



## TIME AND MONEY: A STUDY OF LABOR CONSTRAINTS FOR FEMALE COTTON PRODUCERS IN CÔTE D'IVOIRE

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### KEY MESSAGES

Labor is a key constraint to women's cotton production and productivity in Côte d'Ivoire.

Four inter-related drivers of this constraint emerge from our study:

- **Low financial liquidity:** women have less access to cash and have more limited access to credit, which prevents them from hiring agricultural labor.
- **Little control of household labor:** gender norms imply that labor is allocated in priority to agricultural plots managed by men. This causes systematic delays for agricultural tasks performed on female-managed plots.
- **Lack of flexible working hours:** domestic work and other household duties requiring daily attention constrain women's use of labor networks.
- **Lower returns:** when hired by women, men don't work as hard.

A gap between male and female farmers in agricultural production, both in terms of output and productivity, has been largely documented across Sub-Saharan Africa. The Africa Gender Innovation Lab has produced a body of evidence, including the *Levelling the Field* report and the *Cost of the Gender Gap in Agricultural Productivity* report, that identified constraints women farmers face, determined the size and cost of the gap in agricultural productivity, and offered promising policy options and emerging new ideas to

### GENDER INNOVATION LAB

The Gender Innovation Lab (GIL) conducts impact evaluations of development interventions in Sub-Saharan Africa, seeking to generate evidence on how to close the gender gap in earnings, productivity, assets and agency. The GIL team is currently working on over 50 impact evaluations in 21 countries with the aim of building an evidence base with lessons for the region.

The impact objective of GIL is increasing take-up of effective policies by governments, development organizations and the private sector in order to address the underlying causes of gender inequality in Africa, particularly in terms of women's economic and social empowerment. The lab aims to do this by producing and delivering a new body of evidence and developing a compelling narrative, geared towards policymakers, on what works and what does not work in promoting gender equality.

test. One of the key findings from the Levelling the Field report is that labor presents the main barrier to achieving gender equality in productivity. Across the six profiled African countries, we observe a combination of women deploying fewer household male laborers on their plots, male laborers generating lower returns for female farmers relative to male farmers, and female farmers facing challenges in hiring effective outside labor. In this policy brief, we investigate and provide explanations for female farmers' labor constraints through a mixed-methods study within the cotton sector of Côte d'Ivoire, as part of the Côte d'Ivoire Agriculture Sector Support Project's efforts to increase female participation in cotton production. We first quantify the gender gap in labor usage, then look at the drivers of this gap and how they constrain women's cotton production and productivity, and finally offer recommendations for policymakers.

## HERE'S WHAT WE DID

We combine quantitative data from the 2015 Enquête Niveau de Vie des Ménages (ENV), a nationally-representative household survey, and qualitative data gathered by our research team to offer new insights on the drivers of labor barriers to gender equality in cotton production. We focus our study on four regions in the north of Côte d'Ivoire as they are among the country's largest cotton producers, together accounting for 40% of the country's cotton production by small-holder farmers. We use the quantitative data – spanning 10,000 households, among which 1,500 are located in the northern regions – to obtain precise estimates of the gender gap in access to labor, document which types of labor women are most constrained in procuring, and examine how large the labor constraint of women is compared to other agricultural inputs such as fertilizer. We complement this data with qualitative findings in order to paint a fuller picture of both the causes and consequences of women's labor constraints. Our qualitative research included key informant interviews with actors in the cotton value-chain and four focus groups with a total of 27 women who cultivate their own

cotton parcels and belong to northern Côte d'Ivoire's two largest ethnic groups, the Sénoufo and the Malinké.

## HERE'S WHAT WE FOUND

### FEMALE FARMERS FACE SUBSTANTIAL LABOR GAPS

**MALE VS. FEMALE-HEADED HOUSEHOLDS:** First, using quantitative data, we do a simple comparison of labor usage in male-headed versus female-headed households to estimate the gender labor gap. Total labor usage is substantially higher in our four northern regions than in Côte d'Ivoire as a whole, as is the gender labor gap: 37%, compared to 27% in the country overall.

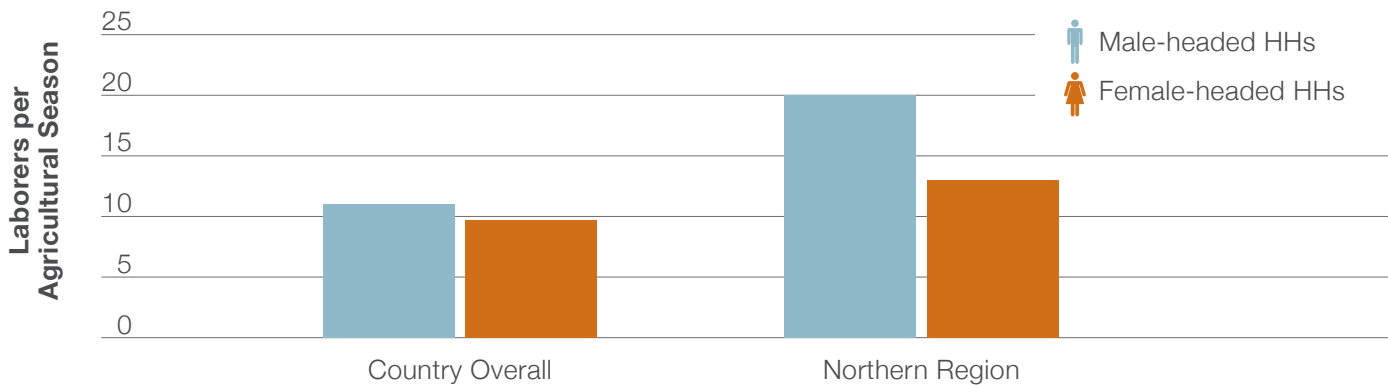
**SOURCES OF LABOR:** Next, we look at whether the labor reported is provided by the plot owner, household labor, paid labor, or unpaid labor. Most of the unpaid labor is supplied by reciprocal labor groups, through which producers can exchange labor with fellow farmers. We find that the shortage of labor for female-headed households is mostly **due to low quantities of paid labor** followed by **low quantities of unpaid labor**.

### HOUSEHOLDS SIMILAR IN PLOT AND

**HOUSEHOLD SIZE:** However, these are just simple differences that do not account for disparities in plot size or household size for female- versus male-headed households. When instead we take into account plot and household size, the gender gap in access to total labor remains relatively stable in the North (36%) but shrinks in the country overall to 11%. This means that when we compare similar households, we see a 25 percentage point difference between the North and the rest of the country.

**MALE VS. FEMALE PLOT OWNERS:** Looking at male- vs. female-headed households only gives a partial picture of women's access to labor, since the majority of women live in male-headed households. In Côte d'Ivoire overall 28% of women aged 18 or older live in female-headed households, while in the North this figure

## THE GENDER LABOR GAP FOR THE AVERAGE PLOT AND HOUSEHOLD SIZE



is merely 12%. Perhaps female household heads are a particularly disadvantaged group of women, biasing our gender gap estimates upwards. However, when we look at male vs. female plot owners instead of household heads, the gender gap in total quantity of labor is of the same magnitude: 34% in the North and 13% in country overall. When looking at what sources of labor are more difficult for women to access, the top two remain paid and unpaid labor, though the relative importance of the two changes, with unpaid labor usage being lower.

Our quantitative data also shows that the gender gap in access to labor is larger than that for other agricultural inputs (such as fertilizer and herbicides) in the North, as opposed to in the rest of the country. Moreover, the gap in access to labor vs. other agricultural inputs is particularly stark for female plot managers.

Overall, although the gender gap is statistically significant across specifications and regions, women's access to labor is lowest in the north of the country, particularly for paid and unpaid labor.

### WHAT DRIVES THIS GENDER LABOR GAP?

#### WOMEN HAVE LESS CASH

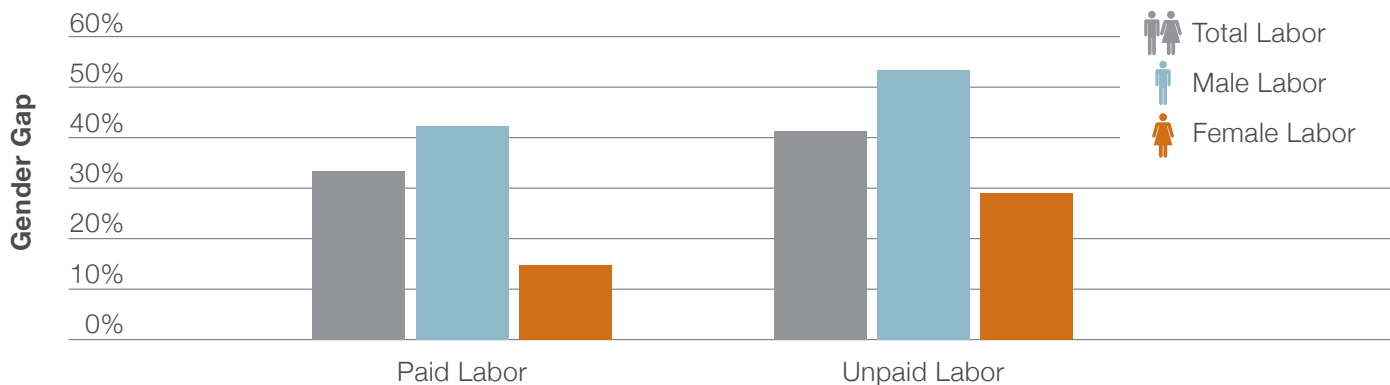
Female-owned plots in the northern region get allocated 33% less paid labor compared to male-

owned plots. Our qualitative research found that limited possession of cash is a key driver of this difference, and that this cash constraint is mainly due to female farmers being **primarily responsible for food crops** (which do not generate cash) and their having **lower access to credit markets**.

**INPUTS:** The institutional context of northern Côte d'Ivoire exhibits a high degree of inter-linkage between agricultural and credit markets. In rural areas with a low presence of formal financial institutions, agricultural associations fill multiple roles. For example, cash crop associations extend loans to farmers, and then buy produce directly from farmers as reimbursement. For the purposes of paying labor in particular, a farmer's agricultural productivity in cash crops is used as a signal of credit-worthiness. In our study region, cotton companies only offer loans for hiring labor to farmers who had high cotton yields: an average of more than 1.1 tons per hectare per year over the previous years. Female farmers who do not reach this threshold are excluded from accessing this form of credit, and can end up being stuck in a low-yield productivity trap, where their low access to inputs prevents them from increasing their productivity, which in turn decreases their access to the financing that would allow them to increase their productivity.

**WAGES:** Theoretically, female farmers could circumvent this lack of access to cash by compensating workers

## GENDER COMPOSITION OF THE LABOR GENDER GAP IN NORTHERN REGIONS



through in-kind wages. However, these are accepted only by food insecure local laborers. This is because net of the time, transportation and storage costs the laborer would incur to sell the in-kind good and obtain cash, in-kind wages are generally lower than the cash wage. Since female farmers' demand for labor is highly sensitive to its cost, the wage premium required by laborers in order to accept in-kind payment may increase farmers' production costs to the point where cotton becomes unprofitable. Female farmers could also offer to exchange labor time with the worker, or join the reciprocal labor groups mentioned above. In practice, this is often not possible due to our second constraint: time.

### THE CASH CONSTRAINT IS EXACERBATED BY TIME CONSTRAINTS

Our qualitative evidence shows that women are heavily time-constrained, both in the total amount of time they are able to dedicate to agricultural activities, and particularly in how free they are to decide how to allocate that time.

**RECIPROCAL LABOR GROUPS:** Due to the cash constraints mentioned above, reciprocal labor groups would be a promising option. These groups work by members committing to provide labor and tending to each other's fields in a rotating order, meaning that the field that is first tilled in one

season will be attended to last in the next cycle. However, both in our stakeholder interviews and focus groups, a key theme was that women's time constraints limit their participation in such groups.

Women are responsible for a variety of household activities that limit their availability. In particular, women face demands on their time from husbands to engage in agricultural work on the husband's own plots and generally cannot predict when their help will be asked for. In addition, they are required to do household chores and cook meals multiple times a day. Since reciprocal group members need to be available at specific times when other members require labor, they are often not able to join these groups. Moreover, even when they are able to join, they can only afford to join groups that provide lower total labor time, since reciprocal group members can only get out the time that they put in.

As shown in the figure above, the gender gap in access to labor for women-owned plots is even larger for unpaid reciprocal group labor (41%) than for paid labor (33%, as mentioned above). Moreover, these figures hide important differences in the gender composition of labor. Specifically, we find that female plot owners have significantly less access than *male* plot owners to male labor (the blue bars) and this is not offset by an increase in access to *female* labor. In fact, women-owned plots do not use significantly more paid or unpaid *female* laborers (if this were the case, the orange bars would be negative).

## ...AND BY GENDER NORMS

**PRIORITIZATION OF HIRED LABOR:** Women's cash and time constraints are manifestations of cultural gender norms surrounding the roles of men and women in society. For example, our data shows that women bear the brunt of household chores, spending an average of 40 hours a week on tasks such as cooking and cleaning versus men's 9 hours. These norms also prioritize men's needs for hired labor, compounding the time and cash-driven gaps. Since the supply of labor is limited in the northern regions, and demand for labor outstrips supply during crucial periods in the cotton crop cycle, women only have access to labor after men. Our qualitative evidence indicates that when households make labor sourcing and allocation decisions, priority is given to male-owned export crop plots and household food crop plots. Women-owned cash crop plots are last in line.

**MALE LABOR:** Lastly, some of the female farmers interviewed as part of this study indicated that even when they are able to pay for male labor for the more physically demanding tasks such as land clearing, male laborers generate lower returns for female farmers relative to male farmers. Specifically, they report that male laborers are less reliable and hard-working when working for women, since women are less likely to be strict and fire or re-negotiate contracts with workers given low performance. This is both because women have fewer alternative options for replacing the laborers due to the constraints mentioned above, and because of norms governing appropriate behavior for women.

## LABOR CONSTRAINTS ARE KEY BARRIERS TO WOMEN'S COTTON PRODUCTION AND PRODUCTIVITY IN CÔTE D'IVOIRE

**CROP CHOICE:** Limited access to labor both drives female farmers' choice of crop and limits their productivity once they engage in cultivation. Discussions with female farmers in the northern regions confirm that existing labor constraints discourage women from

becoming cotton producers. This is important because the gender labor gaps we currently observe are among women who already decided they had enough access to labor to engage in cotton production. Thus, the gender labor gap would be even larger if more women tried to produce male-dominated crops like cotton.

**TIME-SENSITIVE TASKS:** Moreover, limited access to labor affects women's productivity through several channels that receive limited attention in policy discussions. Chief among these is the systematic and significant delay in completing key tasks within the agricultural season. As for many crops, cotton yield-potential declines as planting is delayed beyond the optimum planting window. Thus, the fact that women are required to first tend to planting in their husband's plots and are limited in their capacity to use hired labor as a substitute directly impacts yield. Because women's labor groups are limited in terms of the total amount of time they can provide, they cannot address this need.

These delays extend throughout the crop cycle. For example, cotton harvesting requires multiple passes through the field. Due to their limited access to labor, women are either not able to harvest all of the crop, or only get around to it once part of the crop has already been lost or damaged. Moreover, the later cotton is harvested, the harder it becomes to spin: bolls that are harvested late fetch a lower price (10% less per kg) at the time of selling.

**ENVIRONMENTAL STRESS:** These delays are exacerbated through environmental stress, as the uncertainty of weather and shortening of the growing season through ever later rainfall not only negatively impact cotton yields, but also concentrate laborious tasks into a more limited window of time. Importantly, shorter growing seasons affect the food crops grown by all of the interviewed female cotton farmers, compounding the labor intensity of the agricultural season in general and increasing delays faced by women.



## IDEAS FOR POLICYMAKING

Several key policy considerations emerge based on our analysis, relating to labor financing and gender norms. Adopting solutions to ease female farmers' labor constraints will not only increase their productivity, but also boost economic growth as an increasing share of the population becomes involved in the cultivation of higher-value crops.

### LABOR FINANCING

#### GIVE CASH



Agricultural programs should ease women's labor constraints through cash grants or loans to hire paid labor. In the context of existing credit products, cash grants may prove to be sustainable in the long-term if they allow women to escape from the "low-yield productivity trap" and to be eligible for loans in the future.

#### RELEASE LABOR THROUGH OTHER MEANS



Synergies with other programs increasing the supply of labor should be exploited. For example, programs usually targeted at male farmers – such as those that intensify mechanization by providing oxen and animal traction kits - may also increase the supply of paid labor available to women. Increasing information about the availability of labor and wage rates and lowering transport costs across villages could also increase labor supply.

#### GET THE TIMING RIGHT



In the absence of such programs, attention should be paid to labor dynamics resulting from the provision of loans or grants to female farmers. In contexts where labor is scarce, female farmers' increased ability to hire labor could result in shortages for male producers, in turn leading them to increase their demands on their wife's labor and further exacerbate her time constraints. To mitigate this risk, interventions seeking to increase women's liquidity could coincide with moments in the agricultural cycle in which female producers rely specifically on male wage labor, such as during plowing.

### GENDER NORMS

#### ENGAGE MEN IN THE FIELD



Husbands can be engaged to assist wives in identifying labor as well as negotiating and enforcing contracts with laborers to increase their performance. Joint production of crops could also be a promising avenue for increasing the supply of women's own labor.

#### ENGAGE MEN IN THE HOME



In our context, the most binding constraint for women in terms of time was not childcare, but rather inflexible tasks that are scheduled daily, such as cleaning the house and cooking meals for the family. Programs to involve men in conducting household chores could be beneficial for women's cotton production.

FOR MORE INFORMATION,  
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