

# Gender and diet diversity in Mali

Mali Associate Award

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# Intrahousehold decision-making

- Vertical and horizontal extended family structure, senior male headship
- Plots managed collectively, individually
- Land use rights conferred by status (age, marriage)

Relationship to head	<u>All plots</u>	<u>Sorghum</u>	<u>Maize</u>
	N applied (kg/ha)	N applied (kg/ha)	N applied (kg/ha)
Head	21.7	5.64	40.0
First wife	9.69	9.69	
Second wife	8.05	8.05	
Son	17.4	3.95	35.2
Brother	25.2	6.82	45.8
Daughter-in-law	6.36	6.36	
<b>Total</b>	<b>19.5</b>	<b>6.41</b>	<b>39.8</b>

Fertilizer use rates on plots, by relationship of plot manager to head  
n=1,122. Female plot managers in sample grew only sorghum.

# Fertilizer use efficiency and productivity

- Fertilizer subsidy is largest expense item in rural development budget, rising from 10% in 2008 to 25% in 2014
- Intrahousehold understanding absent from work on fertilizer adoption and subsidy policy
- Since Udry (1996), inefficiencies and the “gender yield gap” documented within households in West Africa

# Results

When we augment Udry's model by controlling for land quality:

- little evidence that intrahousehold allocation of fertilizer is inefficient
  - gender and generation gaps in productivity lessen
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- Women's fields do appear to be less fertile



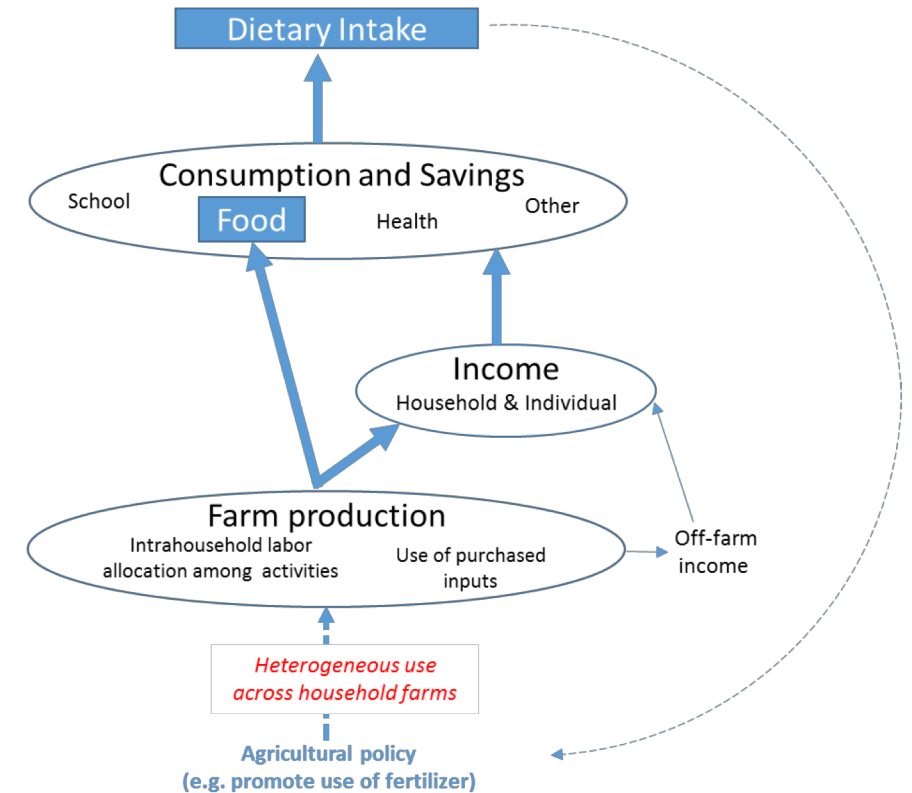
# Fertilizer subsidy

- Evidence of differential access to subsidy; women are underrepresented
- Most farmer organizations provide subsidized fertilizers to (male) household heads
- Women can gain access to subsidized fertilizers through intrahousehold negotiations
- Our data show most managers of individual plots obtain subsidized fertilizers from the head

# Testing effects on women's diet quality

Why is this important? In Mali,

- Subsidy emphasis on staple food crops grown on plots managed by men
- Women have access to other food sources from their own plot production
- Women's diet quality → children's diet quality



# Women's diet quality

## Minimum Adequate Dietary Diversity for Women of Reproductive Age

Agro-ecological zone	MDD_W		Total
	0	1	
Delta du Niger	1044	1442	2486
	42	58	100
Plateau de Koutiala	2239	1205	3444
	65	35	100
Total	3143	2787	5930
	57	43	100

## Women's Dietary Diversity

Agro-ecological zone	WDDS	
	mean	n
Delta du Niger	4.55	2486
Plateau de Koutiala	3.97	3444
Total	4.28	5930

# Association of subsidy and diet indicators

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<b>Received subsidized fertilizer</b>	<b>Sugary foods or drinks</b>		<b>Food source rich in iron</b>		<b>Food purchased outside the home</b>		<b>All plot managers</b>
	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	
<b>No</b>	<b>26</b>	<b>74</b>	<b>71</b>	<b>29</b>	<b>90</b>	<b>10</b>	<b>100</b>
<b>Yes</b>	<b>16</b>	<b>84</b>	<b>53</b>	<b>47</b>	<b>78</b>	<b>22</b>	<b>100</b>
<b>Total</b>	<b>23</b>	<b>77</b>	<b>66</b>	<b>34</b>	<b>87</b>	<b>13</b>	<b>100</b>

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**% of women consuming item during 24 hours preceding survey**

# Preliminary results

- association between kgs per ha of fertilizer and the count of food groups consumed by women plot managers is significant
- overall effect of the fertilizer subsidy on the diet quality of women who manage plots of targeted crops is likely to be very small in size

# Policy

- Household structure mediates the effects of food policy on women and children through norms of intrahousehold decision-making
- Improve access of all plot managers to fertilizer, soil fertility amendments and practices
- Consider crop and practice composition of subsidy: is staple crop bias a driver of low diet quality among rural women?

# Additional slide HDDS vs. IDDS in GISAIA data

- Each indicator we may be using [HDDS, IDDS (WDDS) and MDD-W] is constructed in a different way, but I did the experiment of applying the same indicators to Chef and female plot managers
- MDD-W score is virtually the same whether we apply it to the Chef or Femme gerante. This is a yes if the count of 10 categories is  $\geq 5$ .
- WDD (IDD) score is much lower when applied to Femme Gerante compared with Chef.
- HDD score is much lower if we apply it to the Femme Gerante instead of the Chef.

# Additional slide: Intrahousehold access to subsidized fertilizer

Plot manager	Self	Head	Other household member	Farmer outside household	Self or farmer outside household	Other	Total
Head	1221	63	7	18	3	6	1318
	93	5	1	1	0	0	100
Work leader	494	204	19	6	1	1	725
	68	28	3	1	0	0	100
Other plot manager	19	36	8	3	0	2	68
	28	53	12	4	0	3	100
Total	1734	303	34	27	4	9	2111
	82	14	2	1	0	0	100

\*other plot managers include wife, son, daughter, mother, grandson, brother, daughter in law, nephew, cousin, sister in law of head