

# ICT AND MATERNAL HEALTH CARE IN INDIA: ASSESSING FACILITATORS AND BARRIERS

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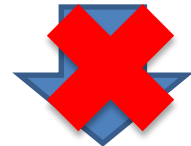
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IS VERDER KIJKEN

# SCIENCE, TECHNOLOGY AND SOCIETY

- Science and technology important contribution to economic growth, improved health and living standards
- But also ethical concerns and negative consequences
- And  
– Athena Institute: Study and design of interfaces between science and society to understand key factors in innovation processes and improve research utilization
- certain problems
- Vulnerable groups in society adopt innovation less often
- More attention for *appropriateness*



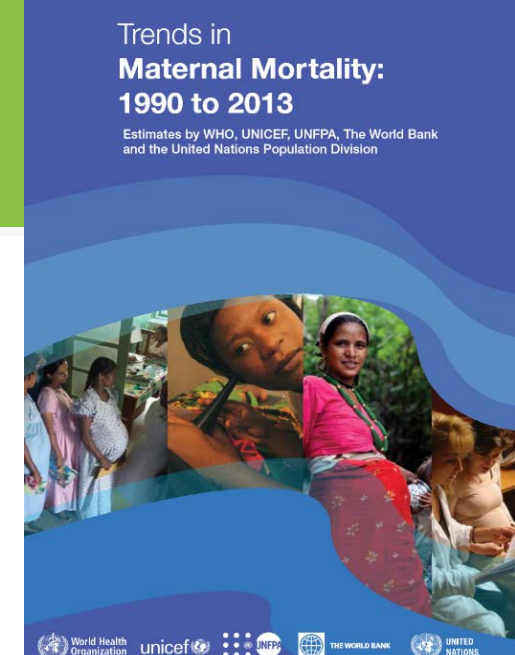
# IMPROVE MATERNAL HEALTH – MDG 5

## Facts and Figures

- 289,000 maternal deaths in 2013
- 99% of deaths occurred in developing countries

## Causes related to three delays in accessing health care:

- In *decision to seek care*: low status of women, poor understanding of complications and risks, previous poor experience with health services, traditional beliefs, financial implications
- In *reaching care*: distance to health centres, availability and cost of transportation, poor roads and infrastructure
- In *receiving adequate health care*: poor facilities, lack of medical supplies, inadequately trained staff, inadequate referral system





Rationale behind mHealth in maternal health:

- Delays in decision-making (1<sup>st</sup>) and reaching the facility (2<sup>nd</sup>) are complex to tackle
- mHealth can strengthen timely response of women and health care workers, a.o. by increasing access to information

Evidence base of mHealth limited – often fail to scale-up

Recent mHealth review (Chib et al, 2015) found:

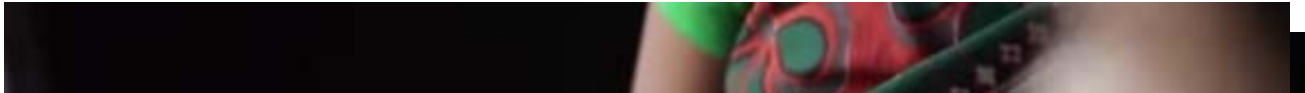
- Poor focus in research on *Adoption and Appropriateness* of mHealth interventions

# MOBILE FOR MOTHERS PROJECT, JHARKHAND, INDIA

- Case management tool for Community Health Workers – Sahiyyas
- Developed by NEEDS with support of SIMAVI
- Works on Java enabled phones
- Contains registration forms, checklists, danger sign monitoring, and educational prompts



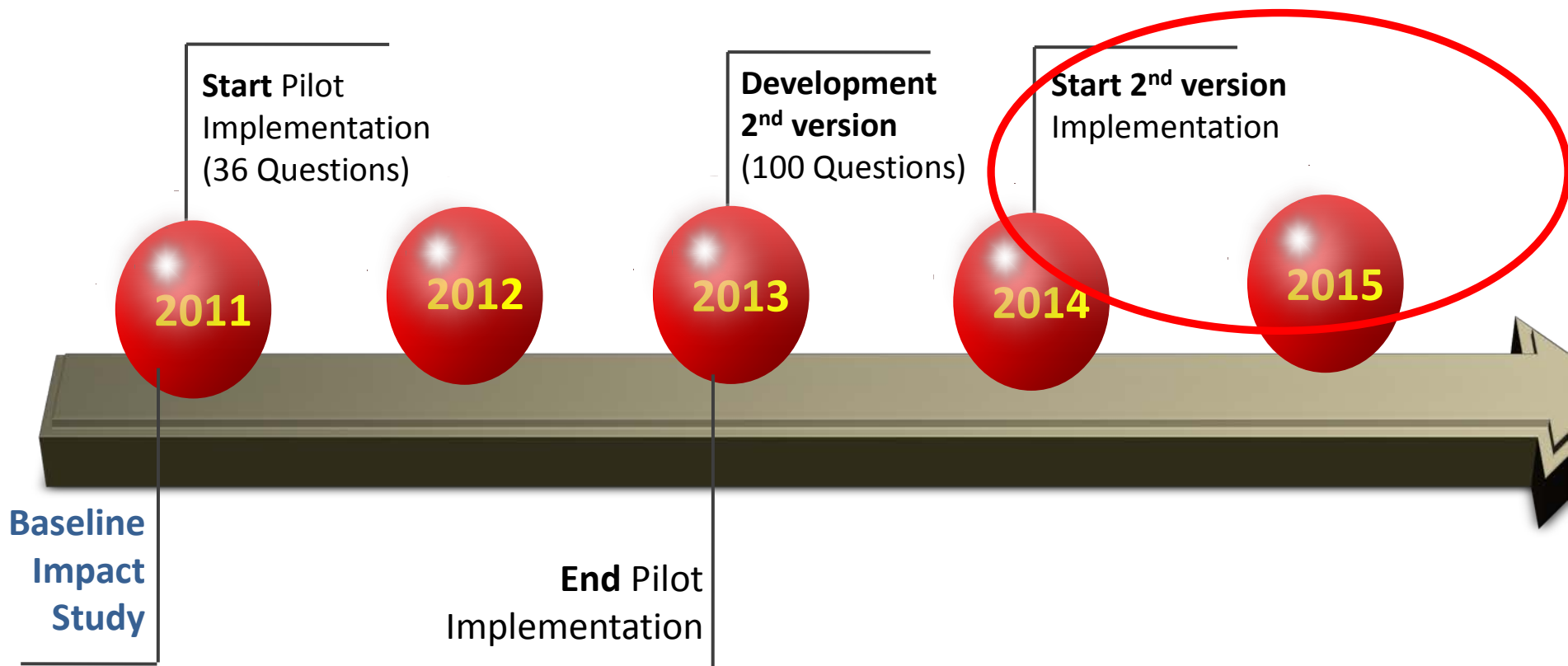
# MOBILE FOR MOTHERS PROJECT, JHARKHAND, INDIA



Pregnant women should receive 2 tetanus injections. There should be difference of one month between first and second injection. This protects you and your baby from Tetanus.



# MOBILE FOR MOTHERS PROJECT, JHARKHAND, INDIA



# PROJECT OBJECTIVES

- To improve *information and referral services* of Sahiyyas to pregnant women
- To increase the *knowledge level and health seeking behaviour* of pregnant women, leading to higher uptake of essential health services during and after pregnancy
- To improve *collection of essential health indicators* related to safe motherhood



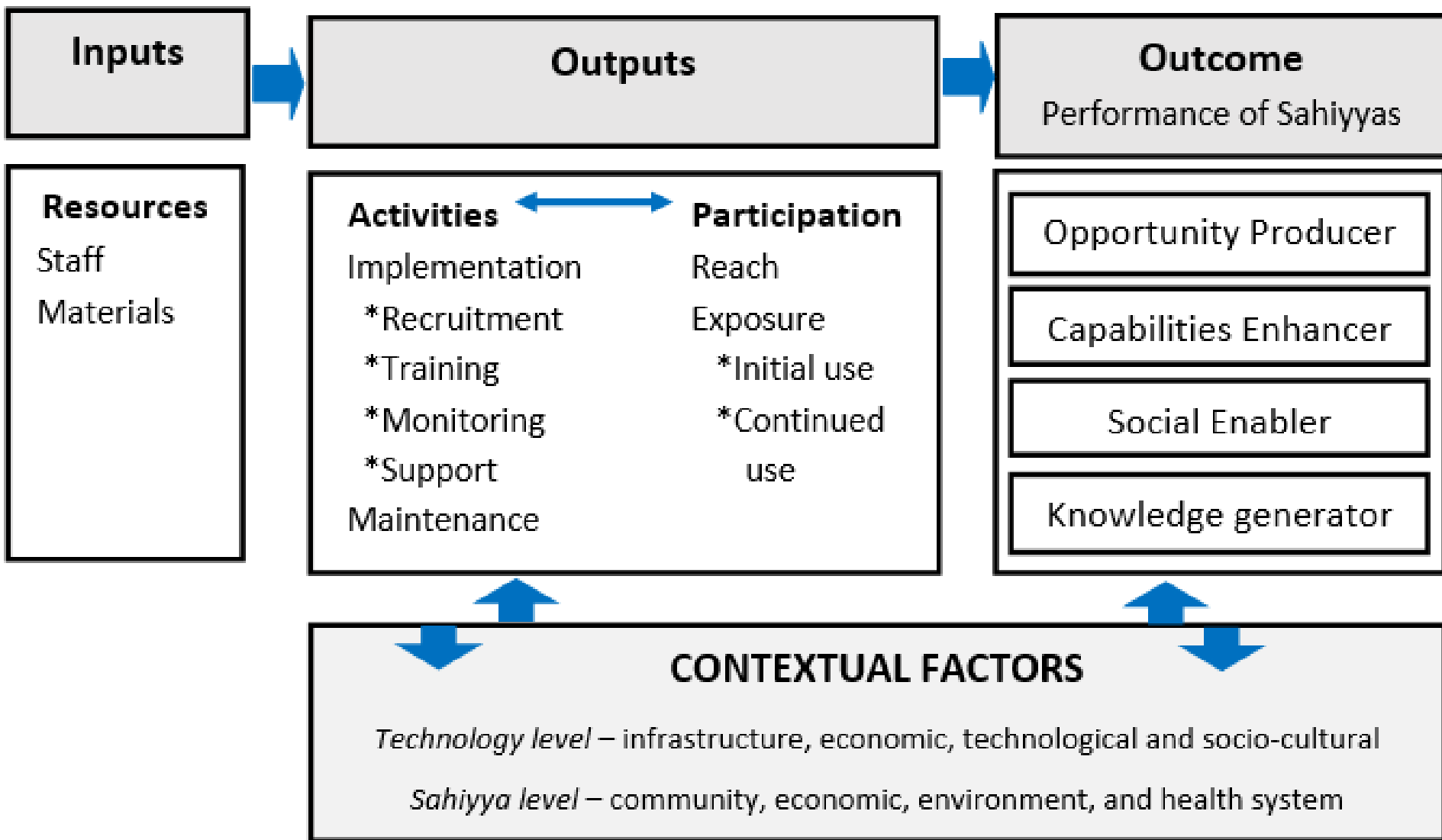


# EVALUATION RESEARCH

*What are facilitators and barriers with regard to Mobile for Mothers? What are the experiences of Sahiyyas and beneficiaries?*



# CONCEPTUAL FRAMEWORK



# RESEARCH METHODOLOGY

## Observations

Interviews and group discussions  
conducted between March- October 2015

- Pregnant Women (12 group interviews (n=34), semi-structured interviews (n=13))
- Sahiyyas (semi-structured interviews (n=20), questionnaire (n=57))
- Husbands
- Health professionals
- Field workers
- NGO and government staff





## Training

- All 376 recruited Sahiyyas underwent 2-day MfM training
  - Conducted in accordance with the training module
  - Disrupted by electrical problem and noise in the venue
- **Focused on typing on the mobile – difficult for many Sahiyyas**
- **26.8%** – satisfaction level in the survey



# IMPLEMENTATION OF MfM

## Monitoring of MfM Usage

### **MfM usage problems detected, but not solved**

- 1.Data submission – flaw in MfM, no network
- 2.Empty phone battery – constant power interruptions
- 3.Lack of phone credits – no recharging station

## Support

Interviewed Sahiyyas  
were satisfied  
**73.2%** – Satisfaction level

## Satisfaction

- ✓ **95%** reported MfM had improved maternal health in their village
- ✓ **96%** recommended MfM to other Sahiyyas

# OPPORTUNITY PRODUCER

- Improvement in work productivity through ***time efficiency*** (not so much in terms of monetary incentives)

*“The paper should be sent and we also have to go, then we had to Xerox them. **Now, in less time and less expense, by sitting at home, we do our work.**”*



# CAPABILITY ENHANCER

- Improved ***task handling skills*** (98.1%) and increased ***confidence*** (81.5%)



“ [...] due to mobile, there is **more courage** to work. I gain **more confidence** due to getting MfM. ”

# SOCIAL ENABLER

- Enhanced **communication** between sahiyyaas, healthcare providers and the community,
- More **trust** from women and fellow villagers
  - **83.3%** – from women and fellow villagers
  - **90%** – women trust and follow instructions better

“ *Before, there was some distance, but now, when we talk and sit together with mobile, **it brings us closer.*** ”



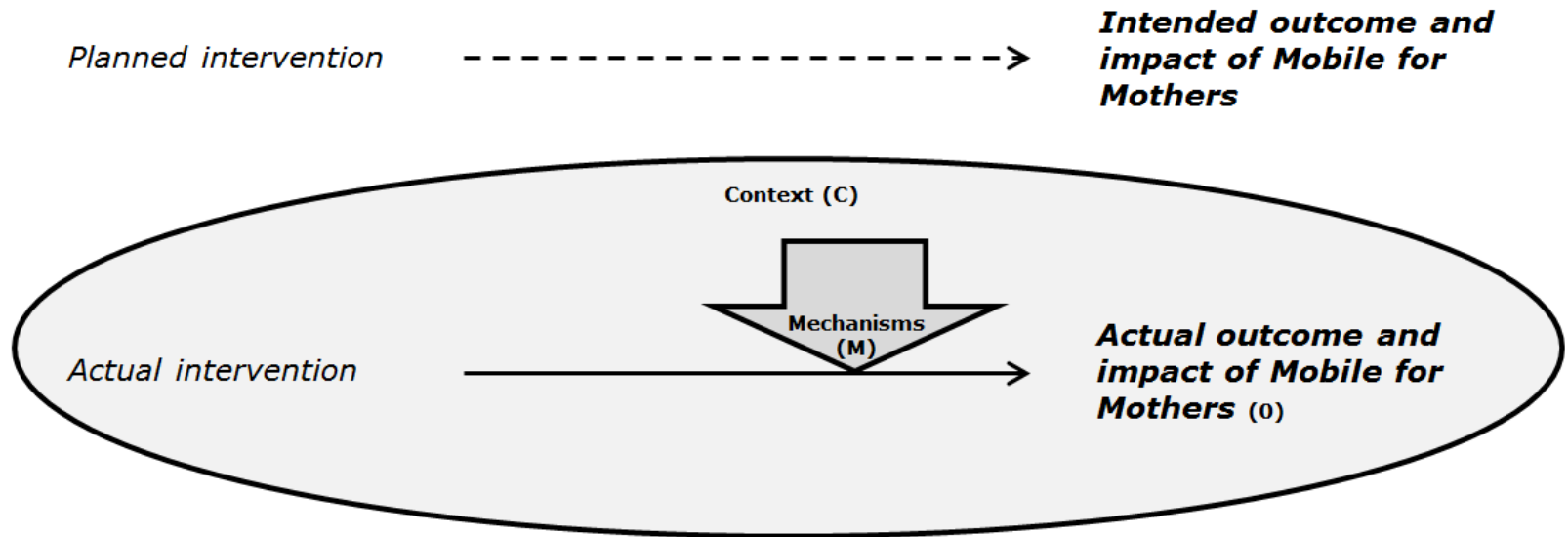
# KNOWLEDGE GENERATOR

- Improved access of community health workers to medical health **information**, solving the inadequate knowledge issue

“*In the middle, we were also missing some information, but **mobile also made us knowledgeable of tetanus and also how to sleep before [during pregnancy].***”

“*Now, **we do not depend anymore on doctors and nurses to get information.***”

# MECHANISMS IN RELATION TO WOMEN BENEFICIARIES



*Information is better understood, because Sahiyya can better explain (incl. 'voice')*

*Knowledge is increased, because they are more interested and listen better*

*Compliance is enhanced, because they trust Sahiyyas more and feel monitored*

# SUGGESTIONS FOR IMPROVEMENT

From village women:


- More content covered by voice
- More and larger pictures
- “Do not do this” – topics
- More information about delivery

From sahiyyas:


- Better training
- Better network connectivity
- More reliable power supply
- Better access to recharging station



# CONCLUSION & DISCUSSION




mHealth benefits (1) the performance of CHWs and (2) women's knowledge on maternal health in India



*But impact on health outcomes?:*

More referrals?  
Less complications?



Currently conducting  
quantitative  
assessment



# QUESTIONS?

