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**Lost in Interpretation: Why Spouses Disagree on  
Who Makes Decisions**

by Sundas Liaqat, Aletheia Donald, Forest Jarvis,  
Elizaveta Perova, and Hillary C. Johnson

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# Lost in Interpretation: Why Spouses Disagree on Who Makes Decisions

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## Abstract

Across a wide variety of regions and contexts, surveys have found high rates of disagreement within couples on matters of household decision-making. Using a unique dataset from a spousal survey of 421 agricultural households in the Philippines, we find that 50.2% of couples disagree about who makes any given decision in the household. We systematically explore the empirical relevance of theoretical explanations from the existing literature for this spousal disagreement. Spouses are no more likely to agree on specific decisions compared to general decision-making, are more likely to agree on the decision-making *process*, and are less likely to agree on decision-making for activities in which both take part. Moreover, women are more likely to report that their husbands were involved in decision-making when speaking with a female enumerator. Our findings suggest that intra-household disagreement is not driven by differing interpretations of which decisions count as “major”, or by asymmetric information. Although we find evidence of enumerator effects, their magnitude is small and cannot explain the observed rates of spousal disagreement over decision-making. Rather, spousal disagreement appears to stem primarily from systematic gender differences in interpreting what it means to be a decision-maker. We discuss the implications of our findings for the measurement of intra-household decision-making in household surveys.

Keywords: intra-household, measurement, decision-making, gender, Philippines

JEL codes: C8, D13, J16, I32

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## **1. Introduction**

Women's bargaining power within the household is generally recognized as an important development outcome (Duflo 2012). It is commonly measured through survey questions on women's participation in decision-making. However, research comparing the answers of husbands and wives to these survey questions has uncovered widespread and systematic discrepancies between their reports, raising concerns with this measurement approach (e.g., Anderson, Reynolds & Gugerty 2017; Annan et al 2021; Ghuman, Lee, & Smith 2006; Jejeebhoy 2002). Pinpointing the mechanisms underlying this discrepancy is crucial for understanding the relationship between self-reported decision-making and bargaining power and, consequently, the reliability of decision-making as a measure of bargaining power. However, very little quantitative work has been done to illuminate the reasons behind these disagreements.

Using data from a spousal survey of 421 farmer couples in the Philippines, this paper tests for the three potential mechanisms underlying spousal response discrepancy that have been advanced in the existing literature. First, we test for asymmetric interpretation: measurement error caused by men and women understanding survey questions in different ways. Spouses may provide diverging reports of household decision-making if they have different interpretations of what it means to make a decision, to be a decision-maker, or what qualifies as a "major" decision, leading to diverging answers to questions on general decision-making. These interpretations are asymmetric if they systematically fall along gendered lines. Second, we test for asymmetric information: spouses may have different perceptions of the overall balance of decision-making within the couple because they may not be privy to decisions made in activities in which they do not participate. Third, and finally, we test for enumerator effects—specifically the effect of enumerator gender—on reports of decision-making.

Comparing spouses' reports of agricultural decision-making, we find that discrepancies are widespread and systematic, echoing studies from a multitude of different regions and contexts. Overall, 50.2 percent of spouses disagree on who makes decisions in any given area, although rates of discrepancies vary somewhat by decision. Most discrepancies occur when one spouse reports that decision-making was made by both husband

and wife (joint decision-making), while the other reports that only one was a decision-maker (sole decision-making). Notably, women were 17 percent more likely to report joint decision-making than men, suggesting that interpretations of decision-making may be systematically different and fall along gendered lines. Our first descriptive result suggesting asymmetric interpretation as the primary mechanism shows that when asked who would be able to make the final decision in the case of a disagreement, nearly 80 percent of couples provide the same response, with most agreeing that the husband is the final decision-maker. Our second test for asymmetric interpretation shows that spouses are much more likely to agree on various aspects of the decision-making process than on the identity of the decision-maker. Our third finding is that spouses are no more likely to agree on decision-making in specific activities than they are on general agricultural decision-making. This pattern of results suggests that diverging spousal reports of household decision-making are not due to differences in recollection or frames of reference for what qualifies as a “major” decision, but are instead due to differing conceptualizations of what it means to *be* a decision-maker.

We find no evidence that response discrepancies are related to asymmetric information arising from a gendered division of labor. In fact, spouses are much less likely to agree on the decision-maker for activities in which both report participating. Additionally, spouses who participate in a higher proportion of agricultural activities *together* are no more likely to agree who generally makes agricultural decisions. In the face of systematically different interpretations of decision-making, it may be that mutual participation in agricultural activities only increases the opportunity for diverging interpretations, leading to further discrepancies.<sup>1</sup> Finally, we find that the gender of the enumerator is weakly correlated with responses: women are more likely to report their husbands as decision-makers when interviewed by female enumerators. The relationship between enumerator gender and women’s reports of own-involvement or joint decision-making are not statistically significant. Moreover, there is no significant relationship between the gender of the enumerator and the answers of male respondents, perhaps indicating that women may be more susceptible to social desirability bias.

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<sup>1</sup> We do not rule out the role of other types of information asymmetries, such as hidden decisions within the same activity, which may be concealed either deliberately or unintentionally. However, our pattern of results indicates that intentionally hidden decisions are unlikely to be the driving factor behind the spousal discrepancy in reporting that we observe.

Our results suggest that a commonly used indicator of women's bargaining power has shortcomings that can make it difficult to accurately interpret data on intra-household decision-making. Estimates of women's bargaining power vary substantially depending on which spouse's reports are considered: 60.9% of women in our sample have some decision-making power in any given decision when using women's reports, while 46.2% have some decision-making power when using the man's report- a difference of 14 percentage points. Without understanding the reasons for these discrepancies, it is challenging to determine what the different data points mean for women's power. Accurate measures of women's bargaining power are critical to improve program targeting and correctly estimate programs' impacts.

By shedding light on the reasons underlying spousal discrepancies in reports of decision-making, our results allow us to make several recommendations to ensure consistent interpretation of survey questions across spouses and reduce measurement error in women's decision-making power. Asking which spouse is able to make the final decision may be a less "noisy" measure of decision-making, though it also omits many of the nuances of the decision-making process that are important for understanding gender roles and bargaining power. Another solution that preserves low rates of discrepancy is to include questions about the *process* of decision-making. Process-related questions have the added benefit of capturing facets of women's influence over the decision-making process that relate to their autonomy in a way that simply asking about the final decision-maker does not (Arugay et al. *forthcoming*). In the presence of enumerator effects on reports of decision-making, controlling for enumerator gender or other characteristics (such as their gender attitudes) may also be of use.

Our paper adds to the growing body of literature illustrating widespread and systematic discrepancies in spousal reports of decision-making. Existing research has described the extent of these discrepancies in a wide variety of regions and contexts including Tanzania (Anderson, Reynolds & Gugerty 2017), Ghana (Amugsi et al. 2016; Chen and Collins 2014), Uganda (Doss, Meinzen-Dick & Bomuhangi 2014), and Ecuador (Alwang, Larochelle, & Barrera 2016). Many studies have focused on the individual and household characteristics related to individual's reports of their own decision-making (e.g. Anderson, Reynolds & Gugerty 2017; Bayudan-Dacuycuy 2011; Donald et al. 2017; Hanmer & Klugman 2016; Twyman, Useche and Deere 2015), or on the

relationship between discrepancies in reporting and other outcomes and indicators of empowerment (Allendorf 2007; Annan et al. 2021; Bankole and Singh 1999; Jejeebhoy 2002).

However, little work has been done on the reasons for these widespread discrepancies. A notable exception is Ambler et al. (2021), who find evidence that hidden assets and decisions are important factors. Ghuman, Lee, and Smith (2006) also suggest that measures of decision-making may have different cognitive and semantic meanings across different contexts and genders. This paper contributes to the literature in three ways: i) deepening the investigation of the mechanisms of asymmetric information and enumerator effects explored by previous authors using a novel empirical strategy and dataset, which was specifically designed to explore this research question; ii) testing for the novel mechanism of asymmetric interpretation and its potential sources; and iii) comparing the above mechanisms in order to yield specific recommendations for survey and research design, as well as the interpretation of decision-making questions.

The rest of our paper is structured as follows. Section 2 reviews the existing literature on hypothesized drivers of spousal discord and sets up the theoretical framework to be used in our empirical analysis. In Section 3, we provide an overview of the survey and country context, and some important descriptive statistics of our dataset. Section 4 describes our methodology and quantitative models, and in Section 5 we present the results of these models. Section 6 concludes our paper with a discussion of the implications of our work for the design of spousal surveys and surveys on decision-making and provides recommendations for future work.

## **2. Mechanisms of Disaccord: A Literature Review**

The first potential reason for discrepancy in spousal reports of household decision-making is random measurement error. Random measurement error is a frequently cited issue in surveys, and its influence on measures of decision-making has been well-documented (Granbois and Willet 1970; Kamo 2000; Quarm 1981). Ghuman, Lee, and Smith (2006) find substantial random measurement error that complicates the comparability of their data between regions, though they argue that this is not the only source of discrepancies in spousal responses. Measurement error may instead be systematic if it is correlated with other respondent characteristics.

Indeed, empirical work on spousal discord (e.g. Annan et al. 2021; Twyman, Useche and Deere 2015) has found spousal response discrepancies to be correlated with other factors within and outside the household, suggesting that random measurement error, though important, is not fully responsible for the discrepancies consistently seen in spousal surveys. Below, we consider in turn the three main explanations for systematic measurement error advanced in the literature: asymmetric interpretation, asymmetric information, and asymmetric response to enumerator characteristics.

### 2.1. Asymmetric Interpretation:

A major source of measurement error may be differing interpretations of survey questions, which are asymmetric if interpretations vary by gender or other respondent characteristics. Scanzoni (1965) suggests that husbands and wives may be interpreting family situations differently based on their gender, and thus relaying different information in surveys. This sentiment is echoed by Granbois and Willet (1970), who suggest that survey questions should be made more specific in order to avoid discord stemming from differing interpretations. Ambler et al. (2021) find that wives are significantly more likely to report their own involvement in decision-making than their husbands, a scenario that may suggest different gendered interpretations of questions are partially responsible for response discrepancies. Using an item-response model for the responses of spouses in India, Pakistan, Malaysia, Philippines, and Thailand, Ghuman, Lee & Smith (2006) find that husbands and wives give systematically different responses to decision-making questions, which may suggest different interpretations of the questions. However, they find that these differences vary across communities and cultures in ways that make comparing survey results across countries or contexts difficult or counterproductive. In a qualitative study of spousal survey responses in Malawi, Miller et al. (2001) find that spouses may have differing definitions of the decision-making process; one spouse may consider a very short discussion before making a decision to be a true conversation, while the other may not.

Although the possibility of asymmetric interpretations of decision-making is well-described in the literature, few papers have empirically tested for asymmetric interpretations of decision-making. A notable exception is Ambler et al. (2021). There are different parts of survey questions about decision-making that could be open



to asymmetric interpretations. However, to the best of our knowledge, no other paper has directly tested which aspects of decision-making are being interpreted asymmetrically by spouses. Providing this information can facilitate the interpretation of survey results and improve questionnaire design.

## 2.2. Asymmetric information

A second possible mechanism is asymmetric information: men and women are not always privy to the decisions made by their spouses, resulting in differing ideas about which decisions are made and who makes them. This asymmetric information can arise unintentionally, for example due to gendered division of labor within the household, or intentionally, if spouses hide decisions from each other. While the mechanism of asymmetric *interpretation* implies that spouses are giving different answers based on the same information, this explanation suggests that the information itself may be different as well. Ambler et al. (2021) find that spouses are more likely to give diverging responses regarding assets and domains of decision-making that are more easily hidden, which is consistent with a scenario of asymmetric information driven by women hiding decisions from their spouses, either unintentionally or as a way of circumventing the bargaining process. Moreover, existing literature (e.g. Aker et al. 2016; Ashraf 2009; Fiala and He 2007) shows that spouses are often unaware of decisions made solely by their partners. This may result in higher spousal response discrepancies over decision-making for spouses who do not generally jointly participate in activities and thus are not privy to each other's decisions.

## 2.3. Enumerator effects

The characteristics of the enumerator administering the survey may also affect results through differing respondent behavior and/or differing enumerator practices. Enumerator gender has been found to have small effects in a variety of contexts, particularly on gender-sensitive questions (Flores-Macias and Lawson 2008; Huddy et al. 1997). In a study on agricultural decision-making in Ecuador, Alwang et al. (2016) randomize male and female respondents to enumerators to test the effects of enumerator gender on survey responses. They find that, although overall effects are marginal, having a female enumerator makes respondents more likely to claim joint responsibility for agricultural decisions, while both men and women are more likely to claim sole

responsibility for themselves when interviewed by male enumerators. In Uganda, Di Maio and Fiala (2018) similarly randomize enumerators to respondents. They find substantial effects of enumerator gender (as well as other observable characteristics) on responses to sensitive survey questions in Uganda, as well as a small effect for less-sensitive questions. Nevertheless, there is limited evidence from Southeast Asia on how enumerator gender influences survey responses.

### **3. Context and Data**

#### **3.1. Context**

We study agricultural household decision-making in the Philippines, a country that ranks highly among its peers in Southeast Asia and the developing world in terms of gender equality and women's empowerment (David et al. 2018; WEF 2016). Women have greater educational attainment than men on average (Okabe 2016), with rural families more likely to invest in daughters' education, although men are more likely to inherit land (Estudillo, Quisumbing and Otsuka 2001). Agriculture is a traditionally male-dominated field, but women in rural households commonly take active roles in agriculture and agricultural decision-making (Akter et al. 2017; Malapit et al. 2020). On paper, women have equal rights to inherit and own agricultural land and are considered equal owners of any property owned by their husbands<sup>2</sup> (World Bank 2012). They are also have equal rights to receive land through the Philippines Comprehensive Agrarian Reform Program (CARP), the program about which our data was collected.

Although the Philippines scores highly on some indicators of gender equality, there are still some gender gaps apparent in agriculture: 71 percent of agrarian reform beneficiaries in the Philippines are men (Corral 2015), female farmers often have lower access to agricultural infrastructure and support services (Illo and Dalabajan 2011) and women consistently earn 13 to 18 percent less than men for their agricultural labor (Valientes 2015). Social norms contribute to these gender gaps. Women traditionally are given control over

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<sup>2</sup> The Family Code of the Philippines states that, while both spouses have equal ownership of property, including agricultural land, in the case of spousal disputes the husband's decision will prevail.

income, including agricultural finances (Malapit et al. 2020), although men are often given more power over major budgetary decisions such as buying and selling land (Ashraf 2009). In agricultural households, women are expected to be generalists, making decisions over family matters, finances, and some elements of agriculture, while men are expected to be specialists in farming (Parks, Christie & Baganes 2015). A further relevant data point to contextualize our results is the existence of strong social norms in favor of consultative decision-making between spouses, although men still dominated agricultural decision-making in most households (Arugay et al. 2021)

### 3.2. Dataset

The dataset used in this paper comes from a detailed spousal survey carried out with farming couples in the Philippines from February to May of 2018. Part of the baseline survey of a larger impact evaluation on land reform, all couples interviewed were landowners, having received at least one agricultural parcel from CARP. Local enumerators interviewed a sample of 997 respondents in 570 agrarian reform beneficiary households, of which 422 were matched monogamous couples.<sup>3</sup> Only married respondents or respondents in common-law unions<sup>4</sup> were interviewed. Most of our sample was interviewed across six provinces of the southern island of Mindanao, while 72 households were interviewed in the Bicol Region of southeastern Luzon. As our sample was drawn strictly from former tenant farmers who had received land parcels at least 10 years prior to the survey, it skews older and poorer than the Philippines population overall (see Appendix Table 1). Thus, our results should be considered representative only of the population sampled. Most households in our sample (82.2%) lay below the 2018 national per capita food poverty income threshold of 7,337 pesos per month.

Spouses were interviewed simultaneously, with enumerators visiting households in pairs and administering questionnaires to male and female spouses in separate areas where they could not hear or influence each other's responses. Men and women were administered identical questionnaires; however,

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<sup>3</sup> In 147 households only one spouse was available to be interviewed, while one household was polygamous. Our primary data analysis is limited to matched monogamous couples.

<sup>4</sup> As divorce is illegal for Christians in the Philippines, cohabiting with a partner who is not the original spouse is considered a "common-law unions", which has the same legal connotations with regards to land and property as a formal marriage under Philippine law.

spouses of agrarian reform beneficiaries were asked some additional demographic information that had previously been collected for the beneficiaries.<sup>5</sup>

The survey contains three different types of decision-making questions:

i) D1: questions on who is generally responsible for decisions in [activity/topic]: the husband, wife, both (joint decision-making), or other household members;

ii) D2: questions on who would make the final decision in the case of a disagreement, eliminating the “joint” option;

iii) D3: questions on the decision-making process, including whether there was a conversation and who was involved in the conversation.

The first type of decision-making question (D1) is asked for a variety of agricultural and non-agricultural decisions. The second and third types of decision-making questions (D2 and D3) are only asked about major decisions on the parcel received through the Comprehensive Agrarian Reform Program (referred to as the “parcel of interest”), since practical limitations made it impossible to ask all types of questions about each domain, every household in our sample owned one of these parcels and all couples theoretically had equal rights to the parcel.<sup>6</sup> In practice, most respondents regard the parcel as primarily if not solely owned by the agrarian reform beneficiary, but are aware of its status as conjugal property: 96.1 percent stated that both spouses would have to agree to sell the parcel, while 90.1 percent stated that both would have to sign any relevant paperwork. Appendix Table 2 contains details on the decision-making questions and their answer options.

### **3.3. Measuring spousal discrepancy:**

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<sup>5</sup> This demographic information had already been collected for the Agrarian Reform Beneficiary during the first part of the baseline survey in 2016 and 2017 and was not expected to change.

<sup>6</sup> Under the 1987 Family Code of the Philippines, all property (including land) acquired or received after marriage is considered as conjugal property when owned by a married Filipino, giving spouses equal rights over that property, including spouses in common-law marriages. Parcels received before marriage do not legally count as conjugal property, but semi-structured interviews revealed that parcels were considered by spouses as “conjugal” even if received before marriage.

As with other studies on spousal response discrepancies, we find that discrepancies in spousal reports of decision-making are widespread and systematic throughout all domains included in our survey. Overall, averaging across all decision-making variables shows that just over half (50.2%) of spouses give different answers on the decision-maker. However, there is a degree of heterogeneity between some activities, with some activities showing higher levels of spousal disaccord than others, ranging from just over 40 percent agreement on the decision-maker on minor household expenditures, to about 59 percent agreement on off-farm employment. A breakdown of agreement on selected activities can be found in Table 3.

**Table 3: Breakdown of spousal disagreement in selected variables**

Activity:	Percent of couples agreeing over decision-maker:	Percent of couples where both spouses consider the woman a decision-maker (sole or joint) <sup>7</sup> :
Major decisions on the parcel of interest	55.92%	15.37%
Decision whether to sell parcel of interest	53.41%	13.39%
Growing crops for sale or consumption	45.10%	21.66%
Buying or renting farm equipment	54.32%	13.58%
Choosing where and how to sell crops	50.00%	27.70%
Buying agricultural inputs such as fertilizers	57.78%	20.00%
Rearing livestock	50.45%	40.36%
Hiring laborers	53.64%	20.00%
Non-farm self-employment	59.09%	79.55%
Off-farm wage work	42.20%	18.35%
Small expenditures	40.10%	64.32%
Major expenditures	54.90%	47.06%

Table 4 shows the breakdown of discrepancies by gender in an aggregated total of all decisions made. It is useful to examine spousal accord beyond a simple binary definition of accord or disaccord, since there are important conceptual differences between a husband saying a decision is joint while the wife says she is the sole

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<sup>7</sup> This can include cases where one spouse considers the woman a sole decision-maker and the other considers her a joint decision-maker, which is coded as disagreement in the second column.

decision-maker and both spouses saying they themselves are sole decision-makers (Donald et al. 2017). Table 4 shows that the majority of discord stems from differing reports of whether or not decision-making is joint versus sole. Cases where both spouses report that the decision is made by one spouse but disagree on which spouse represent a small minority of response. A further gender-based breakdown of spousal answers shows that women are, on average, more likely to report joint decision-making while men are more likely to report themselves as the sole decision-maker. Overall, women are about 6.7 percentage points more likely to report that any given decision is made jointly (41.1 percent compared to 34.4 percent for men).

**Table 4: Share of couples' responses regarding decision-making aggregated across all decisions**

Household member	Wife				
Husband		Wife	Joint	Husband	<b>Total:</b>
	Wife	6.24%	4.24%	1.26%	<b>11.74%</b>
	Joint	6.76%	17.71%	9.96%	<b>34.43%</b>
	Husband	6.84%	19.14%	27.85%	<b>53.83%</b>
	<b>Total:</b>	<b>19.84%</b>	<b>41.09%</b>	<b>39.07%</b>	

Notes: Aggregates of 2,309 decisions across 422 matched couples; table and percentages do not include decisions where one or both spouses responded "other".

Aligned with the finding that most spousal discrepancies come from one spouse reporting a joint decision whereas the other reports a sole decision, there is greater agreement on who makes decisions when it is not possible to select a joint option. When spouses are asked who makes major decisions on the parcel of interest (question type D1), 56% agree on the response. However, when asked who makes the final decision in the case of disagreement (question type D2), the rate of agreement increases considerably to 78%. This is our first descriptive result suggesting asymmetric interpretation as the primary driver underlying observed patterns of spousal response discrepancy. However, it is worth noting that there is more contention over the decisionmaker when the agrarian reform beneficiary is female: only 56% of couples agree on the final decision-maker in this case, a 22 percentage-point decrease. A more detailed exploration of the type and context of response discrepancies can be found in Appendix B.

#### **4. Methodology:**

By interviewing both spouses on a range of intra-household decision-making questions, our survey allows us to explore the mechanisms behind spousal disagreement. We test for two possible types of asymmetric interpretation: discrepancies related to different understanding of “who” makes decisions (Model 1) as well as whether a decision is “major” (Model 2). Models 3 and 4 test whether information asymmetry regarding the decisions the other spouse makes leads to differing reports of decision-making power, and Model 5 tests for enumerator effects related to the gender of the enumerator.

##### **4.1. Asymmetric interpretation**

###### **Model 1: Process versus Identity of Decision-maker**

If spousal response discrepancies stem from asymmetric interpretations of what it means to make a decision, we expect that couples are more likely to agree on the process of decision-making (D3) than on the identity of the decision-maker (D1). That is, despite both spouses remembering how the decision-making process unfolded in the same way, they still arrive at systematically different interpretations of who manifested decision-making power. For example, if women define decision-makers as those who are included in the decision-making process, they may report themselves to be joint decision-makers if they were merely included in a conversation before that decision was made. Meanwhile, a man looking at the same situation who views himself as having the power to make the final decision might report himself as the sole decision-maker. If this is the case, we expect that spouses will be more likely to give matching reports of the more objective circumstances of the decision-making process, including conversations about decisions and who is included in them, than on the identity of the decision-maker.

We test this hypothesis by examining the extent to which spouses agree on different questions related to decision-making on the parcel of interest. We construct a long form of the dataset that has one line for each

question asked about decision-making for each household.<sup>8</sup> We use a linear probability model (LPM) regression represented as:

$$A_{hv} = \alpha + \beta P_v + \psi X_h + \gamma E_h + \mu_{hv} \quad (1)$$

where  $A_{hv}$  is an indicator variable taking the value of 1 if spouses in household  $h$  agree on the variable  $v$ ,  $P_v$  is an indicator variable taking the value of 1 if the variable is a question about the decision process,  $X_h$  is a vector of household-level control variables,<sup>9</sup> and  $E_h$  is a vector of female empowerment-related control variables.<sup>10</sup> A list of the variables considered in the  $\mathbf{P}$  vector is found in Appendix Table A3. For all models in our analysis, we run regressions in four stages: first, a restricted regression with no household-level controls; second, a regression with our basic household controls  $X_h$ ; third, a regression with all household controls in  $X_h$  and  $E_h$ , and finally a regression with couple-level fixed effects in place of  $X_h$  and  $E_h$ . Robust standard errors are clustered at the household level for all specifications.

#### Model 2: Specific versus Major Decisions

A second form of asymmetric interpretation may stem from perceptions of what decisions qualify as “major” decisions. For example, choosing seeds for food or cash crops may be considered a major decision by one spouse but not another. These discrepancies could be systematic if influenced by the gendered division of tasks in agriculture, as is commonly the case in the Philippines (Briones 2019). If this is indeed a major source of discrepancies, we expect to see higher agreement between spouses when asked about decisions on *specific* activities, rather than more general decision-making questions. We test this in a similar form as our first hypothesis, with the model:

$$A_{hv} = \alpha + \beta S_v + \psi X_h + \gamma E_h + \mu_{hv} \quad (2)$$

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<sup>8</sup> Models 1, 2, and 3 are run on a long form of the data set, with one line for each type of decision made by each couple. Model 4 uses a couple-level dataset, with one observation for each couple. Model 5 uses a long form of an individual dataset, with one line for each type of decision reported by each individual.

<sup>9</sup> Basic household controls include the education of the agrarian reform beneficiary, the age of the wife, the log monthly per capita household income, and province indicators.

<sup>10</sup> Empowerment-related controls include the spousal age difference, the spousal income difference, whether the wife has off-farm income, and whether the wife is the primary agrarian reform beneficiary.



where  $A_{hv}$  is an indicator for whether spouses in household  $b$  agree on the decision-maker for variable  $v$ ,  $S_v$  is an indicator equal to 1 if the decision variable regards a specific activity and 0 if referring to a broad category of general activities, and  $X_h$  and  $E_h$  are the same as specified in the first hypothesis. A list of all decision variables considered in the  $\mathbf{S}$  vector can be found in Appendix Table A4.

#### 4.2. Information Asymmetry:

As discussed in section 2.2, different reporting of decision-making among spouses can come not only from interpreting information differently but from having asymmetric information about which decisions are made. If this is the case, then we might expect that activities where both spouses participate are more likely to show spousal agreement, as both spouses will have a similar frame of reference on which decisions were made and by whom. On the other hand, if spousal disagreement derives from asymmetric interpretations what it means to make a decision, as hypothesized in Model 1, then we may expect higher levels of disagreement in activities in which both spouses participate: more joint participation in activities creates more opportunities for differing interpretations of who is making decisions. We test for information asymmetry in two ways.

##### Model 3: Discrepancy by Joint Participation in Specific Activities

First, we look at specific activities and analyze whether spouses tend to agree more on decisions regarding activities in which they both participate. We restrict our dataset to those activities both spouses agree that the household has participated in, as follow-up questions about decision-making are not asked otherwise. We use this dataset to run the following model:

$$A_{ha} = \alpha + \beta I_{ha} + \psi X_h + \gamma E_h + \delta_a + \mu_{ha} \quad (3)$$

where  $A_{ha}$  is an indicator taking the value of 1 if spouses in household  $b$  agree on the decision-maker in activity  $a$ ,  $I_{ha}$  is an indicator variable taking the value of 1 if both spouses in household  $b$  are involved in the activity  $a$ , and  $\delta_a$  are activity fixed effects.  $X_h$ , and  $E_h$  are the same as specified in Model 1.

##### Model 4: Discrepancy by Degree of Joint Participation in Agriculture

Second, we assess whether spouses who participate jointly in a larger proportion of agricultural activities are more likely to agree on general decision-making on the agricultural parcel of interest. To test this, we generate a participation ratio, composed of the number of agricultural activities both spouses report participating in divided by the total number of activities respondents report that someone in the household participates in. We then run the model:

$$A_h = \alpha + \beta PR_h + \psi X_h + \gamma E_h + \mu_h \quad (4)$$

Where  $A_h$  is an indicator variable taking the value of 1 if spouses agree on who generally makes major agricultural decisions on their agricultural parcel, and  $PR_h$  is the household's participation ratio as described above.  $X_h$  and  $E_h$  contain the same variables as used in other models. A list of agricultural decisions included here can be found in Appendix Table A5. Notably, our tests for asymmetric information differ from the empirical strategy used by Ambler et al (2021). This is for two reasons. First, experiences in the field suggested that ownership of some assets such as livestock or small electronics was informally divided between spouses (as well as other household members), resulting in respondents giving responses about ownership and decision-making regarding their own items.<sup>11</sup> Thus, though spouses frequently gave diverging responses about asset ownership, it is not possible to distinguish between cases where respondents were referring to hidden assets and cases where responses were regarding different assets entirely. Second, our data allow us to identify activities where both spouses report participation, a scenario that may be expected to reduce information asymmetry. We take advantage of this data to design a novel method for testing this hypothesis.

#### 4.3. Enumerator effects:

A third form of systematic measurement error may come from respondents giving different answers based on the gender of the enumerator. This may be compounded by other sources of systematic measurement

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<sup>11</sup> Responses here may diverge heavily depending on social norms regarding ownership of assets in the sample population, highlighting the importance of taking into account local context when interpreting survey data.

error, such as differing interpretations of what it means to be a decision-maker, particularly if these differing definitions are highly gendered.

#### Model 5: Differences in reporting associated with the gender of the enumerator

We test the effect of the gender of the enumerator on survey responses using an individual-level long form of the dataset, with one row per decision made. We specify the models:

$$JD_{iha} = \alpha + \beta_1 EM_i F_i + \beta_2 EF_i F_i + \beta_3 EF_i M_i + \delta_a + \psi X_h + \mu_{iha} \quad (5.1)$$

$$MI_{iha} = \alpha + \beta_1 EM_i F_i + \beta_2 EF_i F_i + \beta_3 EF_i M_i + \delta_a + \psi X_h + \mu_{iha} \quad (5.2)$$

$$WI_{iha} = \alpha + \beta_1 EM_i F_i + \beta_2 EF_i F_i + \beta_3 EF_i M_i + \delta_a + \psi X_h + \mu_{iha} \quad (5.3)$$

Where our independent variables are three mutually exclusive indicators of the gender of the enumerator and respondent, with  $EM_i$  and  $EF_i$  signifying that individual  $i$  from household  $b$  was interviewed by a male or female enumerator respectively, and  $M_i$  and  $F_i$  which signify the gender of respondent  $i$ . Male respondents interviewed by male enumerators are the omitted category.  $X_h$  and  $\delta_a$  are the same as specified in model 3, respectively. We use three separate indicators dependent variables:  $JD_{ia}$ , which indicates that individual  $i$  reports joint decision-making on activity  $a$ ,  $MI_{ia}$ , which indicates that the husband is a decisionmaker (solely or jointly), and  $WI_{ia}$ , which indicates that the wife is a decision-maker (solely or jointly).<sup>12</sup>

## 5. Results

### 5.1. Asymmetric interpretation:

Our first result suggests that differing gendered interpretations of what it means to be a decisionmaker are key. While spouses in our sample frequently disagree on who makes a decision, they are much more likely to agree on the process that led to the decision. Table 5 shows the results of Model 1. Respondents are overall 20 to 22 percentage points more likely to agree on elements of the decision-making process than on the decision-maker. Taken together with our results in Section 3 showing that a more specific question—who makes the final decision in a case of disagreement—results in lower levels of spousal response discrepancy, this supports our hypothesis that spousal disagreement in our sample is driven partially by asymmetric interpretation

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<sup>12</sup> These models are run only with respondents from Mindanao, as all enumerators for the survey carried out in the Bicol Region were female.

of what it means to be a decision-maker. Moreover, the fact that women are somewhat more likely to report joint decision-making suggests that asymmetric interpretations fall along gendered lines.

**Table 5: Likelihood of agreement on process variables compared to agreement on the identity of the decision-maker with regards to the parcel of interest (Model 1)**

Specifications	(1)	(2)	(3)	(4)
	No controls:	Basic household controls:	Empowerment controls:	Couple-level fixed effects:
Process variable	<b>0.222***</b> (0.021)	<b>0.218***</b> (0.022)	<b>0.218***</b> (0.022)	<b>0.197***</b> (0.023)
<b>Controls:</b>				
Household controls	N	Y	Y	N
Empowerment controls	N	N	Y	N
Couple-level fixed effects	N	N	N	Y
Mean agreement (non-process variables)	<b>54.89%</b>	<b>54.89%</b>	<b>54.89%</b>	<b>54.89%</b>
R-squared	<b>0.052</b>	<b>0.066</b>	<b>0.071</b>	<b>0.052</b>
N (number of decisions)	<b>2,238</b>	<b>2,238</b>	<b>2,238</b>	<b>2,238</b>
Number of couples	<b>413</b>	<b>413</b>	<b>413</b>	<b>413</b>

Notes: \* =  $p < 0.10$ , \*\* =  $p < 0.05$ , \*\*\* =  $p < 0.01$ . Standard errors reported in parentheses. All regressions include robust standard errors clustered at the household level. Variable indicators are listed in Appendix Table A3. Basic household controls include the education of the agrarian reform beneficiary, the age of the wife, the log monthly per capita household income, and province indicators. Empowerment-related controls include the spousal age difference, the spousal income difference, whether the wife has off-farm income, and whether the wife is the primary agrarian reform beneficiary.

While spouses may have asymmetric interpretations of what it means to be a decisionmaker or to make a decision, we find no evidence that couples in our sample differ on which decisions they refer to in response to questions about general decision-making. The results of Model 2 testing whether couples are more likely to agree on specific decision-making variables, as opposed to being asked about who makes “major” or “minor” decisions, are shown in Table 6. We find that spouses are no more likely to agree on specific decisions than they are on general decisions, with coefficients that are statistically zero. This is consistent with our first finding suggesting that that disagreement stems from different interpretations of the same events, rather than spouses basing their responses on different events when the question does not refer to a specific decision, but to “minor” or “major” decisions in general.



**Table 6: Likelihood of agreement on specific versus general decision-making questions (Model 2)**

Specifications	(1)	(2)	(3)	(4)
	No controls:	Basic household controls:	Empowerment controls:	Couple-level fixed effects:
Specific decision	<b>0.020</b> (0.019)	<b>0.017</b> (0.019)	<b>0.016</b> (0.019)	<b>0.017</b> (0.019)
<b>Controls:</b>				
Household controls	N	Y	Y	N
Empowerment controls	N	N	Y	N
Couple-level fixed effects	N	N	N	Y
Mean agreement (non-specific decisions)	<b>48.38%</b>	<b>48.38%</b>	<b>48.38%</b>	<b>48.38%</b>
R-squared	<b>0.000</b>	<b>0.008</b>	<b>0.013</b>	<b>0.000</b>
N (number of decisions)	<b>5,057</b>	<b>5,057</b>	<b>5,057</b>	<b>5,057</b>
Number of couples	<b>421</b>	<b>421</b>	<b>421</b>	<b>421</b>

Notes: \* =  $p < 0.10$ , \*\* =  $p < 0.05$ , \*\*\* =  $p < 0.01$ . Standard errors reported in parentheses. All regressions include robust standard errors clustered at the household level. Basic household controls include the education of the agrarian reform beneficiary, the age of the wife, the log monthly per capita household income, and province indicators. Empowerment-related controls include the spousal age difference, the spousal income difference, whether the wife has off-farm income, and whether the wife is the primary agrarian reform beneficiary.

## 5.2. Information Asymmetry:

We do not find any evidence to support the hypothesis that spousal discord on reports of decision-making stems from asymmetric information due to gendered division of labor. In fact, spouses in our sample are 12 to 14 percentage points less likely to agree on decision-making in activities they both participate in, depending on the specification used (Table 7). This result is overall consistent with our earlier findings that disagreement stems from differing interpretation of decision-making. When both spouses participate in an activity, there may be more opportunities for asymmetric interpretations, particularly diverging perceptions over whether one spouse was involved in the decision and whether decision-making was “sole” or “joint.” Importantly, these results are not necessarily incompatible with the possibility of information asymmetry stemming from decisions that can be hidden intentionally or unintentionally (e.g. Ambler et al. 2021); it is possible that some decisions may be hidden even if both spouses report participation.

**Table 7: Effect of mutual participation in activities on agreement over activity decision-maker (Model 3)**

Specifications	(1)	(2)	(3)	(4)
	No controls:	Basic household controls:	Empowerment controls:	Couple-level fixed effects:
Both spouses participate in the activity	<b>-0.123***</b> (0.034)	<b>-0.123***</b> (0.033)	<b>-0.121***</b> (0.032)	<b>-0.138***</b> (0.036)
<b>Decision indicators:</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>
<b>Controls:</b>				
Household controls	<b>N</b>	<b>Y</b>	<b>Y</b>	<b>N</b>
Empowerment controls	<b>N</b>	<b>N</b>	<b>Y</b>	<b>N</b>
Couple-level fixed effects	<b>N</b>	<b>N</b>	<b>N</b>	<b>Y</b>
Constant	<b>0.678***</b> (0.045)	<b>0.696***</b> (0.087)	<b>0.670***</b> (0.097)	<b>0.611***</b> (0.030)
R-squared	<b>0.024</b>	<b>0.033</b>	<b>0.038</b>	<b>0.008</b>
N (number of decisions)	<b>2,510</b>	<b>2,510</b>	<b>2,510</b>	<b>2,510</b>
Number of couples	<b>420</b>	<b>420</b>	<b>420</b>	<b>420</b>

Notes: \* =  $p < 0.10$ , \*\* =  $p < 0.05$ , \*\*\* =  $p < 0.01$ . Standard errors reported in parentheses. All regressions include robust standard errors clustered at the household level. Basic household controls include the education of the agrarian reform beneficiary, the age of the wife, the log monthly per capita household income, and province indicators. Empowerment-related controls include the spousal age difference, the spousal income difference, whether the wife has off-farm income, and whether the wife is the primary agrarian reform beneficiary.

We also test whether spouses in our sample are more likely to agree on general decision-making about land if both actively participate in agricultural activities. Consistent with our earlier results suggesting that disagreement stems mainly from differing interpretations rather than different availability of information, we find no relationship between higher mutual participation in agricultural activities and overall agreement on major decisions on agricultural land (Table 8).<sup>13</sup>

<sup>13</sup> Null results in Model 4 do not contradict negative and significant results in Model 3 because Model 4 is focused on major decisions on conjugal property. As discussed in Section 3.1, there are strong norms and preferences for consultative decision-making for important matters, whereas there is a general acceptance of the expediency of spouses making independent decisions on minor tasks for which they are primarily responsible.

**Table 8: Effect of ratio of mutual participation in agricultural activities on agreement over agricultural decision-maker (Model 4)**

Specifications	(1)	(2)	(3)
	No controls:	Basic household controls:	Empowerment controls:
Participation ratio	<b>0.017</b> (0.083)	<b>0.018</b> (0.087)	<b>0.007</b> (0.086)
<b>Controls:</b>			
Household controls	<b>N</b>	<b>Y</b>	<b>Y</b>
Empowerment controls	<b>N</b>	<b>N</b>	<b>Y</b>
Couple-level fixed effects	<b>N</b>	<b>N</b>	<b>N</b>
Constant	<b>0.568***</b> (0.058)	<b>0.723***</b> (0.157)	<b>0.722***</b> (0.172)
R-squared	<b>0.000</b>	<b>0.067</b>	<b>0.087</b>
Number of couples	<b>402</b>	<b>402</b>	<b>402</b>

Notes: \* =  $p < 0.10$ , \*\* =  $p < 0.05$ , \*\*\* =  $p < 0.01$ . Standard errors reported in parentheses. All regressions include robust standard errors clustered at the household level. Basic household controls include the education of the agrarian reform beneficiary, the age of the wife, the log monthly per capita household income, and province indicators. Empowerment-related controls include the spousal age difference, the spousal income difference, whether the wife has off-farm income, and whether the wife is the primary agrarian reform beneficiary.

### 5.3. Model 5: Enumerator Effects

In our final model, we find that the gender of the enumerator has an overall small but significant relationship with reports of decision-making (Table 9). When interviewed by female enumerators, women are 6.5 to 6.9 percentage points more likely to report their husband being involved in a decision (either as a sole or joint decision-maker) than when women are interviewed by male enumerators. These results are driven both by less reporting of own involvement among some women and greater reporting of joint decision-making among others. We do not detect a statistically significant relationship between enumerator gender and women's reports of self-involvement in decision-making or joint decisions (as shown by the F-score), or a significant relationship between enumerator gender and the answers of male respondents. These results suggest that the gender of the enumerator can influence reports of decision-making, consistent with the findings in Alwang et al. (2016)—but only for female respondents. It should be noted, however, that our coefficients are small. Thus,



while the enumerator gender can create asymmetric measurement error, that alone cannot fully explain the degree of spousal inconsistency in reporting of decision-making we observe.<sup>14</sup>

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<sup>14</sup> Additionally, the results from models 1-4 are robust to restricting the sample to respondents only interviewed by male or only interviewed by female enumerators.

**Table 9: Relationship between enumerator gender and reports of decision-making (Model 5)**

	No controls:			Basic household controls:			Empowerment controls:		
Outcome variable:	Self involved (1)	Spouse involved (2)	Joint decision (3)	Self involved (4)	Spouse involved (5)	Joint decision (6)	Self involved (7)	Spouse involved (8)	Joint decision (9)
Female*Female enumerator	<b>-0.318***</b> (0.019)	<b>0.366***</b> (0.025)	<b>0.050***</b> (0.025)	<b>-0.320***</b> (0.019)	<b>0.368***</b> (0.024)	<b>0.050**</b> (0.025)	<b>-0.320***</b> (0.019)	<b>0.365***</b> (0.024)	<b>0.048**</b> (0.024)
Female*Male enumerator	<b>-0.270***</b> (0.030)	<b>0.301***</b> (0.035)	<b>0.040</b> (0.036)	<b>-0.272***</b> (0.031)	<b>0.290***</b> (0.035)	<b>0.025</b> (0.037)	<b>-0.273***</b> (0.031)	<b>0.293***</b> (0.035)	<b>0.029</b> (0.036)
Male*Female enumerator	<b>-0.014</b> (0.018)	<b>0.026</b> (0.033)	<b>-0.002</b> (0.021)	<b>-0.020</b> (0.019)	<b>0.027</b> (0.033)	<b>-0.012</b> (0.031)	<b>-0.020</b> (0.020)	<b>0.026</b> (0.033)	<b>-0.013</b> (0.031)
Decision indicators:	Y	Y	Y	Y	Y	Y	Y	Y	Y
Controls:									
Household controls	N	N	N	Y	Y	Y	Y	Y	Y
Empowerment controls	N	N	N	N	N	N	Y	Y	Y
Constant	<b>0.789***</b> (0.017)	<b>0.352***</b> (0.022)	<b>0.233***</b> (0.021)	<b>0.714***</b> (0.054)	<b>0.447***</b> (0.064)	<b>0.227***</b> (0.065)	<b>0.741***</b> (0.064)	<b>0.492***</b> (0.075)	<b>0.274***</b> (0.071)
F-score $\beta_1 EM_i F_i = \beta_2 EF_i F_i$	<b>2.17</b>	<b>4.00**</b>	<b>0.08</b>	<b>2.12</b>	<b>5.92**</b>	<b>0.52</b>	<b>2.19</b>	<b>5.00**</b>	<b>0.28</b>
R-squared	<b>0.128</b>	<b>0.138</b>	<b>0.030</b>	<b>0.136</b>	<b>0.149</b>	<b>0.042</b>	<b>0.138</b>	<b>0.155</b>	<b>0.051</b>
N (number of decisions)	<b>6,952</b>	<b>6,952</b>	<b>6,952</b>	<b>6,952</b>	<b>6,952</b>	<b>6,952</b>	<b>6,952</b>	<b>6,952</b>	<b>6,952</b>
Number of respondents	<b>865</b>	<b>865</b>	<b>865</b>	<b>865</b>	<b>865</b>	<b>865</b>	<b>865</b>	<b>865</b>	<b>865</b>

Notes: \* =  $p < 0.10$ , \*\* =  $p < 0.05$ , \*\*\* =  $p < 0.01$ . Standard errors reported in parentheses. All regressions include robust standard errors clustered at the individual level. Models include only respondents from Mindanao. Basic household controls include the education of the agrarian reform beneficiary, the age of the wife, the log monthly per capita household income, and province indicators. Empowerment-related controls include the spousal age difference, the spousal income difference, whether the wife has off-farm income, and whether the wife is the primary agrarian reform beneficiary.

## 6. Discussion and Conclusion:

Our paper provides new data on the magnitude of spousal response discrepancies on decision-making, novel evidence for mechanisms behind these discrepancies, and practical recommendations for future measurement. First, our results reveal important nuances in intra-household decision-making that would be impossible to detect when using only one spouse's answers in isolation. If we were to use only the responses of women in our dataset, we would conclude that women participate in approximately 61 percent of agricultural decisions. If we were to use only men's responses, however, we would find that women participate in only 46 percent—a 14 percentage-point difference. Moreover, differing interpretations of decision-making fall in large part along gendered lines: women are somewhat more likely to report joint decision-making, while men are more likely to report being the sole decision-maker. These results are important to keep in mind when measuring the impact of programs aimed at changing gender norms, and for understanding the “true” extent of women's bargaining power within the household.

This paper explores potential mechanisms behind these discrepancies, a necessary first step to improving measures of bargaining power. We test three broad potential explanations of why men and women in our sample differ systematically in their response to who makes major decisions. The first is that men and women have differing interpretations of decision-making questions. Interpretations may diverge on the conceptualization of what it means to be a decision-maker or to make a decision, or on what constitutes a “major” decision. The second is that spouses may be drawing on different events due to a lack of complete information on each other's activities and what decisions were made. The third is that characteristics of the enumerator may determine how decision-making is recorded in surveys—differences that may depend on the gender of both the respondent and the enumerator.

Our results support the first hypothesis—discrepancies in reporting arise due to asymmetric interpretations of what it means to make a decision. Indeed, couples in our sample are much more likely to agree on details of the decision-making process than they are on the identity of the decision-maker(s). These differing interpretations do not come from differing understandings of what constitutes a major decision, as

spouses are no more likely to agree on specific decisions than they are on general realms of decision-making. We also do not find evidence that differing reports of decision-making are due to asymmetric information about what decisions are made, which can arise due to gendered division of labor. Contrary to this hypothesis and aligned with the idea that asymmetric interpretations of decision-making drive discrepancies, spouses are less likely to agree on who makes decisions regarding activities in which both spouses participate. We additionally find some evidence that respondents' answers are influenced by the gender of the enumerator. Specifically, in our sample, women are more likely to report that their spouse is a decision-maker when interviewed by female enumerators. While this suggests some influence of enumerator effects, the observed effect sizes cannot fully explain the systemic discrepancies found in our sample.

Given the systemic measurement error due to differing interpretations of decision-making, what steps can be taken to improve survey instruments of women's decision-making power? One approach is to reduce ambiguity in phrasing, altering decision-making questions to ask about the spouse with the power to make the final decision after a (hypothetical) disagreement. We find that the majority of disagreement stems from differing interpretations of joint decision-making, and that discord is significantly reduced when asking specifically for the final decision-maker. However, while this may provide a clearer picture of which spouse has the ultimate power in a given decision, it necessarily excludes any measure of joint decision-making, an outcome that may be important in a study of household dynamics and bargaining power (Donald et al. 2021). In contexts where decisions are frequently made jointly, or where spouses can influence or change decisions in a myriad of ways before the decisions are made, asking only who can make the final decision omits important nuances. Indeed, joint decision-making has been found to be a stronger predictor of autonomy than sole decision-making in certain contexts (Seymour and Peterman 2018).

Rather than narrowing the definition of decision-making to only the final decision-maker, a better solution may be to widen the scope of decision-making to include the decision-making process. We find high levels of agreement on elements of the decision-making process, including pre-decision conversations and whether women are included in these conversations. Besides having the advantage of higher spousal accord in the dataset, these variables are also useful measures of the nature of intra-household dynamics, particularly in

exploring whether decision-making in the household is more authoritarian or inclusive. Another solution to reducing spousal disaccord may be to reduce the chances of differing interpretations by anchoring respondents' frames of reference for what it means to be a decision-maker and to make a decision by using vignettes or more specific questions. While, to the best of our knowledge, the impact of such vignettes on reducing gender gaps in reports of decision-making has not yet been tested, it has shown to be promising in other contexts. For example, Montgomery (2017) shows that anchoring response scales for life satisfaction questions reverses gender differences in life satisfaction worldwide.

Enumerator effects may also be of concern in study design, especially when asking sensitive questions. Indeed, we find a correlation between the gender of the enumerator and women's survey responses, where female respondents are more likely to report that their spouses are involved in decision-making when interviewed by women. This correlation is small and does not negate other findings of the survey, and thus we are cautious making any recommendations on the use of same-gender enumerators, particularly as we are unable to state whether statements given to female enumerators are more or less accurate than those given to male enumerators. We do, however, suggest including controls for enumerator gender when analyzing survey data that could be sensitive to enumerator effects.

While our data suggests that men and women draw on different definitions of decision-making when answering survey questions, future research should confirm this finding through measurement experiments and further unpack it through qualitative work on perceptions of decision-making and household dynamics. Details about how both men and women perceive decision-making and what it means to be a decision-maker may be more easily gathered in qualitative research rather than a structured spousal survey. The results from the qualitative work can be used to design better quantitative surveys. Further research is also recommended to evaluate whether our findings on the mechanisms behind spousal disagreement extend to other regions or contexts. Finally, qualitative or quantitative work on decision-making may wish to pay particular attention to the ways in which assets and relative bargaining power affect disagreement, given our finding that households with female agrarian reform beneficiaries see higher contention over the decision-maker. Future work should further investigate the ways in which decision-making is viewed within the household, particularly by women.

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## Appendix A: Supplemental Tables

**Appendix Table A1: Basic Demographic Characteristics of Sample**

Variable	Obs	%	Mean	Std. Dev.
Women	494	51.7%		
Men	462	48.3%		
Households with matched monogamous couples	422	73.7%		
<b>Number of households by province<sup>15</sup>:</b>				
Davao Oriental	119	28.2%		
Davao del Sur	92	21.8%		
Sarangani	25	5.9%		
North Cotabato	15	3.6%		
Sultan Kudarat	44	10.4%		
Misamis Oriental	41	9.7%		
Bukidnon	28	6.6%		
Surigao del Sur	2	0.5%		
Albay <sup>16</sup>	28	6.6%		
Camarines Sur <sup>16</sup>	28	6.6%		
Husband age <sup>17</sup>			54.43	12.32
Wife age			49.84	12.89
Age difference (husband's age – wife's age)			4.34	6.41
Couples in formal marriages		91.7%		
Couples in common-law marriages		8.3%		
Agrarian reform beneficiary's <sup>18</sup> education level (years)			7.03	3.42
Per capita monthly household income (PHP)			4762.02	6319.78
Household below national food poverty income threshold	347	80.7%		
Women with non-farm income	222	52.6%		
Men with non-farm income	244	57.8%		
Female agrarian reform beneficiary	107	25.36%		
Parcels tilled by household			1.52	0.77
Parcels formally owned by household <sup>19</sup>			1.17	0.43
Household size			4.64	2.26

**Appendix Table A2: Key Decision-making Questions and Answer Options**

Question:	Answer options:
Household Activities:	

<sup>15</sup> All statistics are limited to matched couples in our dataset

<sup>16</sup> Province is in the island of Luzon.

<sup>17</sup> Data on age and income were gathered in the initial baseline survey carried out in 2016 and 2017.

<sup>18</sup> Agrarian reform beneficiaries are the spouse who was the primary recipient of the agricultural parcel awarded through CARP.

<sup>19</sup> We consider parcels “formally owned” when the household possesses an official title document for the land. This includes all parcels received through CARP.

When decisions are made regarding [activity], who is generally responsible for these decisions?	Husband; Wife; Both; Other household member; Other non-household member
<b>Activities covered:</b> <ul style="list-style-type: none"> <li>• Growing crops for consumption or selling in the market</li> <li>• Choosing seeds for food and cash crops</li> <li>• Buying agricultural inputs such as fertilizers</li> <li>• Hiring or paying laborers</li> <li>• Buying or renting farm equipment such as carabaos or hand tractors</li> <li>• Bringing crops to market</li> <li>• Choosing where and how to sell crops</li> <li>• Rearing livestock</li> <li>• Non-farm economic activities, such as running a sari-sari store or buy and sell</li> <li>• Paid employment, such as wage or salary labor</li> <li>• Fishing or fishpond culture</li> <li>• Major household expenditures, such buying or selling land or buying a motorbike or bicycle</li> <li>• Minor household expenditures, such as buying food for daily consumption or other household needs</li> </ul>	
<b>Household Assets:</b>	
Who would you say can decide whether or not to sell, rent or give away these/these [asset] most of the time?	Husband; Wife; Both; Other household member; Other non-household member
Who would you say can decide to replace or buy more or [asset] most of the time?	
<b>Assets covered:</b> <ul style="list-style-type: none"> <li>• Large livestock such as cows or carabao</li> <li>• Small livestock such as pigs, goats or sheep</li> <li>• Poultry such as chickens, ducks or geese</li> <li>• Television set</li> <li>• Radio</li> <li>• Cell phone</li> <li>• Refrigerator</li> <li>• Motorcycle or scooter</li> <li>• Car, truck or jeepney</li> </ul>	
<b>Decision-making on the parcel of interest:</b>	
Who generally makes major decisions about what to do with this parcel, such as which crops to plant, which seeds to use, or whether to hire laborers?	Husband; Wife; Both; Other household member; Other non-household member
If there were a disagreement between you and [spouse] on a major decision about the parcel, whose opinion do you think would most likely prevail?	Husband, Wife
If you were ever to decide to sell or lease this parcel, who would be the one to make the final decision?	Husband; Wife; Both; Other household member; Other non-household member

If there were a disagreement between you and [spouse] on whether or not to sell or lease this parcel, whose opinion do you think would most likely prevail?	Husband, Wife
Think about major decisions your household has recently made regarding your land. Do household members talk about the decision together before it is made?	No, the issue was not talked about before the decision is made; Yes, household members may talk about it, but the discussion rarely changes the decision; Yes, household members talked a lot about it, and the discussion can change the decision that is made
Which household members are usually involved in the discussion?  SELECT ALL THAT APPLY	Husband; Wife; Son; Daughter; Father of title owner; Mother of title owner; Other household member; Other non-household member
Who usually brings up the idea and starts the discussion?	Husband; Wife; Husband and wife bring up ideas and start the discussion about equally; Another household member

**Appendix Table A3: List of decision and process variables compared in Model 1**

**Decision-making variables:**

Who generally makes major decisions on this parcel?

Who would make the decision to sell or lease this parcel?

**Process-related variables:**

Conversation usually happens before making decisions about the land<sup>20</sup>

Husband is present in conversations about major decisions about the land

Wife is present in conversations about major decisions about the land

Who usually brings up ideas and starts the discussion about major decisions about the land?

**Appendix Table A4: List of specific and general decision-making variables compared in Model 2**

**Specific decisions:**

Who would make the decision to sell or lease this parcel?

Who generally makes decisions about...

Buying and selling agricultural inputs such as fertilizer?

Choosing seeds for food and cash crops?

Growing crops for sale and household consumption?

Choosing where and how to sell crops?

Buying or renting farm equipment?

Hiring and paying laborers?

Major household expenditures?

Off-farm self-employment, such as running a sari-sari store or buy and sell?

Paid employment such as wage and salary labor?

Rearing livestock?

Motorbike

<sup>20</sup> This question had three possible answer options (see Appendix 1), but the two affirmative options were collapsed into one given the subjective nature of the differences between them

Who generally makes the decision to [buy more of/sell] this [item] most of the time? <sup>21</sup>	Large livestock such as cows or carabao Small livestock such as pigs, goats or sheep Poultry such as chickens, ducks or geese Television Refrigerator
<b>General decisions:</b>	
Who generally makes major decisions on this parcel?	
Who generally makes decisions about major household expenditures?	
Who generally makes decisions about minor household expenditures?	
<b>Appendix Table A5: List of agricultural and non-agricultural decisions used in Models 3, 4, and 5</b>	
Who generally makes major decisions about...	Buying and selling agricultural inputs such as fertilizer? Choosing seeds for food and cash crops? Growing crops for sale and household consumption? Choosing where and how to sell crops? Buying or renting farm equipment? Hiring and paying laborers? Rearing livestock <i>Major household expenditures?*</i> <i>Off-farm self-employment, such as running a sari-sari store or buy and sell?</i> <i>Paid employment such as wage and salary labor?</i>  <i>Minor household expenditures?</i>

\*Note: decisions in *italics* are non-agricultural decisions, which are not included in Model 4.

## **Appendix B: Breaking down discrepancies by decision-making variables and title ownership**

Overall, we find that most spousal response discrepancies come as a result of disagreement over whether decisions were sole or joint, with women markedly more likely to report joint decision-making. Though the levels of disagreement are heterogeneous between decisions, a further breakdown of answers is revealing both in terms of directions of disagreement, and how to interpret this disagreement. Among couples and decisions in our sample, the woman attributing relatively more decision-making power to herself (represented by the three cells on the lower left of tables B1 and B2) is approximately twice as common as the opposite scenario, where men attribute relatively more power to their wives (three cells on the top right). Most cases where respondents report that the woman is a decision-maker in agriculture (either solely or jointly) are in

<sup>21</sup> This question was asked twice for each asset; once for buying and once for selling

households where the wife is the primary agrarian reform beneficiary (Table B2), suggesting that land ownership may be a partial determinant of decision-making power.

**Table B1: Share of couples' responses regarding decision-making on the principal agricultural parcel**

Household member		Wife			
Husband	Who generally makes major decisions about what to do with this parcel, such as which crops to plant, which seeds to use, or whether to hire laborers?		Wife	Joint	Husband
			23	124	186
	Wife	24	11 (3.30%)	10 (3.00%)	3 (0.90%)
	Joint	62	3 (0.90%)	37 (11.11%)	22 (6.61%)
	Husband	247	9 (2.7%)	77 (23.12%)	161 (48.35%)

Notes: N = 333 couples; table and percentages do not include couples where one or both spouses responded "other".

**Table B2: Share of couples' responses regarding decision-making on the principal agricultural parcel (households of female agrarian reform beneficiaries only)**

Household member		Wife			
Husband	Who generally makes major decisions about what to do with this parcel, such as which crops to plant, which seeds to use, or whether to hire laborers?		Wife	Joint	Husband
			19	47	17
	Wife	23	11 (13.25%)	10 (12.05%)	2 (2.41%)
	Joint	28	3 (3.61%)	20 (24.10%)	5 (6.02%)
	Husband	32	5 (6.02%)	17 (20.48%)	10 (12.05%)

Notes: N = 83 couples; table and percentages do not include couples where one or both spouses responded "other".

Consistent with discrepancies stemming from different interpretations of sole versus joint decision-making, we find much higher levels of accord when we restrict decision-making power to which spouse usually makes the *final* decision after a disagreement. In fact, merely shifting from asking about "major decisions" to

would take the final decision in case of a disagreement increases the share of households providing the same response from 56 percent<sup>22</sup> to 78 percent (Table B3). This shift comes from a consensus towards the husband being the final decision-maker on the parcel of interest. Interestingly, we do not observe the same shift among households where the wife was the agrarian reform beneficiary of the parcel of interest; these show much lower levels of accord (56 percent), with a plurality of respondents agreeing that the wife is the final decision-maker (Table B4). This is only a negligible increase over the 49 percent agreement in our original variable where joint decision-making was an option. In other words, among households in our sample, the increase in agreement comes almost entirely from households with male land-owners, where both spouses agree that the husband is the primary decision-maker.

<b>Table B3: Share of couples' responses regarding the final decision-maker on the parcel of interest (all households)</b>				
Household member	Wife			
Husband	If there were a disagreement between you and [spouse] on whether or not to sell or lease this parcel, whose opinion do you think would most likely prevail?	Wife	Husband	Don't know/not sure <sup>23</sup>
	Wife	28 (8.41%)	13 (3.90%)	3 (0.90%)
	Husband	41 (12.31%)	231 (69.37%)	7 (2.10%)
	Don't know/not sure	2 (0.60%)	7 (2.10%)	1 (0.30%)

Notes: N = 333 couples; question was only asked to respondents who defined the husband, wife, or both as decision-makers.

<b>Table B4: Share of couples' responses regarding the final decision-maker on the parcel of interest (households of female agrarian reform beneficiaries only)</b>
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<sup>22</sup> This percentage includes couples where one or both spouses responded "other" when asked who makes decisions on their parcel, including other household members and non-household members; these are not included in Table B1 above.

<sup>23</sup> The majority of respondents who were unable to answer this variable insisted that decision-making was completely joint and were unable to identify whose opinion would prevail after a disagreement.

Household member	Wife			
Husband	If there were a disagreement between you and [spouse] on whether or not to sell or lease this parcel, whose opinion do you think would most likely prevail?	Wife	Husband	Don't know/not sure
	Wife	25 (30.86%)	7 (8.64%)	2 (2.47%)
	Husband	22 (27.16%)	21 (25.63%)	0 (0%)
	Don't know/not sure	2 (2.47%)	2 (2.47%)	0 (0%)

Notes: N = 81 couples; question was only asked to respondents who defined the husband, wife, or both as decision-makers.