ACCELERATE TO EQUAL: INCREASING THE INVOLVEMENT OF WOMEN IN VECTOR CONTROL

Mary Hayden, PhD and Kacey Ernst, PhD
RBM Vector Control Working Group
31 January 2019
The primary objectives of the project were to:

- Understand the current role and perceptions of women in vector control and
- Identify potential strategies for accelerating the involvement of women in sustained support for vector control interventions at multiple levels and across sectors.
OVERVIEW OF METHODS

- **Field Project sites**
  - Sumba Island, Indonesia
  - western Kenya

- **Mixed methods research**
  - Online stakeholder survey (n = 93, RR = 38%)
  - Focus group (n = 16) and key informant interviews (n = 27)
  - Cross-sectional household surveys (Kenya (M) n = 349, (F) n = 548; Indonesia (M) n =236, (F) n =521)
  - Stakeholder workshops
  - 22-country Demographic and Health Survey data analysis

Training for household surveys, Sumba, Indonesia
STAKEHOLDER SURVEY
PERCEIVED GENDER ROLES IN VECTOR CONTROL ACTIVITIES

- Pesticides
- Vector Collections
- Travel
- Oversight
- Strategic Planning
- Lab Testing
- Collaborations
- Education
- Selling PPE

Hayden et. al. AJTMH 2018
BARRIERS AND CAPACITY TO ADDRESS THEM WITHIN NEXT YEAR

- Lack of awareness of career opportunities
- Cultural norms that would restrict women
- Belief that it is men's work
- Household obligations
- Lack of job security during pregnancy
- Lack of facilities designated specifically for women
- Lack of access to education and/or training
- Women do not face barriers
- Lack of appropriate protective equipment
- Lack of physical strength/endurance
- Lack of interest

Stakeholder perceived as barrier
Organization could address within the next year

Hayden et. al. AJTMH 2018
Training existing community health workers
Recruiting from secondary schools
Talking to community leaders
Recruiting from media sources
Job opportunities distributed through schools
Talking to opinion leaders
Talking to women's groups for recruitment purposes
Providing funding for micro-enterprises
Ensuring job security during pregnancy
Protective equipment specifically designed for women
Making structural changes to facilities

STRATEGIES CONSIDERED EFFECTIVE & HISTORY OF IMPLEMENTATION

Hayden et. al. AJTMH 2018
BEST STRATEGIES TO INCREASE # OF WOMEN IN VC LEADERSHIP POSITIONS

- Organizational sensitivity to gender issues
- Gender quotas
- Women's chapters in national organizations
- International societies for women in VC
- Mentorship programs
- Higher education scholarships
- Short courses and cross-disciplinary training

Hayden et. al. AJTMH 2018
FIELD INVESTIGATIONS
HOUSEHOLD SURVEY METHODS

- **Sampling**
  - Stratified by
    - Urban/ Rural
    - Level of malaria transmission
  - Generated random points for cluster sampling proportional to population size

- **Inclusion criteria**
  - Women over 18
  - Resident for at least 6 months
  - Living with partner

- **Survey**
  - Informed by KII and FGD
  - 50 item survey
  - Paired male and female if available
  - Gender-matched interviewers
  - 9-item gender norms metric

Example point generation map for Kenya
<table>
<thead>
<tr>
<th>Household</th>
<th>Community</th>
<th>Employment</th>
</tr>
</thead>
</table>
| • Clear grass and brush around own compound  
  • Empty containers of water | • Help a neighbor clear the grass and brush  
  • Clear the grass and brush around everyone’s compound  
  • Clean up trash in public spaces  
  • Dig ditches and cover standing water  
  • Empty containers with water  
  • Educate the community about mosquito diseases | • Sell mosquito control products  
  • Deliver mosquito control products to households  
  • Take a job to control mosquitoes  
  • Leave before the sunrises  
  • Sleep overnight for trainings  
  • Travel to other villages on regular basis |
### Gender Norm Score Methods

- Gender norm score calculated based on answers to 9 questions
- Range: -9, +9
- Categories: -9-0; 1-3; 4-6; >6

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>A woman has the skills or the natural ability to start and run a business on her own.</td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>It is more important for boys to graduate from secondary school than girls.</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>Women should take part in politics.</td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>Sons are the only thing a woman can rely on in her old age.</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>It is acceptable for a woman to question her husband’s opinions.</td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>A woman must talk to her husband about expenditures.</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>A woman should have her own money to use as she decides.</td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>A husband should let his wife work outside the home if she would like to.</td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>If it is a question of children’s health, it is best to do whatever the father wants.</td>
<td>-1</td>
<td>+1</td>
</tr>
</tbody>
</table>

Questions Adapted from FHI Gender Norms Scale
The selection [for leadership positions] is based on the ability to write and read because there are many people here who still cannot read and write.

My village head asked me to be a khader because I have senior high school certification so I can give some training to women who have children.

* $\chi^2$: statistically significant difference between males and females.
There are quite some challenges that can be faced by the leaders for example, you might not be liked by some members of the group, you might arrange meetings and no one shows up for the meeting, there can be lack of adequate funds to run the group. Even when a member fails to pay the loan in the agreed time the leader [must] follow up with them but they might not like it, more so if he is male.

\[ x^2 \text{ statistically significant difference between males and females} \]
KENYA: WILLINGNESS TO CARRY OUT VC ACTIVITIES

Participants who answered 'yes' to being willing to do the following:

- Take a job to control mosquitoes?
  - Male: 81.7
  - Female: 87

- Deliver mosquito control products to households?
  - Male: 77.8
  - Female: 78.3

- Sell mosquito control products
  - Male: 72.5
  - Female: 77.7

- Educate the community about mosquito diseases?
  - Male: 80.7
  - Female: 86.4

- Empty containers with water?
  - Male: 97.3
  - Female: 94.7

- Help get rid of the places mosquitoes breed in shared...
  - Male: 84.6
  - Female: 82.5

- Clean up trash in public spaces?
  - Male: 81.5
  - Female: 81.8

- Assist the community in clearing the grass and brush...
  - Male: 81.8
  - Female: 80.5

- Help a neighbor clear the grass and brush around your...
  - Male: 75.8
  - Female: 81.3

- Clear the grass and brush around your own compound?
  - Male: 97.3
  - Female: 97.1

* $x^2$ p-value < 0.05
Participants who answered 'yes' to being willing to do the following:

- Take a job to control mosquitoes? Male: 76.7%, Female: 81.6%
- Deliver mosquito control products to households? Male: 34.3%, Female: 33.2%
- Sell mosquito control products Male: 23.7%, Female: 28.8%
- Educate the community about mosquito diseases? Male: 46.6%, Female: 63.6%
- Empty containers with water? Male: 81.4%, Female: 81.0%
- Help get rid of the places mosquitoes breed in shared areas in the community on roads by digging ditches and covering standing water? Male: 80.1%, Female: 81.8%
- Clean up trash in public spaces? Male: 70.2%, Female: 78.5%
- Assist the community in clearing the grass and brush around... Male: 94.5%, Female: 91.9%
- Help a neighbor clear the grass and brush around your neighbor's... Male: 63.1%, Female: 82.2%
- Clear the grass and brush around your own compound? Male: 98.7%, Female: 98.5%

* $\chi^2$: statistically significant
2 years ago I worked I happened to work in a OKH for 2 years. I was assigned to work in the villages in Tabundung, a district. The program was just promoted by the government ministry. I decided to resign by my own decision and not because of my husband, (not because) the payment was not enough, (not because of) what is it...but it was because I lived far away from my child. We had to work at the office in a faraway village and we had to stay there for weeks. I decided to resign and became an enterpreneur.

<table>
<thead>
<tr>
<th>Engagement activities</th>
<th>Leader</th>
<th>Age &lt;30 vs. &gt;30yrs</th>
<th>Educ</th>
<th>Urban</th>
<th>Child Under 5</th>
<th>Gender Norms</th>
<th>Malaria High vs. Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sell mosquito control products</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deliver mosquito control products</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job in mosquito control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job before sunrise</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel overnight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel outside villages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- OR < 1, p < 0.05
- OR < 1, p < 0.10
- OR > 1, p < 0.05
- OR > 1, p < 0.10
FACTORS INFLUENCING EMPLOYMENT – KENYAN WOMEN

“The husband might not agree to it (woman taking a job) because he thinks evil of you that the men working with you will be your friends in different ways and is not happy of you going either to work or in the community activities.”

<table>
<thead>
<tr>
<th>Engagement activities</th>
<th>Leadership</th>
<th>Age</th>
<th>Education</th>
<th>Urban</th>
<th>Child Under 5</th>
<th>Gender Norms</th>
<th>Malaria High vs. Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sell mosquito control products</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deliver mosquito control products</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job in mosquito control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job before sunrise</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel overnight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel outside villages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OR < 1, p < 0.05
OR > 1, p < 0.05
OR > 1, p < 0.10
OR > 1, p < 0.10
STAKEHOLDER WORKSHOPS
Women in vector control: Propelling communities to action

Professional
- Role models
- Diversity of ideas and approaches
- Sustainable solutions

Benefits

Community
- Trustworthiness and accountability
- Better communication
- Solidarity and networking
- Agents of change

Household
- Increased knowledge of vector control
- Power balance shifts
- Enhanced implementation of solutions

Barriers
- Competing priorities
- No decision-making power
- No training opportunities
- No community acceptance
- Low self-efficacy

- No knowledge about VC
- No policies to promote and protect women
- Limited infrastructure

Strategies to overcome barriers
- Policies to promote women
- Training opportunities
- Sensitize community
- Sensitize leaders
- Infrastructure improvements
- Champions for women in VC

Ernst et al. *Malaria Journal* 2018
Advocate for more women in decision-making through access to information
- Conduct a needs assessment on existing knowledge gaps
- Develop curriculum geared towards information access at the household level

Develop sensitization and advocacy materials
- Promote job ads
- School-based curriculum
- Community theater programs
- Use social and mainstream media platforms to disseminate messaging

Identify key community influencers and champions of women in vector control
- Sensitization workshops with key employers
- Commitment by govt. officials and private industry to enact gender equity policies
- Identify female leaders who can act as mentors and role models

Prioritize women’s employment in vector control
- Review and identify gaps in gender equity
- Develop female-centered training opportunities
- Require reporting of ratio of men and women who are employed in VC programs to funders

Ernst et al. Malaria Journal 2018
CONCLUSIONS

- Women should be empowered as key decision-makers from the outset of programs
- As educators and caregivers, women are instrumental in building community acceptance of new interventions
- Combining science-based knowledge of the disease systems being addressed with their local knowledge of the community is needed to effectively engage women
- Empowering women at household, community and programmatic levels to fully participate in vector control may be a neutral entry point to promote gender equity towards a goal of policy-driven and sustainable improvements in all sectors.
ACKNOWLEDGEMENTS

- Maseno University; Maseno, Kenya
  - Maurice Agawo
  - Eunice Toko
  - Guyah Bernard
- Wirawacana University; East Sumba, Indonesia
  - Norlina Kalunga
  - Linda Rambu
  - Maklong Killa
  - Rambu Yetti Kalaway
  - Umbu Ho Ara
  - Salmon Pandarangga

- Funding provided by Bill and Melinda Gates Foundation
- University of Arizona; Tucson, AZ
  - Jayleen Gunn
  - Karla Rascon-Garcia
  - Erika Barrett
  - Katherine Center
  - Mandy Kendall
  - Megan Huyhn
- National Center for Atmospheric Research; Boulder, CO
  - Andrew Monaghan
  - Deborah Brunson
- The Indonesia and Kenya working groups