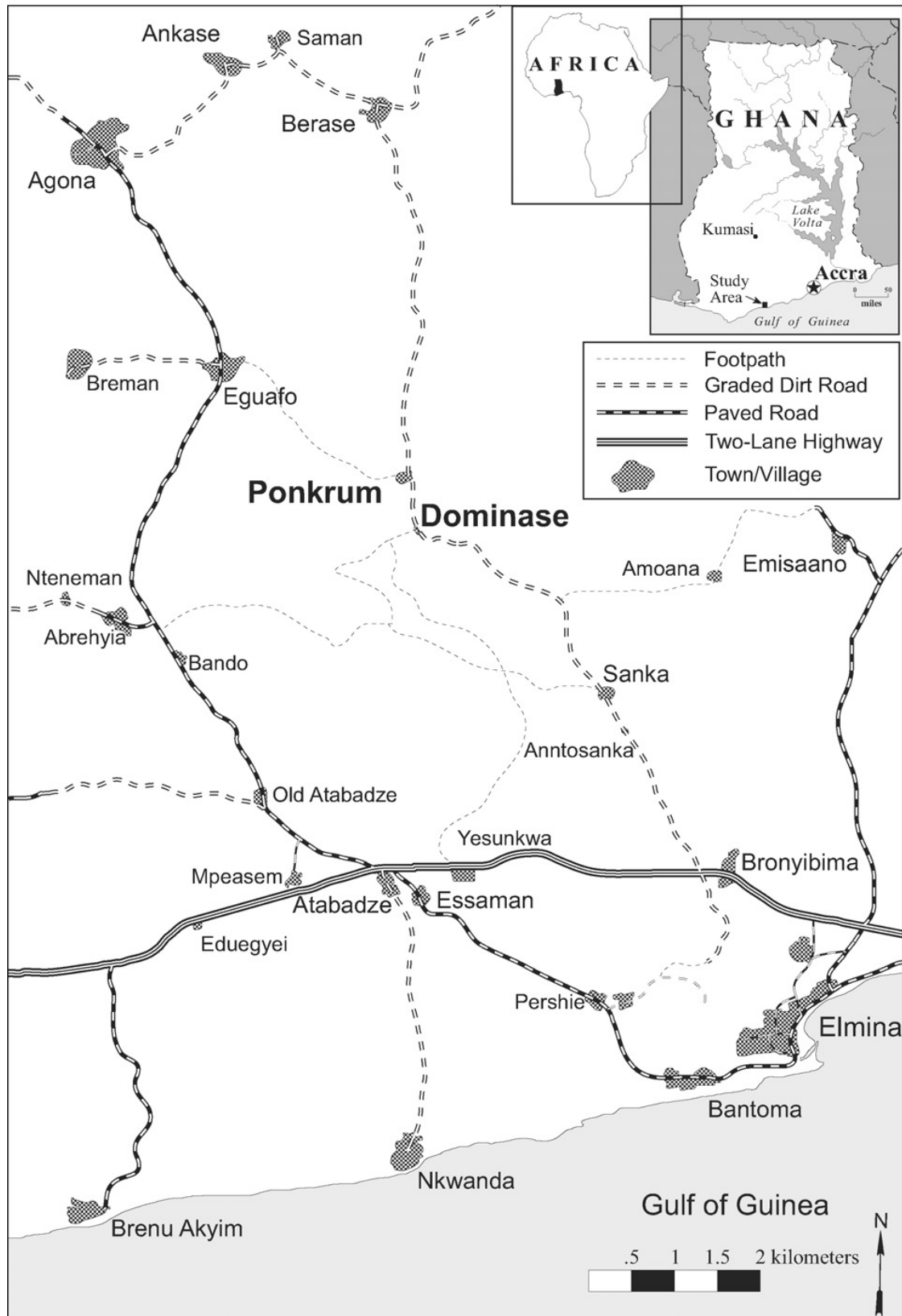


Figure 1. *Locator map of the study area, with Dominase and Ponkrum at center.*

the households living in these villages in 1970 had moved on (for discussion see Carr, 2005b). The villages have since recovered, as

households leaving the cities for rural areas, often in response to economic instability in post-structural adjustment urban Ghana,

moved primarily to Ponkrum because they could gain access to the farmland abandoned by the households that left the village. Today these villages, though lacking electricity, public sanitation, and possessing only a single borehole between them, have grown to hold populations slightly larger than seen before the abandonment.

The livelihoods of those living in Dominase and Ponkrum today center on agricultural production. Poorer households are nearly entirely dependent on farm products for both food and cash supplies to buy other needed items. Wealthier households often incorporate NFE income (NFE makes up approximately 30% of the average household income), though NFE opportunity is heavily concentrated in the hands of men. Because all households in these villages are heavily reliant on agriculture for their livelihoods, access to land is a critical issue for everyone. Generally speaking, access to land for the members of a particular household comes through the male head of household, who receives an allocation of land from the clan lineage to which he belongs. Once he receives this allocation, he can divide it up among the members of the household however he sees fit. Whether wealthy or poor, men tend to allocate themselves between three and four times the amount of land they allocate to their wives, thus ensuring that their agricultural production will be greater than that of any other household producer. Once this land is allocated to individuals within the household, however, the person who is farming that land has control over what is planted, what is harvested, and the crops and income generated by that plot of land (see also Awusabo-Asare, 1990; Brydon, 1987; Egyir, 1998; Quisumbing, Otsuka, Suyanto, Aidoo, & Payongayong, 2001; Quisumbing, Payongayong, Aidoo, & Otsuka, 1999). As a result of this land tenure arrangement, the household is not an economic unit as much as it is a social unit that houses autonomous economic producers (Carr, 2005a). This division seems to be mirrored by patterns of control over NFE income, where the person earning that income has control over its use.

The broad patterns of agricultural practice in these villages fit the general patterns of agriculture both in Ghana and in the Forest Zone (for discussion of these patterns, see Doss, 2002). Twenty crops appeared in the farms of Dominase and Ponkrum in 2005¹ (Table 1). Men farm six crops (cashews, cocoa, coconut, okra,

Table 1. *Gender patterns of cropping in the study area*

	Men (<i>n</i> = 20) (%)	Women (<i>n</i> = 22) (%)
Acacia	85.00	13.64
Cashew	10.00	0.00
Cassava	100.00	100.00
Cocoa	15.00	0.00
Coconut	20.00	0.00
Garden Egg	40.00	77.27
Maize	85.00	100.00
Orange	55.00	13.64
Palm	80.00	18.18
Papaya	5.00	4.55
Pepper	70.00	86.36
Pineapple	40.00	9.09
Plantain	30.00	18.18
Tomato	40.00	68.18
Yam	10.00	23.00
Banana	0.00	4.55
Beans	0.00	4.55
Okra	5.00	0.00
Onion	5.00	0.00
Sugarcane	5.00	0.00

Each row represents a crop, and the share of men and women, respectively, reporting that they raised that crop.

onion, and sugarcane) exclusively. Four other crops (acacia, orange, palm, and pineapple) appear to be associated with men's agricultural production by virtue of their disproportionate² appearance on men's farms. Two crops (bananas and beans) appeared exclusively on women's farms, and one crop, garden egg, was grown on a notably larger number of women's farms than men's farms. This gendered cropping pattern is likely representative of the cropping pattern of the entire population of these villages because it emerged as other data reached a point of theoretical saturation (in this case, it became clear through interview responses that no matter how many interviews I conducted, I was not going to obtain responses that presented women as important farmers of cocoa, coconut, onions, okra or sugarcane).

This pattern of "gendered crops" in Dominase and Ponkrum suggests different vulnerabilities for men and women in these villages. Ironically, however, these patterns suggest that men's vulnerabilities are in need of special attention, not women's. Seven of the 10 "men's crops" take their value from market sale. None of the "women's crops" take their value from market sale. Thus, this analysis suggests that while all residents of these villages are

vulnerable to environmental shocks that might affect their rain-fed farms, men's production is far more vulnerable to shocks in market price. Therefore, a development project aimed at addressing vulnerability in this population would likely address village-wide environmental vulnerability, and men's vulnerability to market fluctuations.

Such conclusions about the relationship between gender, agriculture and vulnerability rests on a feminist empiricist approach to gender, where woman and man are unproblematic categories used to disaggregate the population in search of different vulnerabilities. If we adopt a feminist post-structuralist approach to this relationship in these villages, a very different understanding of vulnerability and its sources emerges.

(b) *Gender, agriculture, and vulnerability: a feminist post-structural perspective*

To discuss the agricultural strategies of all those living in Dominase and Ponkrum as essentially similar homogenizes important differences within this population, even in such small villages. Elsewhere (Carr, 2005a) I have examined how male-headed households in these villages tend to follow one of two main livelihood strategies. Those households in which the male head of household earns more than \$340 in cash income³ tend to orient all members of the household toward production for market sale. Such a strategy assumes that a reserve of cash from such activity is the best means of managing the livelihood needs of the household. In those households where the male head earns less than \$340 in cash income, the members of the household adopt two clear agricultural roles: women farm for subsistence, while men farm for market production. This diversified approach assumes that subsistence production will guard against livelihoods shocks most clearly reflected in agricultural market prices, while market sale and the cash it brings will serve to guard against environmental shocks that might reduce subsistence food supplies for the household.

The following sections are intended to describe in detail how each of these strategies plays out in the arena of agricultural practice to illustrate how we might identify different vulnerabilities not only between men and women, but also among women living under different household strategies. Because I have identified and confirmed the existence of these strategies

elsewhere (Carr, 2005a), the numbers I employ in these descriptions are not intended to prove the existence of these strategies. Instead, they are an effort to present the reader with concrete information about how these strategies play out on the ground.

(i) *Diversified households*

In 2005, I interviewed the members of nine households where there was both a husband and wife, and where the male head of household earned less than \$340 a year. Of these nine households, two were experiencing significant socioeconomic transitions (the wife in both households had recently given birth, and was, therefore, unable to work her own farm plots) and did not fit the diversified pattern. If we examine the household economies of the remaining seven households, we find that the gender roles described above are manifest in clearly gendered agricultural strategies.⁴

There were 16 different crops planted on the farms of the diversified households in 2005 (Table 2). Two of these crops (orange and palm) were associated with men by virtue of their disproportionate appearance on men's farms. A further five crops (acacia, cocoa, coconut, pineapple, and sugarcane) appeared exclusively on men's farms. Three crops were associated with women's farms (garden egg, pepper, and tomato), while a further three crops (banana,

Table 2. *Gender patterns of cropping as observed in the diversified households of Dominase and Ponkrum in 2005*

	Men (n = 7) (%)	Women (n = 7) (%)
Acacia	71.43	0.00
Banana	0.00	14.29
Cassava	100.00	100.00
Cocoa	14.29	0.00
Coconut	28.57	0.00
Corn	71.43	100.00
Garden egg	28.57	85.71
Orange	57.14	14.29
Palm	85.71	14.29
Papaya	0.00	14.29
Pepper	42.86	100.00
Pineapple	57.14	0.00
Plantain	42.86	14.29
Sugarcane	14.29	0.00
Tomato	28.57	85.71
Wateryam	0.00	28.57

Each row represents a crop, and the share of men and women, respectively, reporting that they raised that crop.

papaya, and yam) appeared only on women's farms. These associations, which link 13 of the 16 crops grown by the members of these households to one gender or the other, suggest the presence of gendered crops and gendered agricultural strategies in these households.

If we examine the different motivations held by men and women for planting particular crops, we find further evidence of gendered agricultural strategies. In each field season, I have asked interviewees to not only identify the crops they plant on their farms, but also to explain why they would plant that crop. In the 2000 field season responses largely confined themselves to an ordinal scale as follows: for sale only, for sale more than consumption, for sale and consumption equally, for consumption more than sale, and for consumption only. In follow-up research in 2004 and 2005, I asked interviewees to adhere to this scale in their responses to allow for standardization and comparison across individuals.

In 2005, in the diversified households I found eight crops raised by both men and women. However, there was only a single woman farmer for three of these crops (palm, oranges, and plantain). As I have no means of controlling for a single farmer's potentially idiosyncratic motivations for crop selection, I removed these three crops from my analysis. The remaining five crops have at least two men and two women farming them, providing at least a small measure of control for idiosyncrasy. The perception of four of these five crops diverges along gender lines (Figure 2). In all cases where

there is a difference in perception, men see the crop in question as more for market sale than do women. Men and women view the remaining crop, maize, as having the same use. This is not surprising, as maize is a household staple of central importance to local foodways, and there is a constant demand for it both in the village and in the coastal towns, creating an environment in which the sale of maize is attractive to both men and women.

Men's agricultural emphasis on acacia,⁵ orange, pineapple, palm, cocoa, coconut, and sugarcane reflects the market orientation of their agricultural production, as all of these crops are popular outside of the village. Most of these crops (sugarcane and pineapples are exceptions) withstand fluctuations in precipitation relatively well, meaning that the primary vulnerability for men's farm production is to market fluctuations. On the other hand, women's agricultural focus on garden eggs, pepper, tomato, bananas, papayas, and yams tends to reinforce their subsistence role (only bananas and papayas are easily marketed). Further, the majority of these crops (bananas and papayas are exceptions) are very vulnerable to small fluctuations in precipitation, making the women in these households much more vulnerable to environmental change than to changes in the market price of the crops found in their farms.

(ii) *Market households*

The 2005 sample contained seven households in which the male head of household earned more than \$340 a year. The members of these

	Men		Women
Garden Egg (n=2)	Sell more than eat	Garden Egg (n=5)	Eat more than sell
Pepper (n=2)	Sell more than eat	Pepper (n=6)	Sell = Eat
Tomato (n=2)	Sell more than eat	Tomato (n=5)	Eat more than sell
Cassava (n=7)	Sell more than eat	Cassava (n=7)	Sell = Eat
Maize (n=5)	Sell more than eat	Maize (n=7)	Sell more than eat

Figure 2. Visual representation of the motivations for planting the crops found on multiple men's and women's farms in the seven "diversified" households observed in 2005. Each block represents the average motivation for planting the crop in question among those who planted that crop (the number of men or women planting each crop is represented by an n value next to the crop name in each column). Darker colors indicate a greater market orientation in the motivation for planting a particular crop.

Table 3. Gender patterns of cropping as observed in the market households of Dominase and Ponkrum in 2005

	Men (n = 7) (%)	Women (n = 7) (%)
Acacia	100.00	28.57
Cassava	100.00	100.00
Coconut	28.57	0.00
Corn	85.71	100.00
Garden egg	57.14	71.43
Okra	14.29	0.00
Orange	57.14	14.29
Palm	85.71	28.57
Papaya	14.29	0.00
Pepper	100.00	85.71
Pineapple	28.57	0.00
Plantain	42.86	14.29
Tomato	57.14	57.14
Wateryam	14.29	14.29

Each row represents a crop, and the share of men and women, respectively, reporting that they raised that crop.

households planted 14 different crops (Table 3). Men farmed four crops (coconut, okra, papaya and pineapple) exclusively. An additional three crops (acacia, orange, and palm) appear to be associated with men's production, as these appear on a disproportionate number of men's farms. Women did not plant any crops exclusively, nor did they raise any crops in markedly larger numbers than men. In these households, therefore, it is possible to identify "men's crops," but, unlike in the diversified house-

holds, there do not appear to be any "women's crops."

An examination of the motivations behind the planting of a given crop within market households, however, suggests that the presence of men's crops does not mean that there are clearly defined gendered patterns of agriculture in these households, and serves to call into question the importance of gender in understanding this household strategy. Ten crops appear on both men's and women's farms in these households. Three of these crops were raised either by only one man or only one woman. As in my analysis of cropping motivations in diversified households, I removed these three crops in an effort to control for idiosyncratic perceptions and motivations.

Under the market strategy, all members of the household produce for market sale, and so it is of little surprise that of the remaining seven crops, men view six and women view five as having at least half of their utility in market sale. Further, men and women share perceptions of use for five of these seven crops. Interestingly, women see one of these crops (pepper) as more for market sale than do men, while men saw the other (tomato) as more for market sale than do women (Figure 3). This suggests that while there are some gendered emphases in this strategy (at least when dealing with crop selection), in market households the patterns of agricultural production are influenced more by



Figure 3. Visual representation of the motivations for planting the crops found on multiple men's and women's farms in the seven "market" households observed in 2005. Each block represents the average motivation for planting the crop in question among those who planted that crop (the number of men or women planting each crop is represented by an n value next to the crop name in each column). Darker colors indicate a greater market orientation in the motivation for planting a particular crop.

the marketability of the crop at hand than the gender of the farmer.

While the vulnerability of those living in these households is clearly linked to market fluctuations, regardless of gender, vulnerability is not uniform within these households. While both men and women are vulnerable to economic shocks due to their emphasis on market production in agriculture, they grow different crops. For example, the association of men's production with acacia is important in that acacia is relatively resistant to fluctuations in precipitation. Because women lack acacia, their farm incomes have a greater reliance on such precipitation-sensitive crops as garden eggs and tomatoes than their husbands, making women in these households somewhat more vulnerable to environmental shocks than men.

(iii) *Female-headed households*

The five female-headed households in the 2005 sample tend to adopt something of a diversified strategy, with the production of some crops for market, and others for subsistence. However, subsistence and market production are not gendered in these households, as it is up to the female head of the household to conduct both activities. The women in these households plant twelve crops (Table 4). These women display a wide range of motivations for planting crops on their farms, running the gamut from for sale more than consumption to

for consumption more than sale (Figure 4). While this pattern is broadly similar to that seen in market households, this similarity masks an important difference. Female-headed households tend to raise staple crops (which normally dominate their farms) for their own consumption, and market any surplus of less-extensively cultivated crops, sharply limiting their agricultural income. On the other hand, women in market households focus on marketing these staple crops, earning much more income, while eating the same less-extensive crops.

The need to consume valuable staple crops explains why women in female-headed households, though they grow a wide range of crops on their farms and display motivations for crop selection that reflect a mix of market and subsistence goals, have by far the lowest farm incomes of the three groups. The largest income for a female-headed household is slightly less than \$140 a year, with a mean of only \$70.71. Women in market households make an average of \$230.42,⁶ and women in diversified households, though orienting most of their production toward subsistence first and market sale second, earn a mean of \$114.70. The extremely low incomes of the female-headed households, though not the result of any particular gendered agricultural strategy, are nonetheless closely tied to gender as it relates to land tenure in these villages. These households lack a male

Table 4. Comparison of crops planted by women of female-headed, diversified and market households as observed in 2005

	Female-headed households ($n = 5$) (%)	Diversified HH women ($n = 7$) (%)	Market HH women ($n = 7$) (%)
Acacia	20.00	0.00	28.57
Banana	0.00	14.29	0.00
Beans	20.00	0.00	0.00
Cassava	100.00	100.00	100.00
Cocoyam	20.00	0.00	0.00
Garden egg	80.00	85.71	71.43
Maize	100.00	100.00	100.00
Orange	20.00	14.29	14.29
Palm	0.00	14.29	28.57
Papaya	0.00	14.29	0.00
Pepper	80.00	100.00	85.71
Pineapple	40.00	0.00	0.00
Plantain	40.00	14.29	14.29
Tomato	60.00	85.71	57.14
Wateryam	20.00	28.57	14.29

Each row represents a crop, and the share of women in each of the different household types reporting that they raised that crop.

	Female-Headed Households		Market Households		Diversified Households
Garden Egg (n=4)	Sell more than eat	Garden Egg (n=5)	Eat more than sell	Garden Egg (n=5)	Eat more than sell
Pepper (n=4)	Sell more than eat	Pepper (n=7)	Sell more than eat	Pepper (n=6)	Sell = Eat
Tomato (n=3)	Sell more than eat	Tomato (n=4)	Eat more than sell	Tomato (n=5)	Eat more than sell
Cassava (n=5)	Eat more than sell	Cassava (n=7)	Sell = Eat	Cassava (n=7)	Sell = Eat
Maize (n=5)	Eat more than sell	Maize (n=7)	Sell more than eat	Maize (n=7)	Sell more than eat

Figure 4. Visual representation of the motivations for planting the crops found on more than one woman's farm in all three household types as observed in 2005. Each block represents the average motivation for planting the crop in question among those who planted that crop (the number of women planting each crop is represented by an n value next to the crop name in each column). Darker colors indicate a greater market orientation in the motivation for planting a particular crop.

head through which the members can gain access to farmland, and therefore have a limited number of options for gaining such access. They can ask a senior male relative to acquire land for them, but such land usually must come from the household allotment of that man, and thus will be quite small. A second option is to rent farmland. As most women in female-headed households have little cash reserve, they cannot pay for the land upfront, and instead find themselves farming whatever plot they are allocated, and paying rent in the form of 1/3 of the total production of the plot back to the landowner. Under either option, the women in female-headed households will have little land on which to grow crops for themselves and their households. Thus, though they may adopt a strategy that can manage economic and environmental uncertainty, they lack access to a crucial resource, land, which makes that strategy viable. As a result, these women are forced to eat nearly all of their staple crop production, and therefore have very small incomes and little, if any, annual savings, making them particularly vulnerable to economic or environmental shocks.

(iv) Discussion

While gender is not a clear determinant of the patterns of cropping seen in every household in Dominase and Ponkrum, we cannot understand the different vulnerabilities of the residents, which are closely tied to the type of household to which they belong, without a locally-specific consideration of gender. The diversified households show a clear pattern

of gendered crops and gendered agricultural practice as part of a larger strategy to manage economic and environmental uncertainty through diverse production goals. These production goals are gendered in such a way as to ensure that women produce for the household first and their own needs second, to ensure the continuing dominance of men over their households.⁷ In the market households, the key determinant of crop choice is not the gender of the farmer, but the market strategy, which sees market sale and cash income as the key resources through which to deal with economic and environmental uncertainty. This pattern, though materially different than that seen in the diversified households, is not without gendered importance, for women's production is still oriented toward the household first and their own needs second. This differentiation is, in these households, not tied to agriculture (as everyone has the same agricultural goals) but instead closely tied to things like NFE income.

The gendered patterns of cropping are, therefore, quite different in these households, which suggests that there are likely different vulnerabilities across these households. Indeed, in 2004 there was less rain than usual, and several of the crops emphasized by women in the diversified households (e.g., tomatoes, garden eggs, and pepper) were disproportionately impacted. These women's incomes dropped dramatically because of the change in rainfall, while their counterparts in the market households saw relatively little change in their farm incomes as they were growing less of these crops. However,

we must also consider that while the gendered patterns of cropping are quite different between these two household types, women in both households find themselves in a similarly reliant on their husbands for both access to land and cash. Thus, they share a similar vulnerability to changes in their husband's incomes, and to abandonment by their husbands, which could leave them as impoverished female-headed households.

Where superficial differences between the situations of women in market and diversified households might mask similar vulnerabilities in these households, the similarities in the patterns of cropping for women in market and female-headed households are the product of very different processes that obscure the importance of gender to agriculture and vulnerability in these villages. In both types of household, the choice to plant a particular crop in a particular farm is not as much about the gender of the farmer as it is about the type of crop and its potential utility to the strategy under which the farmer operates. However, just as the crop choices of women in market households are related to particular constructions of gender in their households, so too the crop choices of women in female-headed households reflect gender roles not in the household, but in the larger society as they related to land tenure. In the female-headed households, women are forced to take on both subsistence and market production roles. While this may "degender" subsistence and market production in these households, it is not a gender pattern of cropping that leads to the limited incomes of these women, and their extreme vulnerability to economic and environmental shock. Instead, it is a highly gendered land tenure system that women have great difficulty negotiating without the aid of a man. In these households, then, gender does matter in observed livelihoods outcomes, but in a different way entirely than that seen in either market or diversified households.

In summary, a feminist post-structural approach to gender in the study of cropping patterns in Dominase and Ponkrum allows us to consider gendered vulnerabilities in a nuanced way not available under a feminist empiricist approach. A feminist empiricist framing, while recognizing the likelihood of different vulnerabilities among men and women, would not have identified such nuanced variability in the data. It is only when we explore gender and agriculture through a feminist post-structural lens that

we can productively disaggregate not only men and women, but also the categories of woman and man in a manner that highlights many different vulnerabilities, gendered and otherwise, at play in these villages.

4. CONCLUSION

While most researchers would agree that it is not enough to address women via a fixed, monolithic category at the national scale, the lessons of the feminist post-structuralists, which highlight the local constitution of gender and the intersection of gender roles with issues such as class, make it clear that analytically useful subdivisions of the categories "woman" and "man" must come from detailed understandings of those categories, in all their diversity, at the local level. The concerns of the feminist post-structural literature move us toward understandings of gender that produce more meaningful analytic results and can form the foundation for better projects.

The case of Dominase and Ponkrum suggests that development projects attuned to understanding the different vulnerabilities within a particular population (one of the original concerns of the gender and development literature) must move beyond uninterrogated gender categories as the starting point for interventions. Ironically, feminist post-structuralist approaches to gender, at least in rural settings like that of Dominase and Ponkrum, suggest that the key questions for any development program should not begin with gender at all. Instead, it may be more productive to start with an understanding of the different modes of livelihood within the community in question and the identification of the social groups associated with these various modes. Thus, we must first ask who produces for subsistence, who produces for market sale, and who engages in NFE. We can then identify different vulnerabilities in the community by evaluating the challenges facing each mode of livelihoods, and by association the different social groups linked with these modes. Indeed, only through this process can we identify and employ gender categories in development planning in a meaningful way.

For example, a feminist post-structural approach to gender in development allows us to understand how men who exclusively rely on NFE for their livelihoods experience different vulnerabilities than men who split their livelihoods between NFE and market agriculture,

and those that split their livelihoods between market and subsistence agriculture. While all of the individuals in question might be considered “men” within this context, the vulnerabilities they experience are likely quite different, suggesting meaningful subdivisions of “man” in the context of vulnerability to local economic and environmental change. On the other hand, we might find that in a particular community virtually all men integrate NFE and market production in their livelihoods, while it is women who engage in a wide range, and many combinations, of livelihood activities. Here, then, it might be appropriate to speak of “men’s vulnerabilities,” but inappropriate to speak of corresponding “women’s vulnerabilities” at the same level of generalization.

Compared to a feminist empiricist approach, a feminist post-structural approach to gender will, in most cases, allow us to understand with greater resolution the diversity of vulnerabilities in play in a given community. Even in those few cases in which livelihoods are nearly homogenous by gender, and thus feminist empiricists and feminist post-structuralists might obtain very similar results, a feminist post-structural approach to gender has utility as a means of justifying the use of broad gender categories in the identification of community vulnerabilities. Such justification, which is generally absent in the feminist empiricist literature, might add to the validity of the findings of mainstream development research and planning by confirming the importance of the basic

categories upon which research and projects are founded.

Whether challenging mainstream development understandings of the relationship between gender and vulnerability, or providing support (where appropriate) for “conventional” gender approaches, a feminist post-structural approach to gender will allow us to better understand the challenges facing the community in question, and the likely impacts of any intervention package on these various vulnerabilities. Such information allows for the assessment of winners and losers under a particular package of interventions before implementation, thus minimizing the “surprise” outcomes that so often plague development projects. Further, the nuanced, complex picture of vulnerability enabled by this approach allows for the identification and targeting of the needs of minority or underrepresented populations that might not be heard in even the most sensitive participatory development consultations. At the very least, this complex picture will provide a cross-check for such consultations, to ensure that participatory development efforts truly engage the diversity of needs in a given community. Therefore, the feminist post-structural concern for the constitution of gender in particular development contexts is more than grounds for critique. It speaks directly to the development outcomes we wish to understand, and the ways in which we should go about achieving those outcomes.

NOTES

1. While I have gathered information relevant to gendered agricultural practices across three field seasons, I am focusing on the 2005 data in this article because changes to the research context between the 2004 and 2005 field seasons have provoked shifts in these patterns that require further analysis before they can be presented. To present previous and current data without such analysis, and the ability to put changes in these patterns into context, would only confuse the argument being made in this article.

2. My qualitative sense of farming practices and gender relations in Dominase and Ponkrum suggests that the difference between the ratio of men farming a crop and the ratio of women farming a crop becomes important once that difference approached 40%. For example, if 60% of men and 10% of women farm a crop, I treated this as an important difference. On the other hand, if 80% of

men and 60% of women farm a particular crop, I was not convinced that this difference represented a noteworthy gendered focus within the agricultural and livelihoods strategies in these villages. My interpretation of the importance of exclusive cropping is somewhat different. While some of these crops are farmed by a very limited number of farmers, this exclusivity arose in the context of either 42 interviews (for the whole village) or 14 interviews (for the market and diversified households discussed below). In both cases, all other lines of inquiry had saturated, suggesting that the exclusive cultivation of a particular crop by either men or women was likely to be a continuing theme in any further interviews, even if only a few men or women actually cultivated the crop. In both the cases, I am not making a statistical claim about the importance of the differences between men’s and women’s cropping decisions, but laying out my qualitative evaluation of the differences between these decisions.

3. All income figures in the text represent cash income reported by the respondents. These figures do not represent the cash value of subsistence production or household labor, as respondents were unable to provide such information and data do not yet exist that allows for the rough equation of hectares to value for particular crops (such data are under construction using data from a more recent field season). While this limitation of the data clearly undervalues women's economic production, it accurately represents their economic position within the household and in society. No woman is compensated for subsistence production or household labor. As a result, subsistence production and household labor, while serving an important household purpose, do not serve as reliable means of challenging the power relations that shape the different patterns of vulnerability seen in these villages.

4. There were three households in 2004 that, while fitting the diversified strategy in terms of male income, did not exhibit the same agricultural patterns. By 2005, all of these households fit into either the diversified

strategy, or the income of the male head had risen and they fit the market strategy. All of the outliers were dealing with some sort of socioeconomic transition, such as the birth of a child, which compromised the productivity of at least one member of the household.

5. While the acacia tree is not technically a crop, it is classified as such by the farmers in these villages and raised specifically for the purpose of sale, or the manufacture of charcoal for sale.

6. There was one extreme outlier in the market households, a woman who claimed a staggering \$2266.67 of income. It is difficult to judge if this is a misreporting of her income, or if she is merely an unusual case. Regardless, she does not represent the usual situation of women in market households, and she was excluded from the calculation of the average woman's income in these households.

7. For an extended discussion of these gender politics, see Carr (2005a).

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