

# Monitoring Progress of Maternal and Neonatal SDG through **Motherhood Method**



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**Founding Chair and Executive Chief**  
**Nepal Public Health Foundation**



# Goals for a better world

## Sustainable Development Goals

**1** NO POVERTY

**2** ZERO HUNGER

**3** GOOD HEALTH AND WELL-BEING

**4** QUALITY EDUCATION

**5** GENDER EQUALITY

**6** CLEAN WATER AND SANITATION

**7** AFFORDABLE AND CLEAN ENERGY

**8** DECENT WORK AND ECONOMIC GROWTH

**9** INDUSTRY, INNOVATION AND INFRASTRUCTURE

**10** REDUCED INEQUALITIES

**11** SUSTAINABLE CITIES AND COMMUNITIES

**12** RESPONSIBLE CONSUMPTION AND PRODUCTION

**13** CLIMATE ACTION

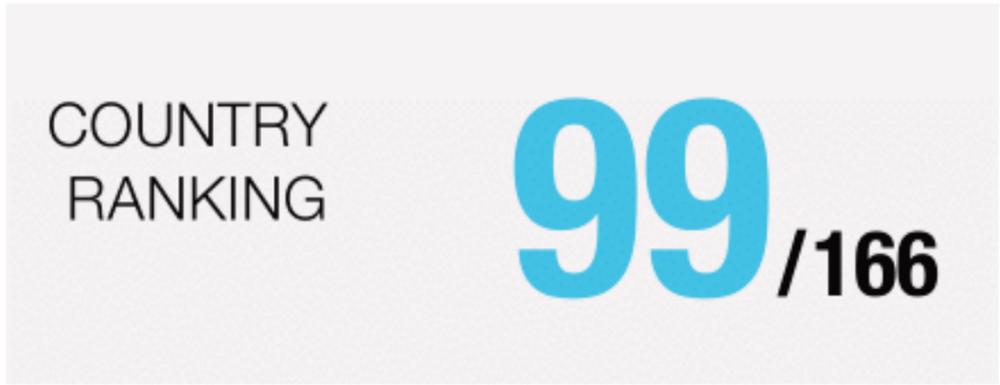
**14** LIFE BELOW WATER

**15** LIFE ON LAND

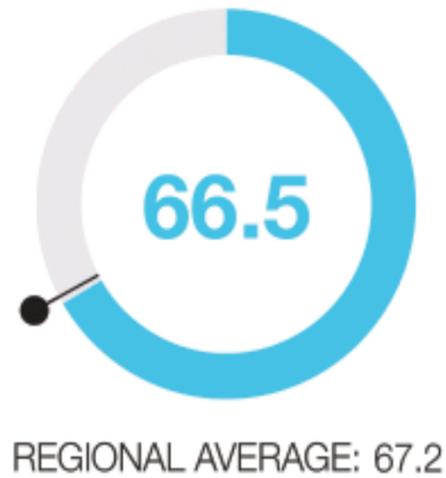
**16** PEACE, JUSTICE AND STRONG INSTITUTIONS

**17** PARTNERSHIPS FOR THE GOALS

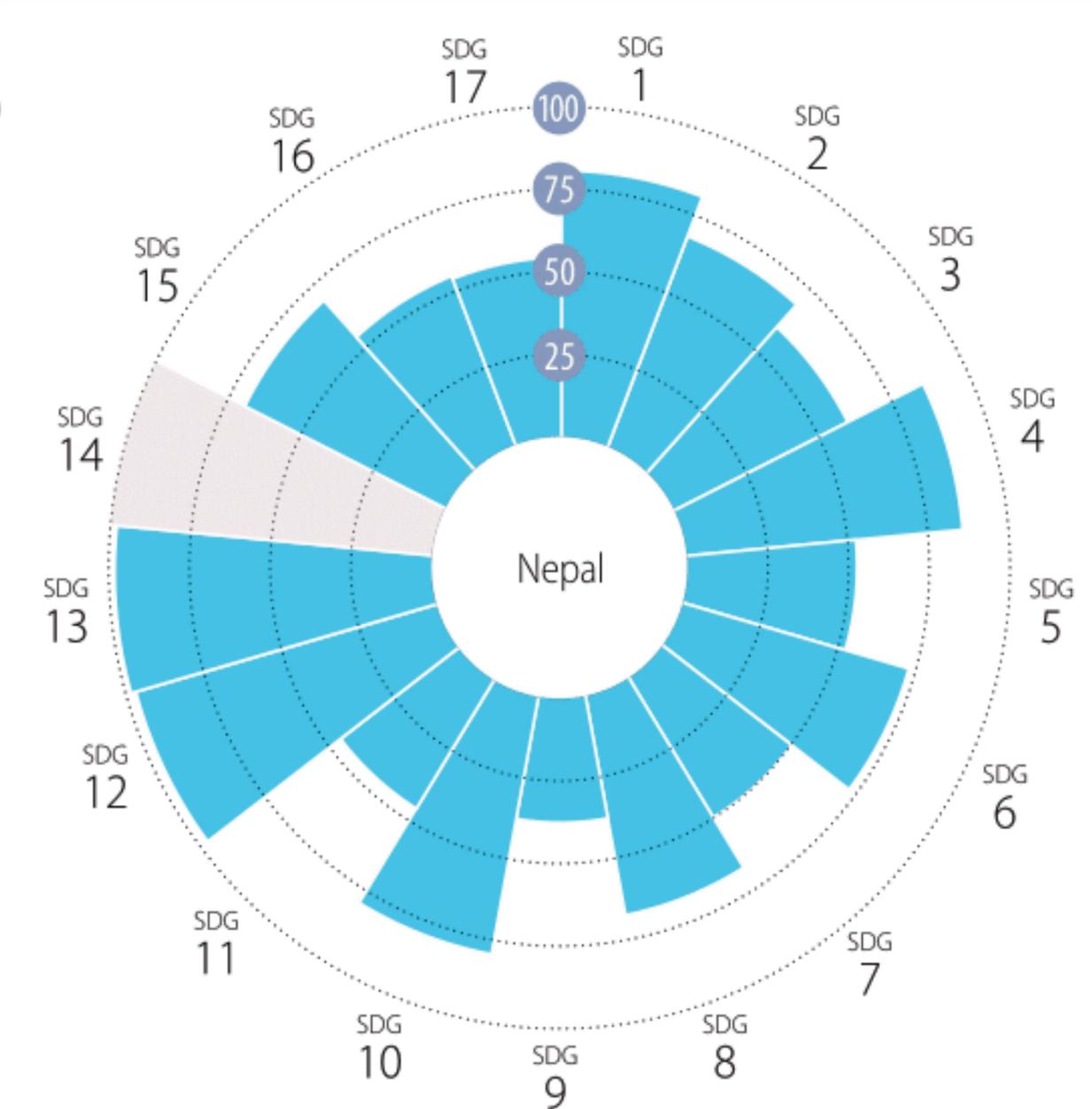
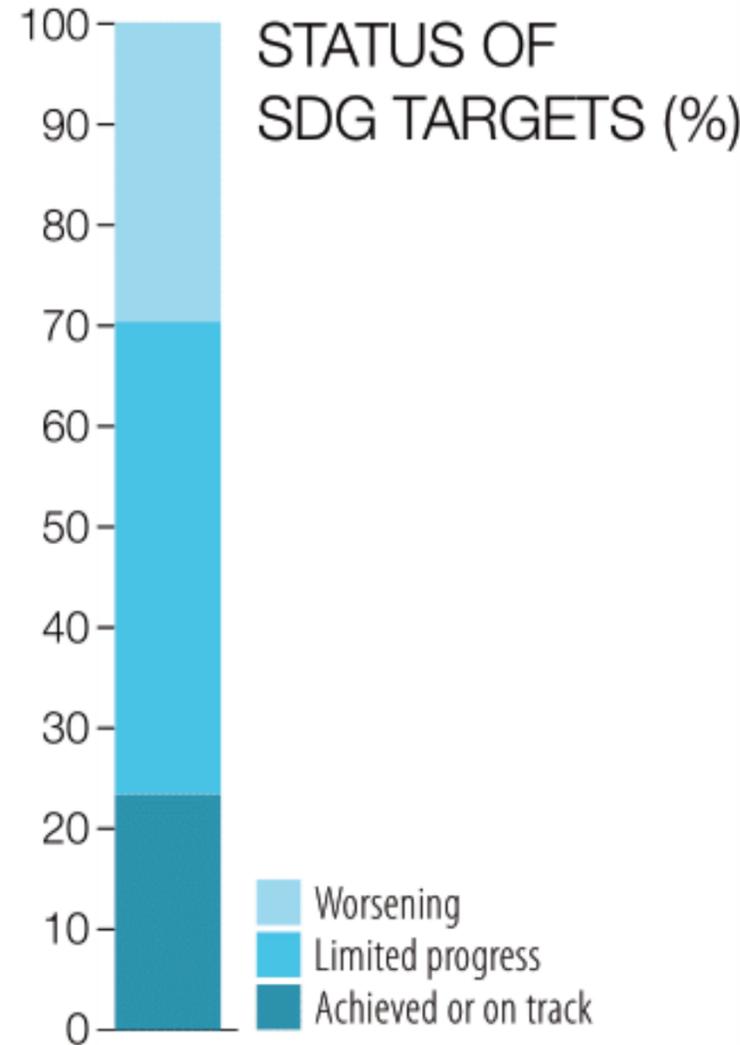
## OVERALL PERFORMANCE



COUNTRY SCORE



## AVERAGE PERFORMANCE BY SDG



**85/166 in 2023**

East and South Asia has outperformed all other regions since 2015 and Nepal has progressed more rapidly than all other countries in East and South Asia

- Global SDG progress report 2025

## SDG Goal 3

Ensure healthy lives and promote well-being for all at all ages

- **Goal 3 is the primary Sustainable Development Goal addressing health.**
- **SDG Goal 3 has 13 Targets**

# 3

# GOOD HEALTH AND WELL-BEING



# Targets

- 3.1** By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.
- 3.2** By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births
- 3.3** By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases
- 3.4** By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.
- 3.5** Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.
- 3.6** By 2020, halve the number of global deaths and injuries from road traffic accidents.
- 3.7** By 2030, ensure Universal access to sexual and reproductive care, family planning and education.
- 3.8** By 2030, achieve universal health coverage.
- 3.9** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
- 3.A** Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate
- 3.B** Support Research, development and universal access to affordable vaccines and medicines.
- 3.C** Increase health financing and support health workforce in developing countries.
- 3.D** Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.

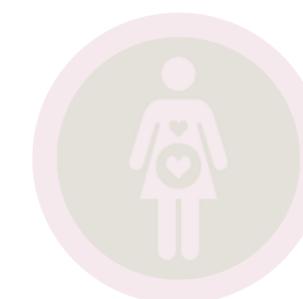
# Target 3.1



By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births. (Data Source: NDHS)

Target and Indicators		2015	2019	2022	2025	2030
<b>Target 3.1</b> By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births						
3.1.1	Maternal mortality ratio	258 <sup>r</sup>	125	116	99	70
3.1.2	Proportion of births attended by skilled health personnel	55.6 <sup>n</sup>	69	73	79	90

- Maternal Mortality ratio of 2019 is **239** per 100,000 live birth and 2022 is **151** per 100,000 live births.
- Proportion of births attended by skilled health personnel of 2019 is **79.3%** and **80%** in 2022.



# Target 3.2



By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as **12 per 1,000** live births and under-5 mortality to at least as low as **25 per 1,000** live births. (Data Source: NDHS & NMICS)

**Target 3.2** By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births

		2015	2019	2022	2025	2030
3.2.1	Under-five mortality rate	38 <sup>n</sup>	28	27	24	20
3.2.2	Neonatal mortality rate	23 <sup>n</sup>	18	16	14	12

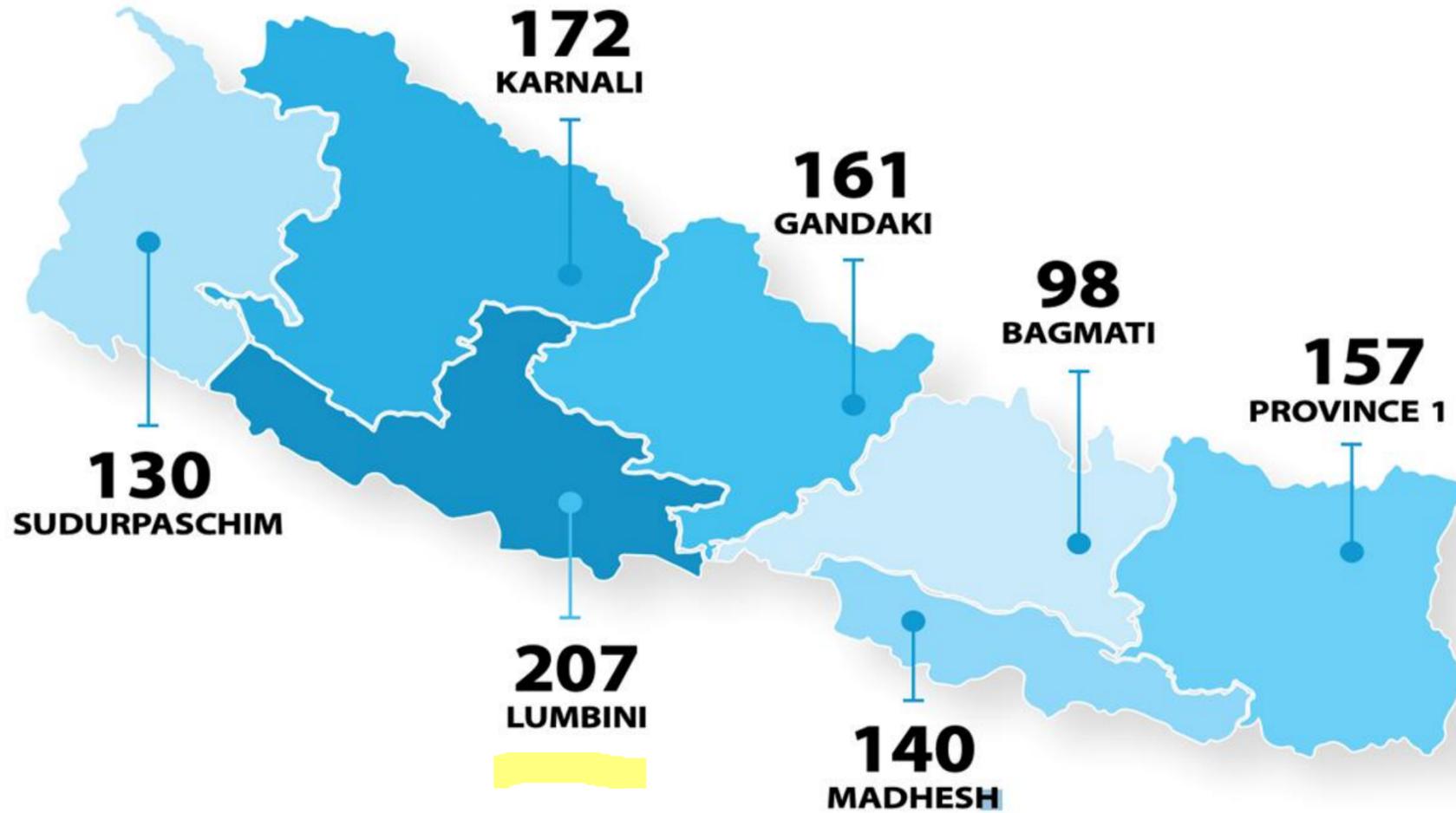
- U-5 Mortality rate of 2016 is **39 per 1000 live birth**, and 2021 is **33 per 1000 live birth**.
- Neonatal Mortality Rate of **2016** is **21 per 1000 live birth** and **21 per 1000 live births** in **2022**.

(Source: NDHS)



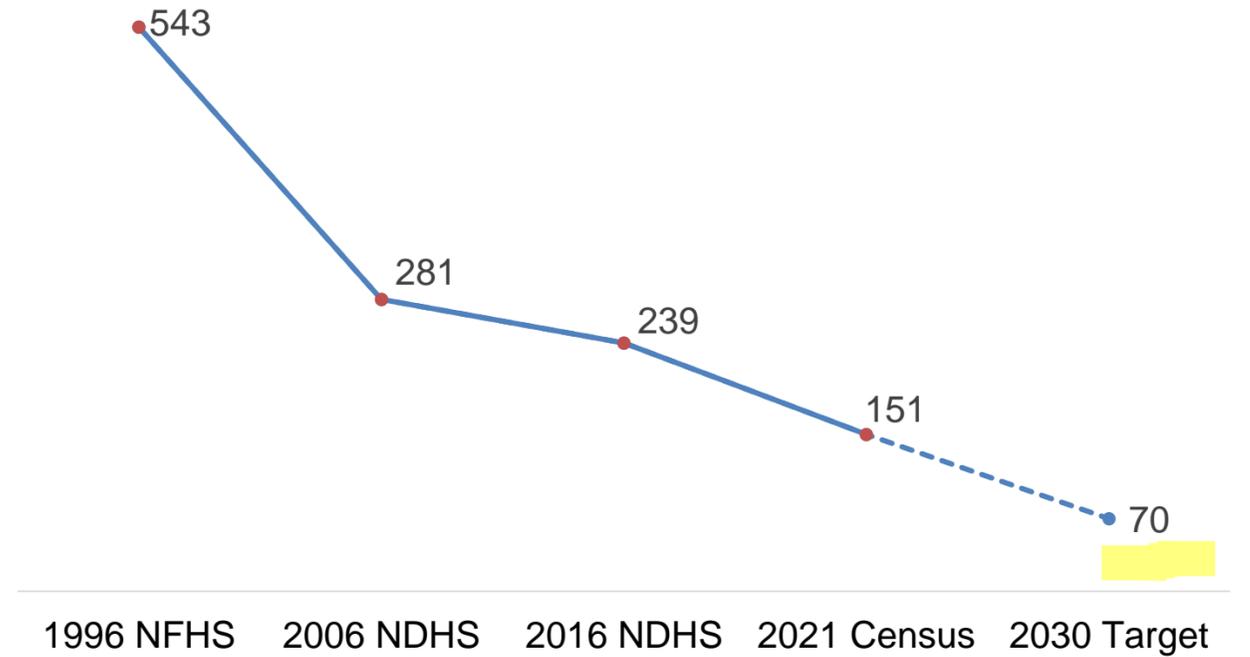
# SDG Target 3.1

## MATERNAL MORTALITY RATIO BY PROVINCE

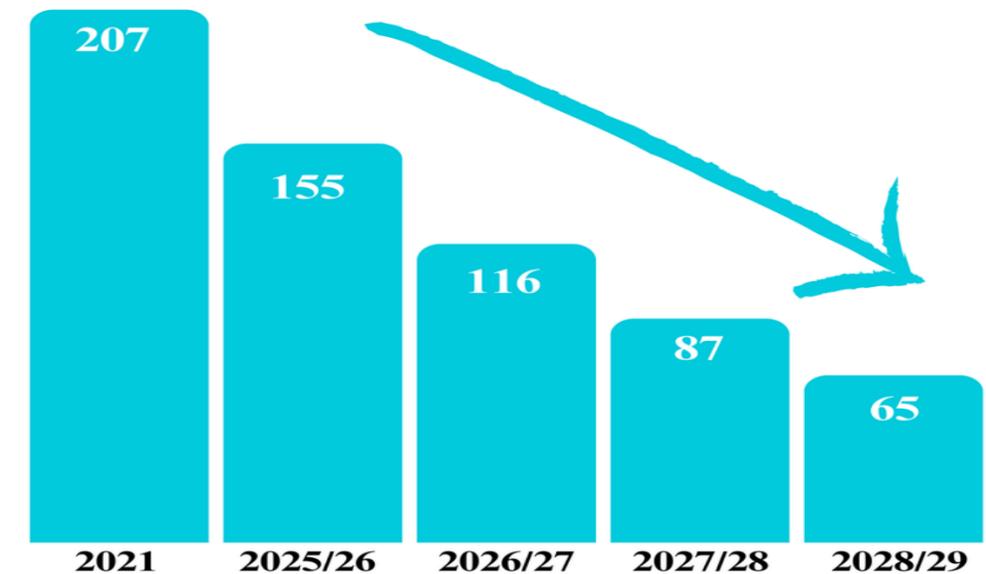


SOURCE: A REPORT ON MATERNAL MORTALITY, 2021

Deaths per 100,000 live births in the 5-year period before the survey



## Projected Annual Reduction of Maternal Mortality Ratio in Lumbini Province by 25%



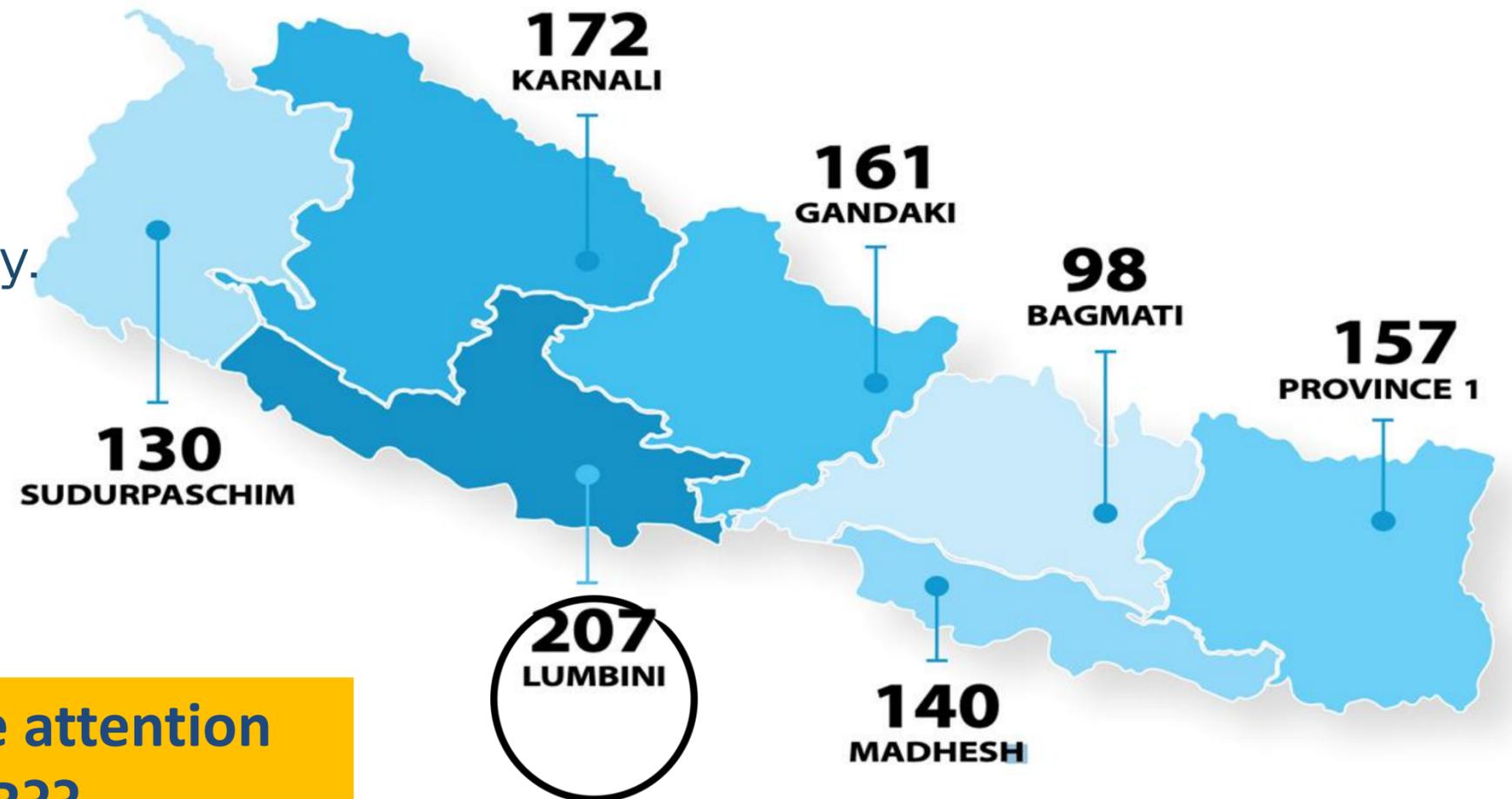
# Target 3.1



**By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.**

- Lumbini Province has the highest MMR.
- Among the **753 local levels in Nepal, 381 (50.6%)** did not have any maternal mortality.
- **172 (22.8%)** local levels had **280** or more maternal mortality ratio per 100,000 live births.

**MATERNAL MORTALITY RATIO BY PROVINCE**

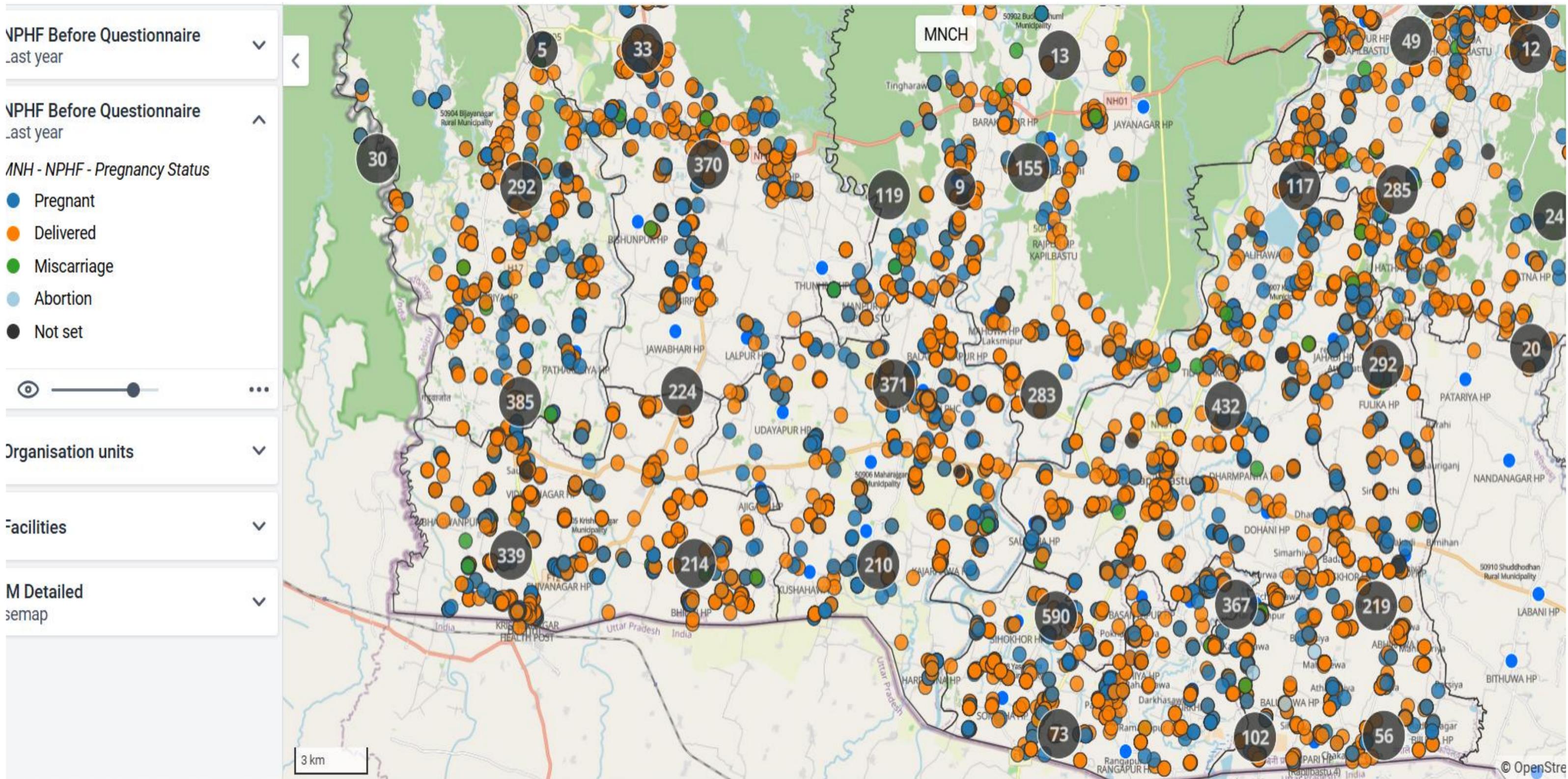


**Which Municipalities or Wards needs more attention and resource priorities for reducing MNMR??**

**CAN WE DEVELOP A METHOD FOR MONITORING PROGRESS TOWARDS MEETING MNMR SDG TARGETS in the LOCAL level ?**



# Kapilvastu District



# Field test results of the motherhood method to measure maternal mortality

Mahesh K. Maskey<sup>1</sup>, Kedar P. Baral<sup>2</sup>, Rajani Shah<sup>3</sup>, Bhagawan D. Shrestha<sup>4</sup>, Janet Lang<sup>5</sup> & Kenneth J. Rothman<sup>6</sup>

<sup>1</sup>Nepal Public Health Foundation, Kathmandu, <sup>2</sup>Patan Academy of Health sciences, <sup>3</sup>CTEVT, Bharatpur, <sup>4</sup>Pian Nepal, Nepal <sup>5</sup>Watson Institute for International studies, Brown University, Providence RI, USA and <sup>6</sup>RTI Health solutions, Research Triangle Park, NC & Boston University school of Public Health, USA

Indian J Med Res 133, January 2011, pp 64-69

Presented by  
Dr. Fredrick Stephen  
P.G in community Medicine

## Motherhood Method (modified) (3 steps):

- Prepare list of pregnant and postpartum women from health registers. (MCH and FCHV registry, MPDSR)
- Focus Group Discussion with FCHVs and health professionals to update the list.
- Visit the pregnant women at their home for GIS mapping and further data collection.

**Generates Census equivalent Data**

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Field Test Results of the Motherhood Method to Measure Maternal Mortality (Report)

An Article From Indian Journal of Medical Research



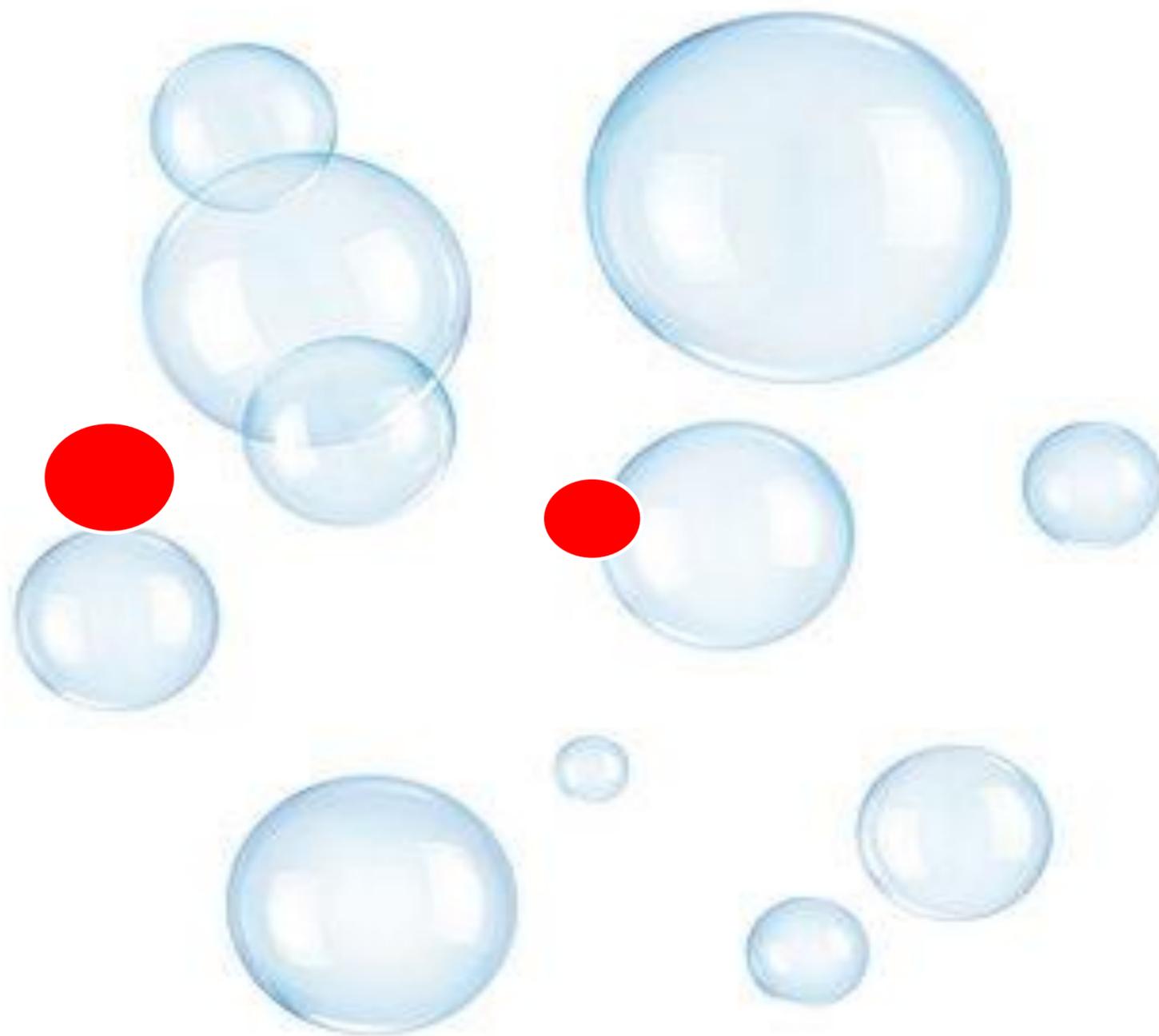
### Field Test Results of the Motherhood Method to Measure Maternal Mortality (Report)

Indian Journal of Medical Research 2011, Jan, 133, 1

Indian Journal of Medical Research

\$5.99

# Concept



## मातृ तथा नवजात शिशु सेवा रजिष्टर

HMIS 3.

मूल दर्ता नं. १२१		महिलाको नाम र थर : रेहना खास		जाति कोड	०४	उमेर	२४	सम्पर्क नम्बर													
सेवा दर्ता नं. ४		पतिको नाम, थर : जतिर मुखर्जी		ठेगाना	विष्णुपुरा/...		जिल्ला	...	नगर/गाउँपालिका												
गर्भवती जाँच विवरण					प्रसूति सेवा (आमा र नव शिशु)					सुत्केरी पछिको सेवा											
गर्भवती जाँच	गते	महिना	सात	आइएम	क्याल्सियम	प्रसूति सेवाका लागि भनाई गर्दाको मिति समय			प्रसूति मिति, समय			ट्रिस्वार्ज मिति र आमाको अवस्था			जाँच पटक	सुत्केरी जाँच	नवशिशु				
प्रथम पटक (जुनसुकै समयको)	११	४	००																		
१२ हप्तासम्म	१५	४	००	२०		Foctal Presentation		प्रसव व्यापको स्थिती		प्रसूतिको प्रकार			Recovered	1	सुत्केरीको ३	संस्था					
१६ हप्ता	१८	५	००	३०		Cephalic	1	Spontaneous	1	Spontaneous	1	Vacuum	2	Stable	2	दिनमा	घरमा				
२०-२४ हप्ता	१९	७	००	३०		Breech	2	Augmentation	2					Referred out	3	सुत्केरीको ३-	संस्था				
१८ हप्ता	१९	८	००	३०		Shoulder	3	Induced Labour	3	Forceps	3	c-section	4	Referred Health Institution		१४ दिन भित्र	घरमा				
२२ हप्ता	१९	९	००	३०		नवजात शिशुको अवस्था	Normal	१	जीवित	अवाधि नपुगेको	१	प्रसूति भएको स्थान		LAMA	4	सुत्केरीको ४२ दिनमा					
२४ हप्ता	४	१०	००	३०	Infection		२	अवाधि पुगेको		२	यसै संस्था	१		5	३ पटक (२४ घण्टा, ४८ घण्टा, ७२ घण्टा)						
२६ हप्ता	१८	१०	००	३०	Asphyxia		३	Fresh	१	अन्य संस्था	२		6	प्रोटोकल अनुसार ४ पटक							
३०-४० हप्ता					Hypothermia		४	Macerated	२					Died		भिटामिन ए दिएको मिति					
४ पटक (१६, २०-२४, २२ र ३६ हप्ता)	१८	१०	००		Jaundice		५		३					अन्य सेवा		आइएम चक्की (ट्याब्लेट)		रगत दिएको मात्रा			
प्रोटोकल अनुसार ८ पटक					गते	महिना	सात	जीवित शिशुको लिंग, संख्या, तौल			विकलांग			सुत्केरी गराउने स्वास्थ्यकर्मी			रगत दिएको मात्रा				
टिडी खोप १ मात्रा	गते	महिना	सात	रगत दिएको		शिशु	संख्या	शिशुको तौल(ग्राममा)	Major	Minor	Others				अक्सिटोसिन सुई दिएको	१					
टिडी खोप २ मात्रा	गते	महिना	सात	उपचार/सल्लाह	छोरी							दक्ष प्रसूतिकर्मीबाट (SBA)			१	KMC सेवा दिएको	२				
टिडी खोप २+ मात्रा	गते	महिना	सात		छोरा							दक्ष स्वास्थ्यकर्मीबाट (SHP)			२	जन्मेको १ पटक भित्र सतनचन गएको	३	सुत्केरी अवस्थामा गर्भ निरोधका साधन प्रयोग			
जुकाको औषधी वितरण	१९	४	००									अन्य स्वास्थ्यकर्मी				नाभी मलको प्रयोग	४	गर्भ निरोध साधन			
गर्भवती अवस्थामा देखिएका जटिलता व्यवस्थापन					उपचार/सल्लाह					प्रसूति अवस्थामा देखिएका जटिलता व्यवस्थापन					सुत्केरी अवस्थामा देखिएका जटिलता व्यवस्थापन						
जटिलता	महिना	उपचार	प्रेषण	एच आइ भी/सिफलिस परीक्षण र उपचार					जटिलता					महिना	उपचार	प्रेषण	जटिलता				
Ectopic pregnancy	महिना	१	२	एच आइ भी परीक्षण मिति					Pre-eclampsia					महिना	१	२	Pre-eclampsia				
Abortion complication	महिना	१	२	एच आइ भी नतिजा					Eclampsia					महिना	१	२	Eclampsia				
Pre-eclampsia	महिना	१	२	ए आर टी उपचार/प्रेषण					Prolonged labour					महिना	१	२	PPH				
Eclampsia	महिना	१	२	उपचारार्थ प्रेषण गरेको संख्या					Obstructed labor					महिना	१	२	Retained Placenta				
hyp.gravidarum	महिना	१	२	सिफलिस परीक्षण मिति					Ruptured uterus					महिना	१	२	Pueperal Sepsis				
PH	महिना	१	२	सिफलिस नतिजा					others					महिना	१	२	C/S Wound Infection				
gestational Hypertension	महिना	१	२	सिफलिस उपचार										महिना	१	२	Other				
ther	महिना	१	२	प्रेषण गरेको संस्था										महिना	१	२					
मृत्यु	मिति	गते	महिना	सात	अवस्था	गर्भवती प्रसूति सुत्केरी	स्थान	घरमा/संस्थामा/अन्य	कारण			नवजात शिशु मृत्यु	मिति	ग.	म.	सा.	कारण				
मृत्यु	मिति	गते	महिना	सात	अवस्था	गर्भवती प्रसूति सुत्केरी	स्थान	घरमा/संस्थामा/अन्य	कारण			नवजात शिशु मृत्यु	मिति	ग.	म.	सा.	कारण				
मृत्यु	मिति	गते	महिना	सात	अवस्था	गर्भवती प्रसूति सुत्केरी	स्थान	घरमा/संस्थामा/अन्य	कारण			नवजात शिशु मृत्यु	मिति	ग.	म.	सा.	कारण				

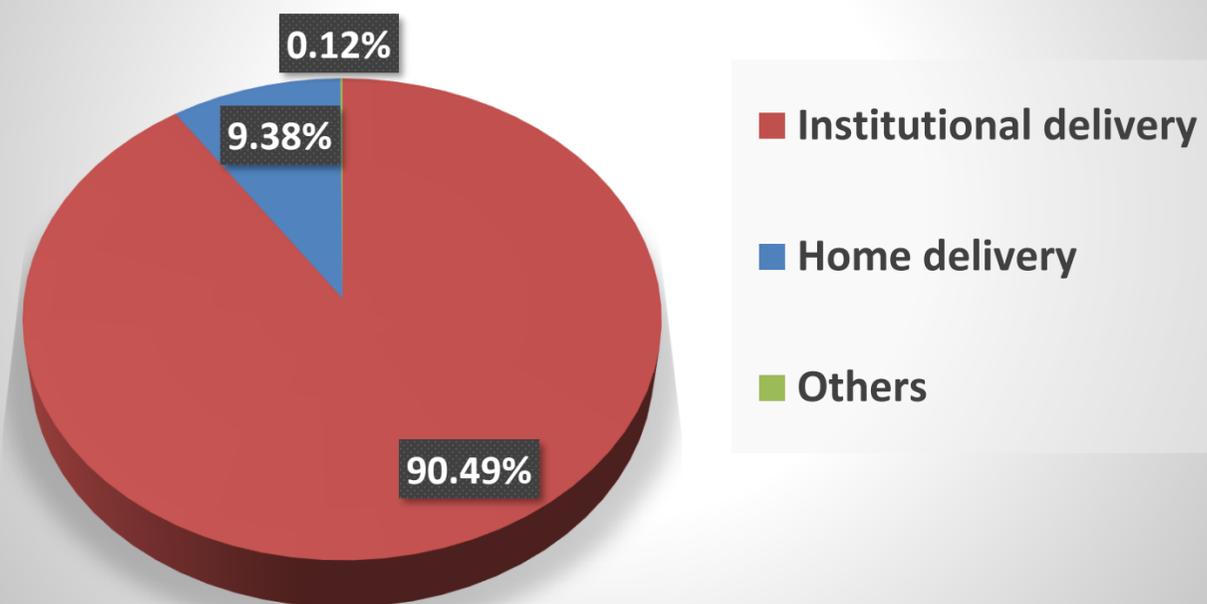
मार्जित : आ.ब. २०७८/७९

छपाई: आ.ब. २०७९/१

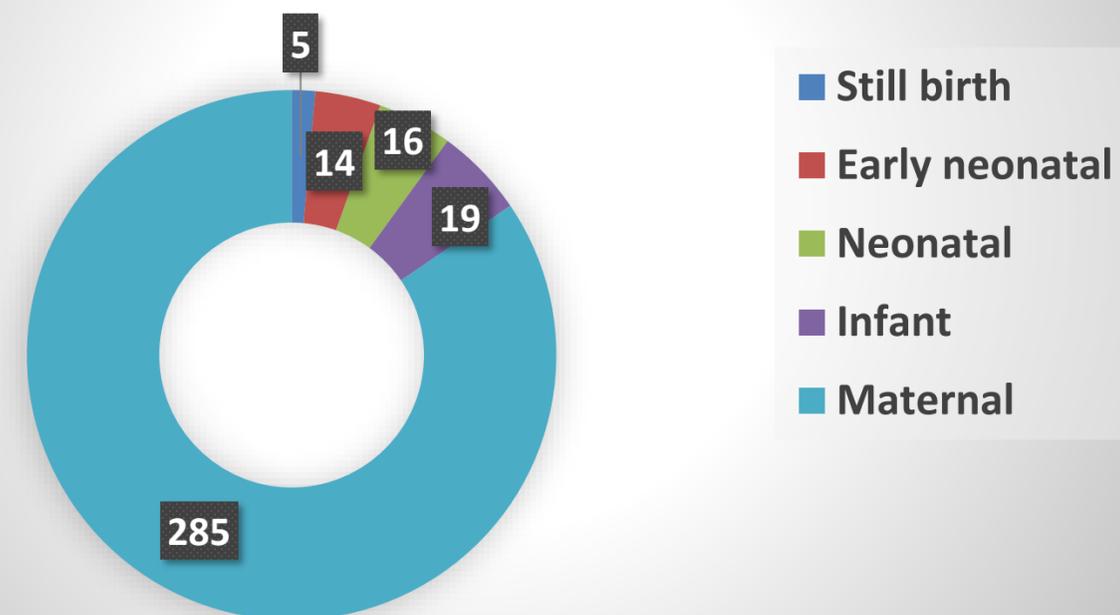
मातृ तथा नवजात शिशु सेवा रजिष्टर															Radha														
मुल दर्ता नं. 6530		महिलाको नाम र थर: सुभाषरी पुजापुजा			पतिको नाम, थर: पाल्पाके ५		जन्मको कोड १३		उमेर २२		सम्पर्क नम्बर				Gravida		LMP		पेट		माथि		पछि						
सेवा दर्ता नं. ४		पतिको नाम, थर: पाल्पाके ५			ठेगाना... ५... ५... जिल्ला... ५... ५... नगर/गाउँपालिका... ५... वडा नं... ५... ५... टोल		जन्मको कोड १३		उमेर २२		सम्पर्क नम्बर				Para		EDD		पेट		माथि		पछि						
गर्भवती जाँच विवरण					प्रसूति सेवा (आमा र नव शिशु)										सुत्केरी पाँछको सेवा														
गर्भवती जाँच		गते		महिना		साल		आइएन		क्याल्सियम		प्रसूति सेवाका लागी भर्ना गर्दाको मिति समय					प्रसूति मिति, समय					डिस्चार्ज मिति र आमाको अवस्था							
प्रथम पटक (जुनसुकै समयको)												२ ४ ०२९ AM १					४ ४ ०२९ AM २					४ ४ ०२९ AM २							
१२ हप्तासम्म												Foetal Presentation					प्रसूतिको प्रकार					Recovered							
१६ हप्ता												Cephalic ① Spontaneous ①					Spontaneous ① Vacuum 2					Stable 2							
२०-२४ हप्ता												Breech 2 Augmentation 2					Forceps 3 C-Section 4					Referred out 3							
२८ हप्ता												Shoulder 3 Induced Labour 3										Referred Health Institution							
३२ हप्ता												नवजात शिशुको अवस्था					अवधि नपुगेको					प्रसूति भएको स्थान							
३४ हप्ता												Normal १ जीवित					अवधि पुगेको					यसै संस्था ①							
३६ हप्ता												Infection २ मृत										LAMA 4							
३८-४० हप्ता												Asphyxia ३										Absconded 5							
४ पटक (१६, २०-२४, ३२ र ३६ हप्ता)												Hypothermia ४										Died 6							
४ पटक (१६, २०-२४, ३२ र ३६ हप्ता)												Jaundice ५										Macerated २ घरमा ३							
प्रोटोकल अनुसार ८ पटक												जीवित शिशुको लिंग, सङ्ख्या, तौल					विकलांग					सुत्केरी गराउने स्वास्थ्यकर्मी							
टिडी खोप १ मात्रा												शिशु संख्या					शिशुको तौल (ग्राममा)					Major Minor Others							
टिडी खोप २ मात्रा												छोरी १ २५००										दक्ष प्रसूतिकर्मीबाट (SBA) १							
टिडी खोप २+ मात्रा												छोरा										दक्ष स्वास्थ्यकर्मीबाट (SHP) २							
जुकाको औषधी वितरण																						अन्य स्वास्थ्यकर्मी ३							
गर्भवती अवस्थामा देखिएका जटिलता व्यवस्थापन												उपचार/सल्लाह					रगत दिएको मात्रा					रगत दिएको मात्रा							
जटिलता		महिना		उपचार		प्रेषण		एच आइ भी /सिफलिस परीक्षण र उपचार		प्रसूति अवस्थामा देखिएका जटिलता व्यवस्थापन		जटिलता		महिना		उपचार		प्रेषण		सुत्केरी अवस्थामा देखिएका जटिलता व्यवस्थापन		जटिलता		महिना		उपचार		प्रेषण	
Ectopic pregnancy				१		२		एच आइ भी परीक्षण मिति		Pre-eclampsia						१		२		Pre-eclampsia						१		२	
Abortion complication				१		२		एच आइ भी नतिजा		Eclampsia						१		२		Eclampsia						१		२	
Pre-eclampsia				१		२		ए आर टी उपचार/प्रेषण		Prolonged labour						१		२		PPH						१		२	
Eclampsia				१		२		उपचारार्थ प्रेषण गरेको संस्था		Obstructed labor						१		२		Retained placenta						१		२	
Hyp. gravidarum				१		२		सिफलिस परीक्षण मिति		Ruptured uterus						१		२		Puerperal sepsis						१		२	
APH				१		२		सिफलिस नतिजा		Other						१		२		C/S Wound Infection						१		२	
Gestational Hypertension				१		२		सिफलिस उपचार								१		२		Other						१		२	
Other				१		२		प्रेषण गरेको संस्था								१		२								१		२	
मातृ मृत्यु		मिति		स्थान		अवस्था		स्थान		नवजात शिशु मृत्यु		मिति		स्थान		अवस्था		स्थान		नवजात शिशु मृत्यु		मिति		स्थान		अवस्था		स्थान	
यातायात खर्च वितरण रकम		रु. १०००।		जारी		गर्भवती उत्प्रेरणा खर्च वितरण		रु. २००।		जारी		न्यानो झोला		पाएको		१		नपाएको		२									

# Kapilvastu district overview

## Location of delivery



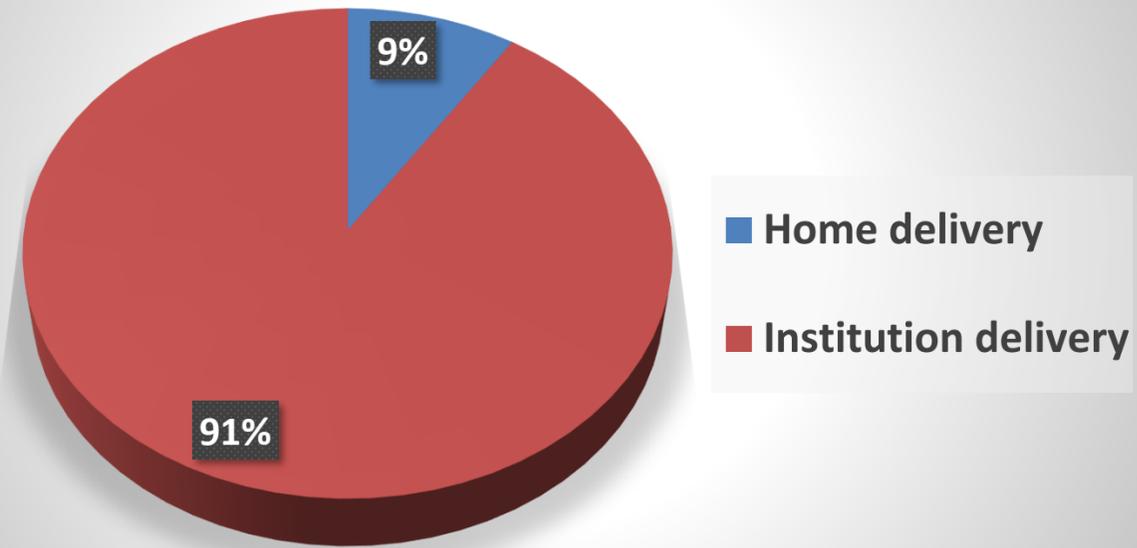
## Mortality Rate (NMR/1000, MMR/100000)



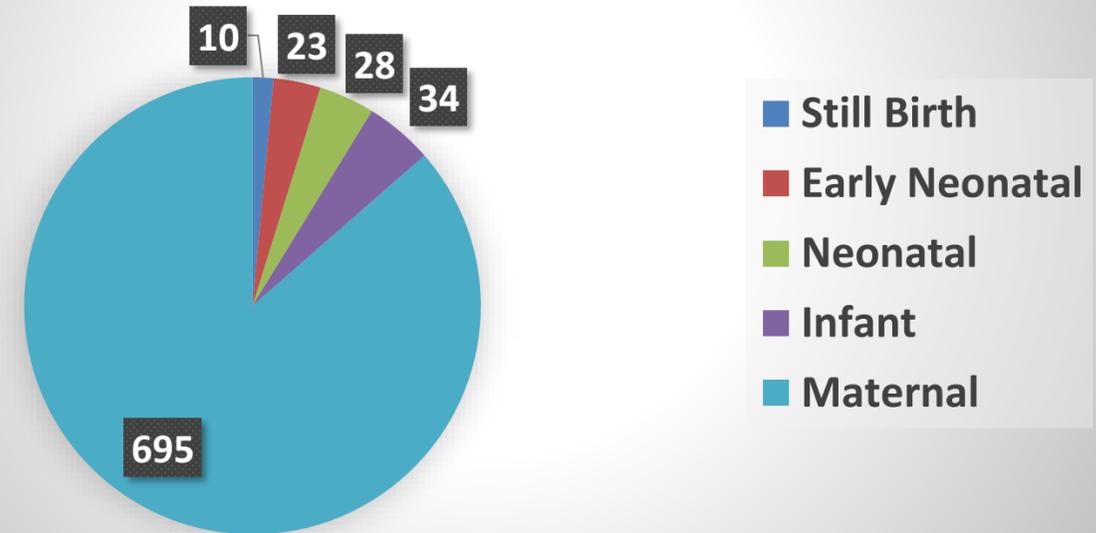
Variable	Frequency	Mortality Rate
Live Birth	10,164	
Still Birth	52	5 / 1000
Early Neonatal	139	14 / 1000
Neonatal	165	16 / 1000
Infant	196	19 / 1000
Maternal	29	285 / 100000

## Municipality A

Place of delivery



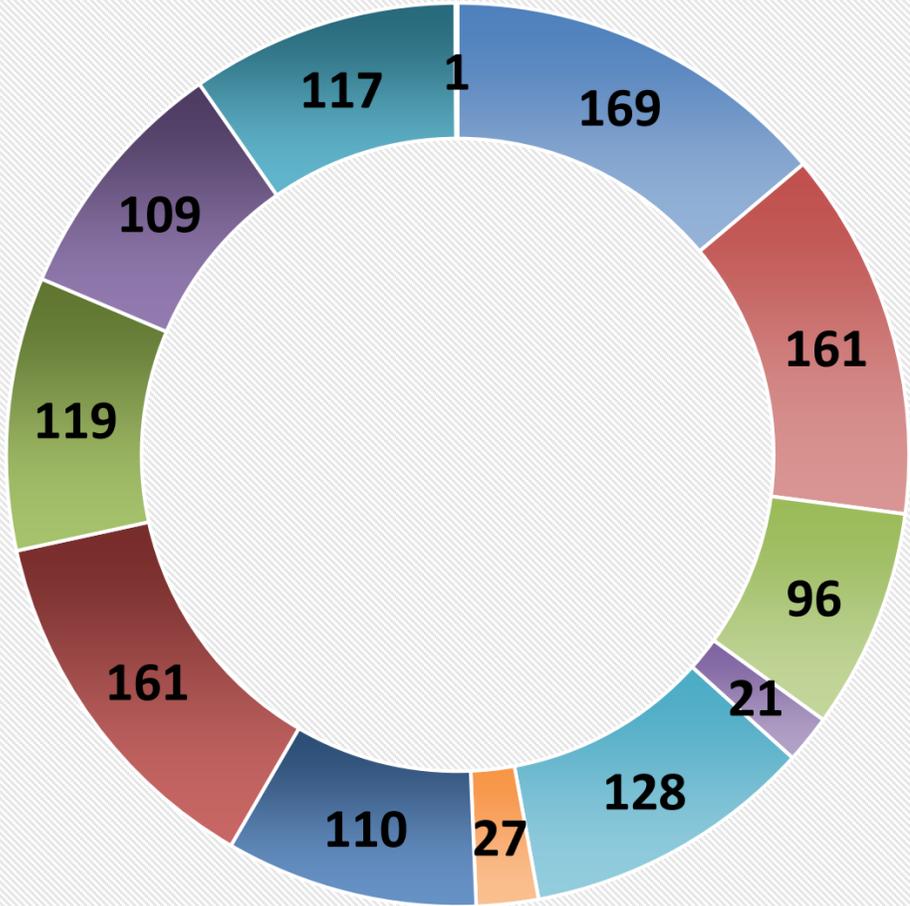
Mortality Rate (NMR/1000, MMR/100000)



Variable	Frequency	Mortality Rate
Live Birth	1151	
Still Birth	12	10 / 1000
Early Neonatal	27	23 / 1000
Neonatal	32	28 / 1000
Infant	39	34 / 1000
Maternal	8	695 / 100000

# Wardwise frequency of pregnant women

n = 1219

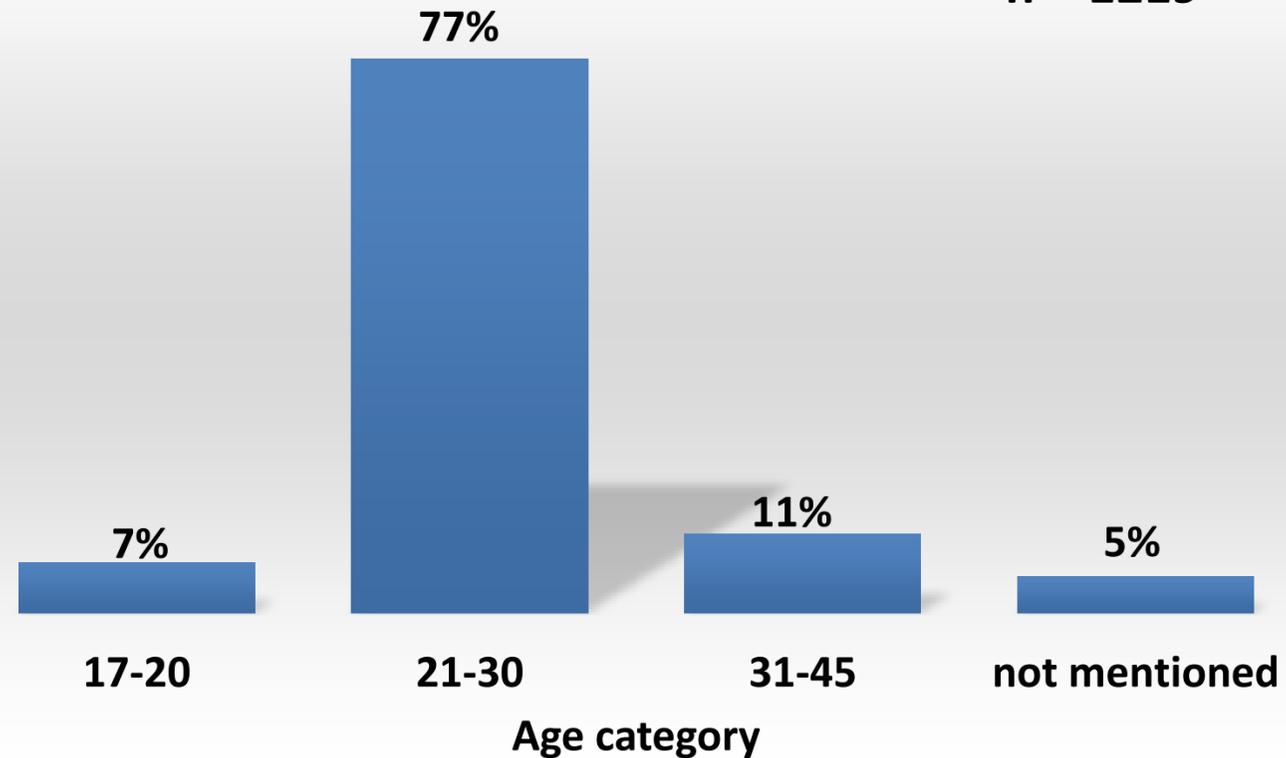


- maharajgunj PHC 1
- basic health center 2
- basic health center 3(jamuni)
- baraipur hp 4
- udayapur hp 5
- bhalwari hp 6
- kushawa hp 7
- kajarahawa hp 8
- sisawa 9
- hardauna hp 10
- balarampur hp 11
- Ward not mention

**Majority of the pregnant women (169) belongs from ward 1 whereas ward 4 had (21) least pregnant women.**

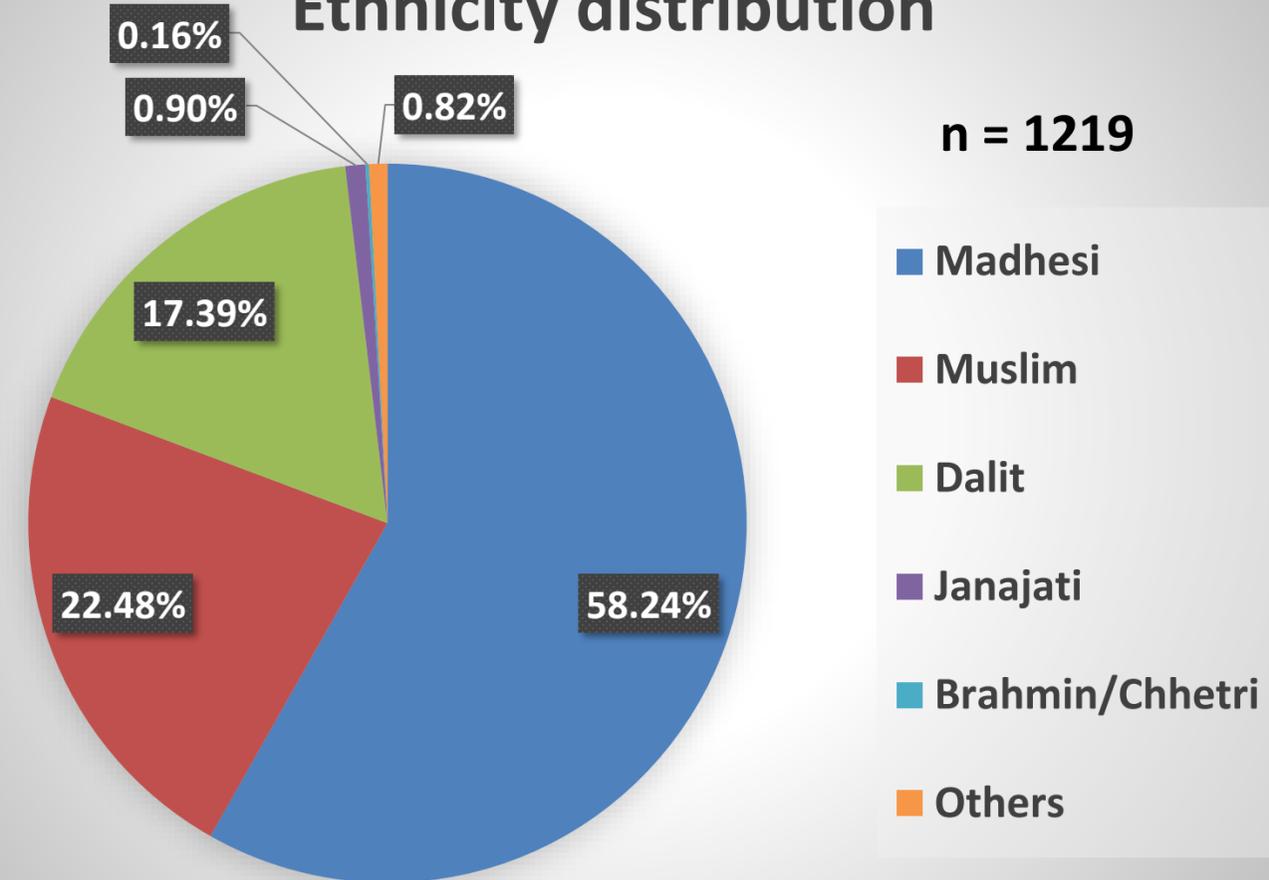
## Age Distribution

n = 1219



## Ethnicity distribution

n = 1219

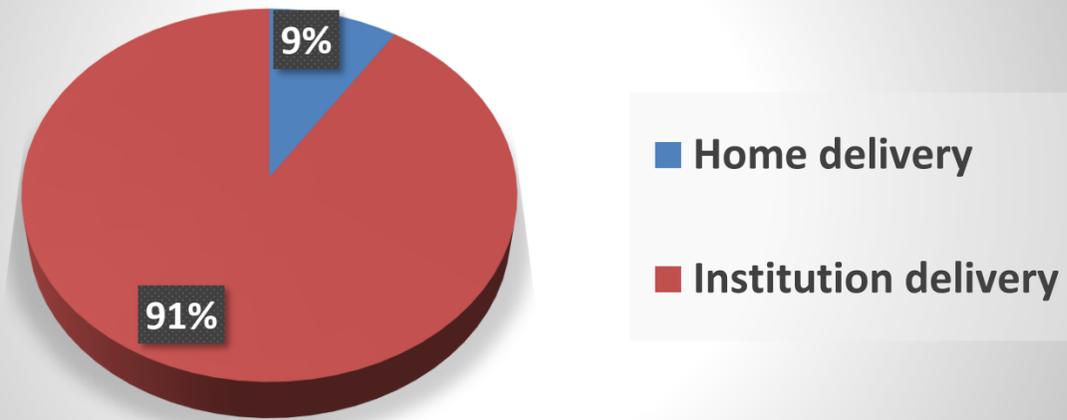


The age of pregnant women ranged from 17 to 45 years. The age of 55(5%) pregnant women was not mentioned. Almost 7% of the pregnant women belongs to age group 17-20.

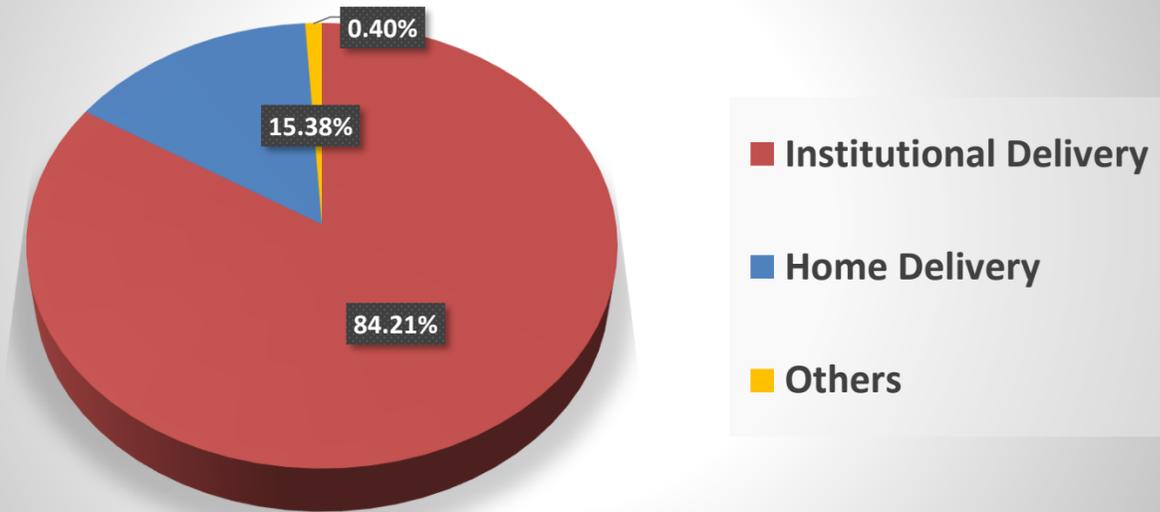
This indicates that the majority of pregnant women in the dataset belong to the **Madhesi community** which was followed by **Muslim community**.

# Place of Delivery of different Municipality

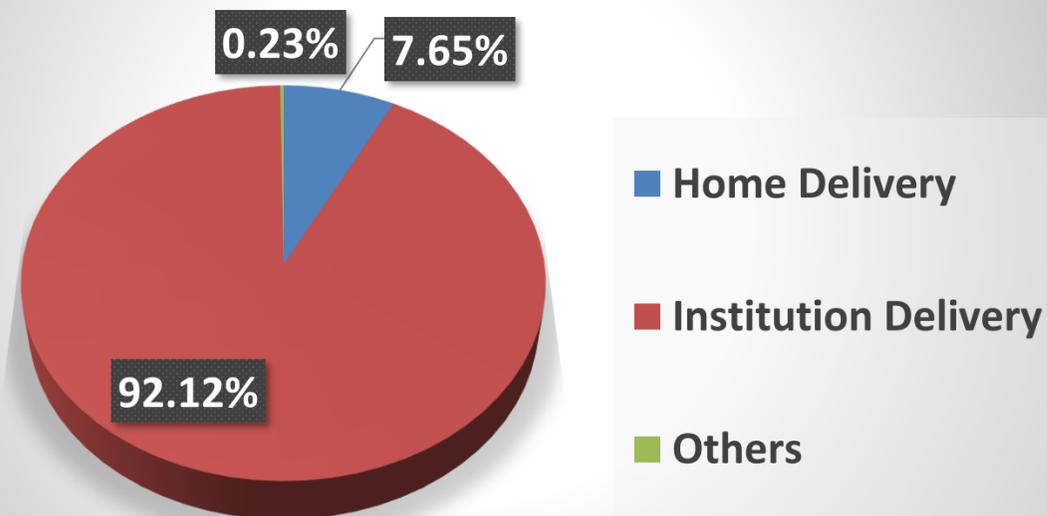
## Municipality A



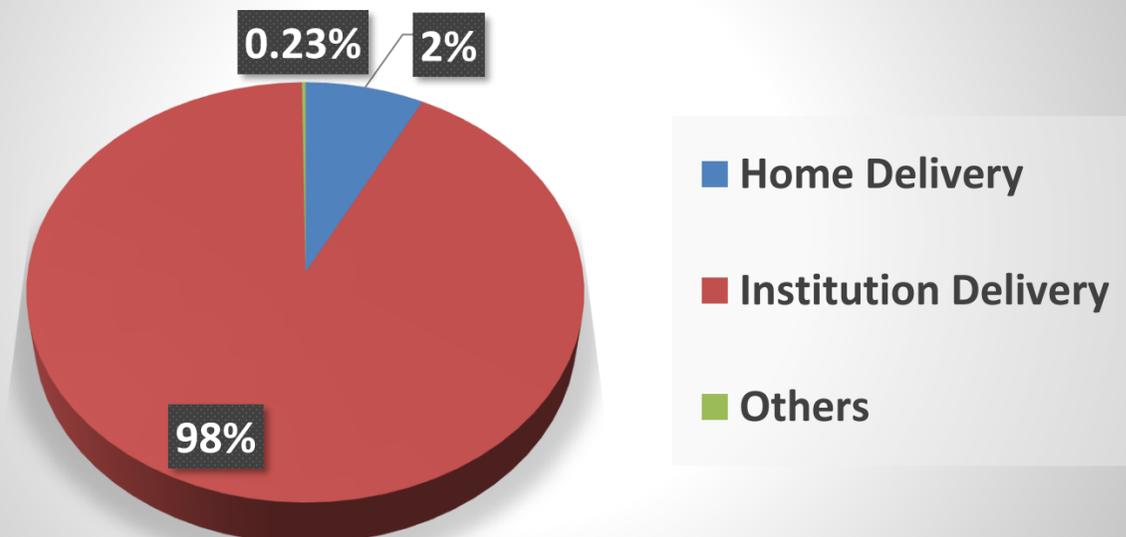
## Municipality B



## Municipality C

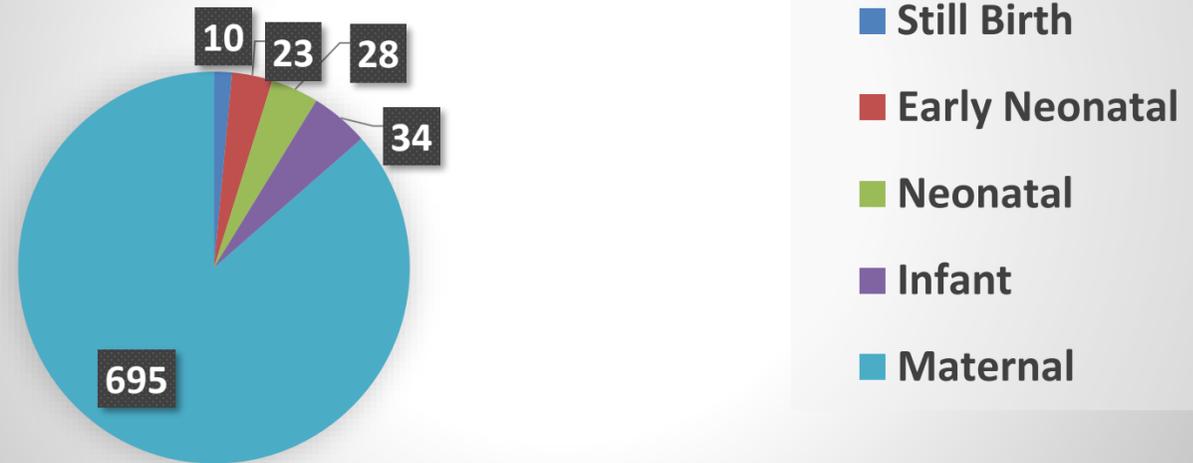


## Municipality D

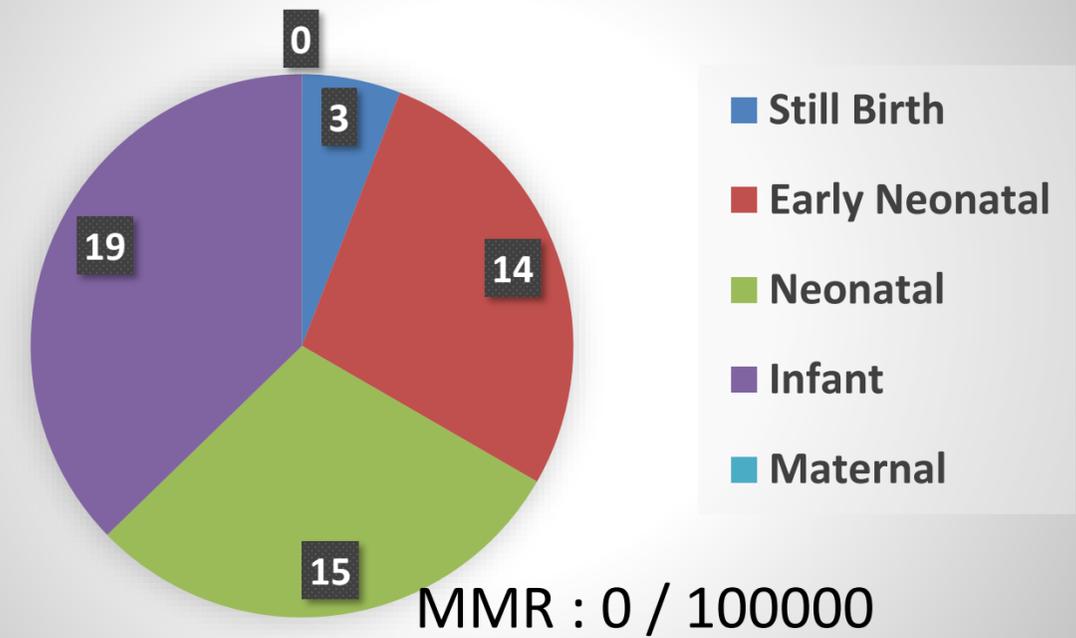


# Mortality Rate (NMR Per 1000 and MMR per 100000) of different Municipality

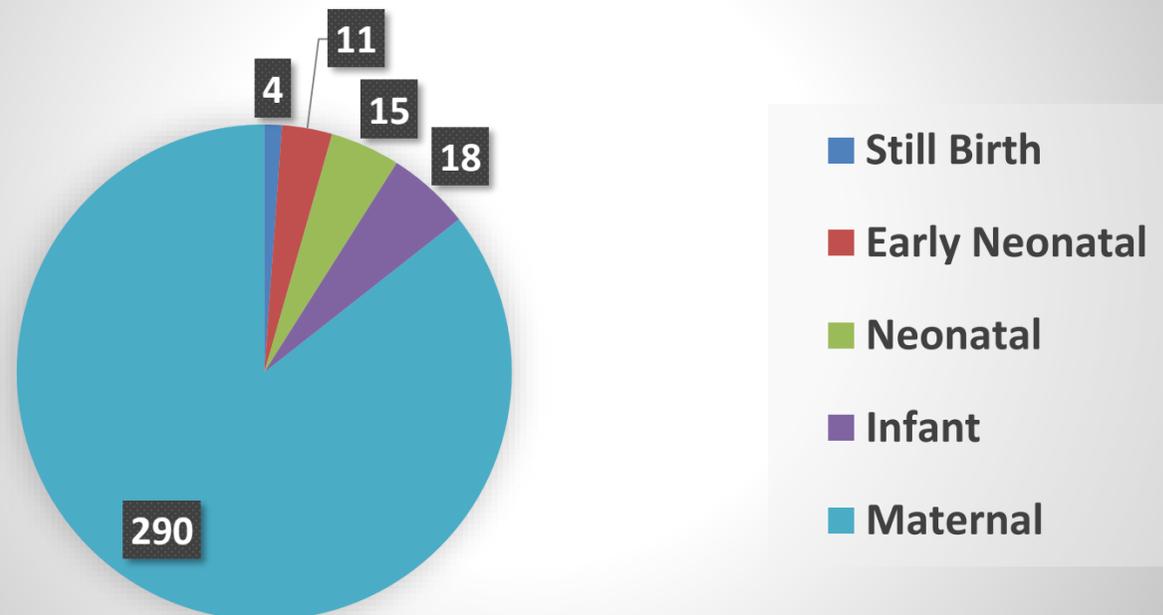
## Municipality A



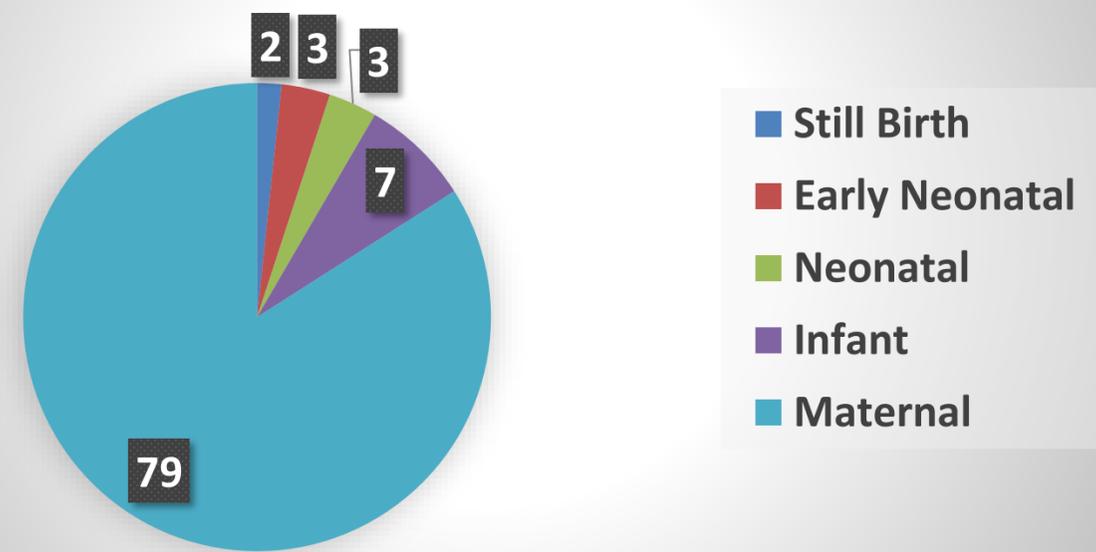
## Municipality B



## Municipality C



## Municipality D



# Mortality frequency of different municipality

Municipality A	Still Birth	Neonatal	Infant	Maternal
ward 1	1	3	5	1
ward 2	1	4	6	0
ward 3	1	4	4	2
ward 4	1	0	0	0
ward 5	0	4	5	0
ward 6	0	1	1	0
ward 7	0	5	6	1
ward 8	3	3	4	3
ward 9	2	2	2	0
ward 10	2	4	4	1
ward 11	1	2	2	0

Municipality B	Still birth	Neonatal	Infant	Maternal
Ward 1	0	3	3	0
Ward 2	0	1	2	0
Ward 3	0	3	3	0
Ward 4	3	1	1	0
Ward 5	0	3	3	0
Ward 6	0	1	1	0
Ward 7	0	2	2	0
Ward 8	0	1	4	0

Municipality C	Still Birth	Neonatal	Infant	Maternal
ward 1	1	8	12	2
ward 2	0	1	1	0
ward 3	0	1	1	0
ward 4	0	0	0	1
ward 5	0	1	1	0
ward 6	1	6	7	0
ward 7	1	1	1	1
ward 8	0	0	0	0
ward 9	1	2	2	0
ward 10	0	2	2	1
ward 11	1	7	7	0
ward 12	3	3	4	1

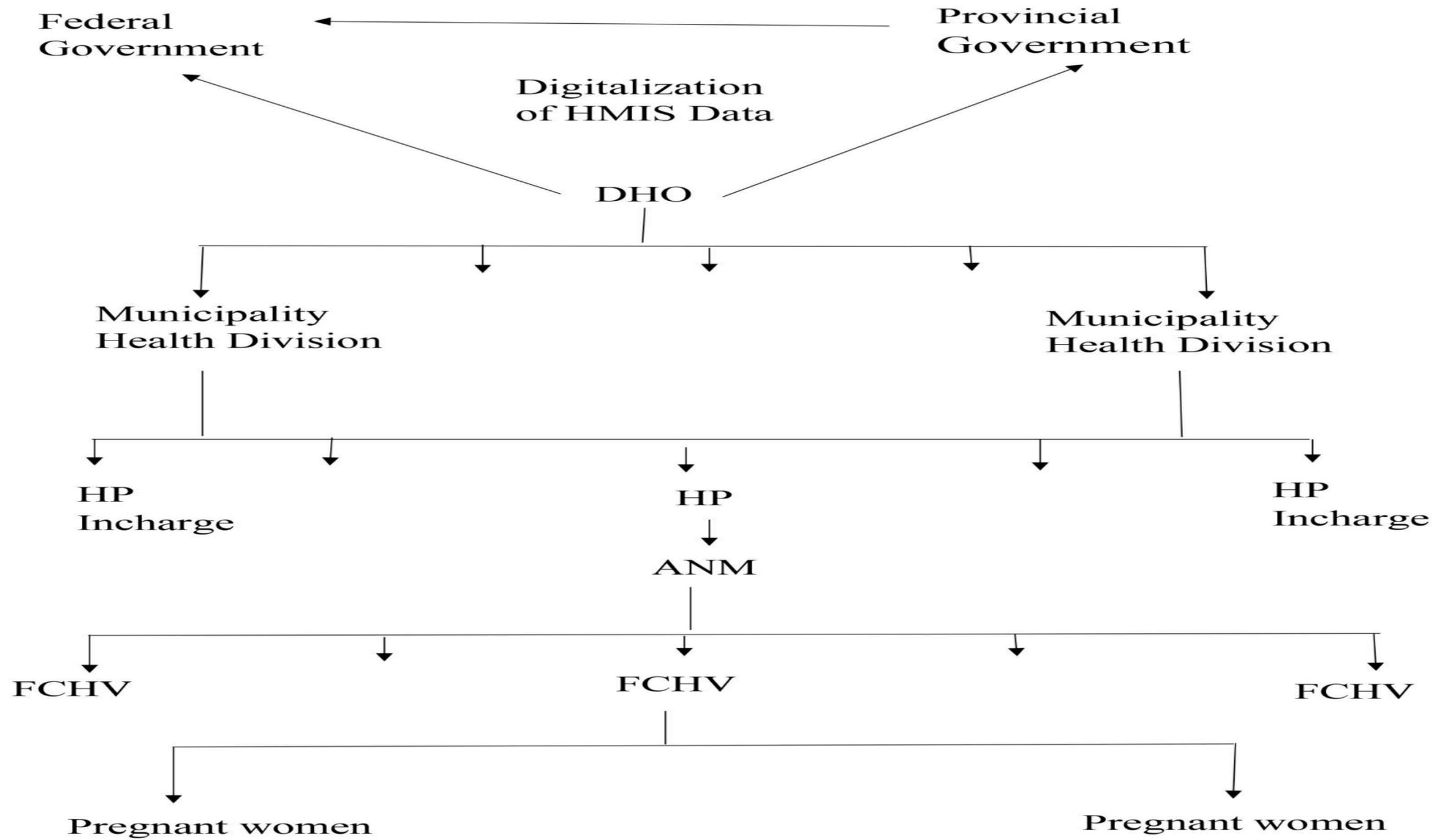
Municipality D	Still Birth	Neonatal	Infant	Maternal
ward 1	0	1	1	0
ward 2	0	0	0	0
ward 3	0	0	0	0
ward 4	0	0	0	0
ward 5	0	1	2	0
ward 6	0	0	1	0
ward 7	0	0	2	0
ward 8	0	0	0	0
ward 9	0	0	0	1
ward 10	1	1	1	0
ward 11	1	1	2	0

## Intervention:

### Hub and Spoke model

Reduce Three delays and ensure Quality care

- Follow each Pregnant/ Postpartum women
  - Birth preparedness
  - Referral/Transportation/social support
- Ensure capacity building/training of hospital and birthing center staff
- Follow WHO protocol for labor and postpartum care
- Analyze data of ANC/PNC visits, MPDSR and DHIS2 for better care





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# Case Study from **Nepal**

## Digitized tracking of clients to reduce MMR and NMR – *A Pilot Project*

Presenter: Gehanath Baral

Nepal Health Research Council

baraldr@gmail.com



*Health Research, Innovation and Its Uses in Public Health:*



### Community Engaged Digitized Comprehensive Continuum of Care for Reducing MMR and NMR in an Eco-Ethnographically diverse district Kapilvastu [Monitoring MNH related SDG Targets]

Collaborative  
work of -

Nepal Health  
Research Council

Nepal Public  
Health  
Foundation



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NEPAL HEALTH RESEARCH COUNCIL

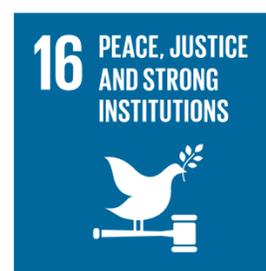


नेपाल जनस्वास्थ्य प्रतिष्ठान  
Nepal Public Health Foundation

Ensuring Health as Right and Responsibility of Nepali People.



# Thank You



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