

“Education for Knowledge, Science and Culture”

-Shikhanmaharshi Dr. Bapuji Salunkhe



**VIVEKANAND COLLEGE, KOLHAPUR (Autonomous)**

**DEPARTMENT OF STATISTICS**

**A PROJECT REPORT**  
**on**  
**“IMPACT OF GOVERNMENT SCHEME IN RURAL AREA”**

*Submitted by*

**Ms. Rutuja S. Dhere**  
**Ms. Supriya N. Mane**  
**Ms. Sakshi S. Warake**  
**Ms. Shweta R. Mudrale**  
**Ms. Lalita R. Koli**

*in partial fulfillment for the award of*

*the degree of*

**BACHELOR OF SCIENCE**

*in*

**STATISTICS**

**2021-22**

“Education for Knowledge, Science and Culture”

-Shikhanmaharshi Dr. Bapuji Salunkhe



(स्वायत्त) कोल्हापूर

**VIVEKANAND COLLEGE, KOLHAPUR(Autonomous)**  
**DEPARTMENT OF STATISTICS**

## Certificate

This is to Certify that,

Sr. No.	Name	Roll No.
1	Ms. Rutuja S. Dhere	7904
2	Ms. Supriya N. Mane	7921
3	Ms. Sakshi S. Warake	7933
4	Ms. Shweta R. Mudrale	7924
5	Ms. Lalita R. Koli	7918

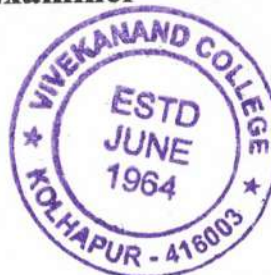
Have satisfactorily completed the project work on “**IMPACT OF GOVERNMENT SCHEME IN RURAL AREA**” as a part of the skill enhancement course for B.Sc. III, prescribed by the Department of Statistics, *Vivekanand College, Kolhapur (Autonomous)*, in the academic year 2021-22.

This project has been completed under our guidance and supervision. To the best of our knowledge and belief, the matter presented in this project report is original and has not been submitted elsewhere for any other purpose.

  
**Project Guide**

(Mr. Pawar A. A.)

  
**Examiner**



  
**Head**

(Ms. Pawar V. V.)  
**HEAD**  
DEPARTMENT OF STATISTICS  
VIVEKANAND COLLEGE, KOLHAPUR  
(AUTONOMOUS)

# ACKNOWLEDGEMENT

Gratitude is the hardest emotion to express and often doesn't find adequate words to convey that entire one feels. It is our foremost duty to express our deep sense of gratitude and respect to the HOD Associate Prof. V. V.Pawar madam and Assistant Prof. A. A. Pawar Sir for their up lifting tendency and inspiring us for making of this project work completely and successfully.

Last but not the least we are thankful to our colleagues and those helped us directly or indirectly throughout this project work.

Miss. Rujuta Shivaji Dhere.

Miss. Supriya Narayan Mane.

Miss. Sakshi Sanjay Warake.

Miss. Shweta Rahul Mudrale.

Miss. Lalita Ramdas Koli.

# INDEX

<b>Sr. No.</b>	<b>Contents</b>	<b>Page No.</b>
1	<b>Introduction</b>	<b>5</b>
2	<b>Objectives</b>	<b>6</b>
3	<b>Methodology</b>	<b>7</b>
4	<b>Graphical Representation</b>	<b>8</b>
5	<b>Statistical Analysis</b>	<b>15</b>
6	<b>Coclusions</b>	<b>20</b>
7	<b>Bibliography</b>	<b>21</b>
8	<b>Questionnaire</b>	<b>22</b>

# INTRODUCTION

We are taking this subject for the project in the support of “**SWACHH BHARATMISSION – GRAMIN**”. This mission is starting at 2nd October 2014 in Rajghat, Delhi by Prime Minister of India Mr. Narendra Modi. The Ministry of Drinking Water & sanitation is committed to make each & every village of India clean & open defecation free.

The survey of toilet users in Hatkanangale tehsil using to some laws of chance & partly according to a fixed sampling rule (**SRSWOR**). For comparative study data is collected from two village Nagaon & Atigre.

In Atigre, total no. of houses are 820 from that we taken sample of 262 houses & in Nagaon, total no. of houses are 2072 from that we taken sample of 325 houses by using **Cochran’s Formula**. In this project we study various factors like toilet users, effect of toilet on health, utilization of government scheme.

## OBJECTIVES

- ❖ To create public awareness about government scheme.
- ❖ To study effect of government scheme on year.
- ❖ To study impact of using toilet on health.
- ❖ To study of government scheme (Swacch Bharat Mission – Garmin) on rural area.
- ❖ To study government issued stamp on government scheme.
- ❖ To study year wise utilization of Government Scheme.

# METHODOLOGY

For the purpose of studying impact of government scheme in rural area. We have collected data from rural area in Hatkanangale tehsil. In order to collect appropriate data, we prepared a questionnaire satisfying characteristics of a good questionnaire, which was used to collect the data in an effective manner. The questionnaire is attached on last page of project. We considered two villages from Hatkanangale Tehsil,

1] Nagaon

2] Atigre

## **METHODS OF DATA COLLECTION:-**

For the project work, we have collected primary data from total 587 users out of which 325 are from Nagaon & 262 are from Atigre . The simple random sampling method is used for collecting data from the following two villages,

1] Nagaon

2] Atigre

## **STATISTICAL TOOLS USED:-**

- Diagrammatical representation of data
  - i. Bar Diagram
  - ii. Pie Chart
  - iii. 3- Yearly moving average
- Chi-square test
- ANOVA technique
- Regression analysis
- Proportion test for independency

## **SOFTWARE'S USED:-**

1. MS-Excel

2. MS-Word

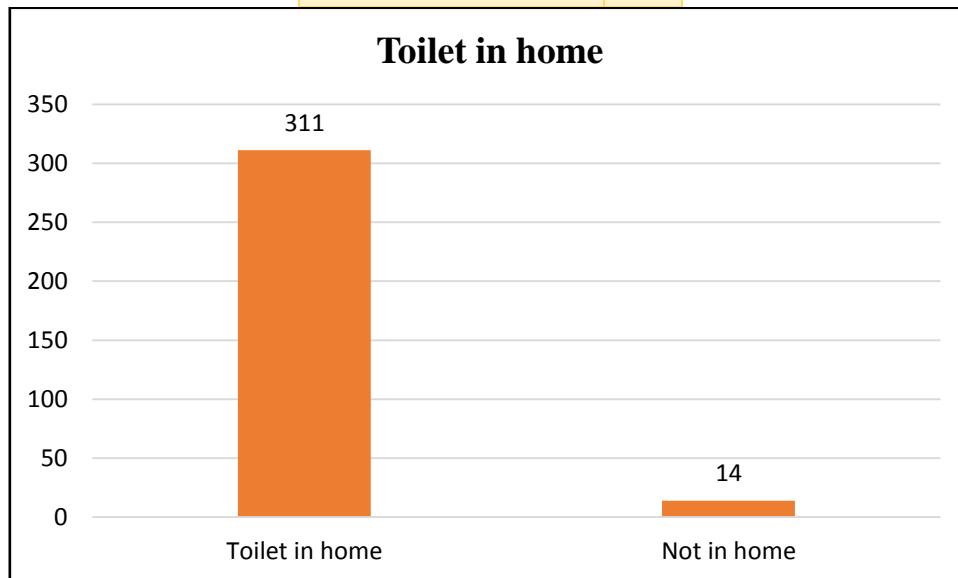
# **GRAPHICAL REPRESENTATION**



# Toilet in home

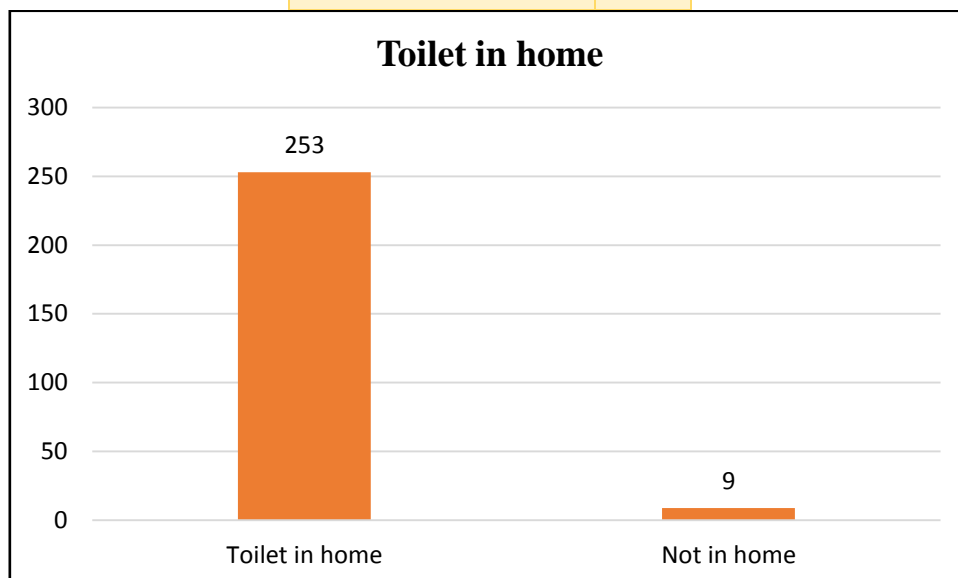
## Nagaon

Toilet in home	311
Toilet not in home	14



## Atigre

Toilet in home	253
Toilet not in home	9

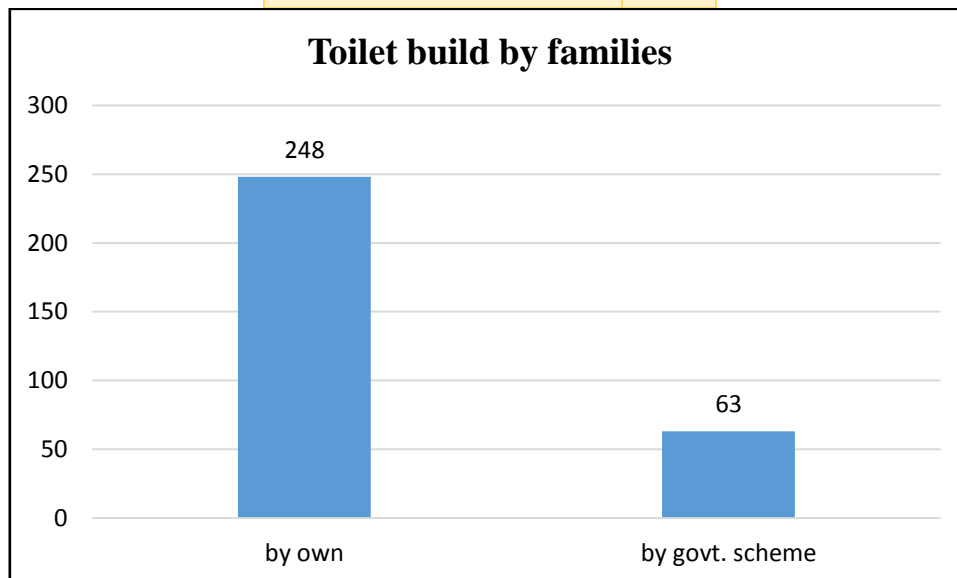


**Conclusion:** 96% families have toilet in home.

## Toilet build by families

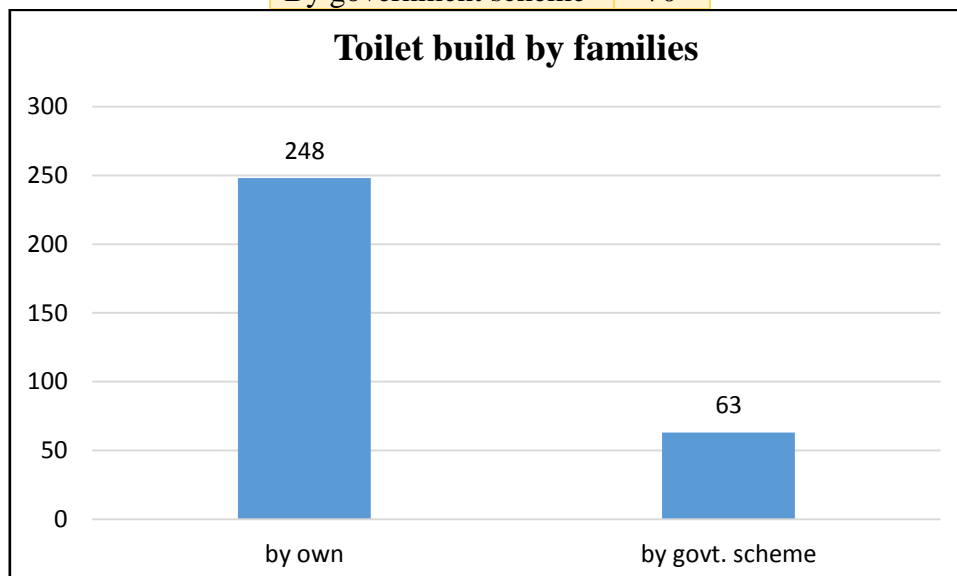
Nagaon

By own	248
By government scheme	63



Atigre

By own	183
By government scheme	70

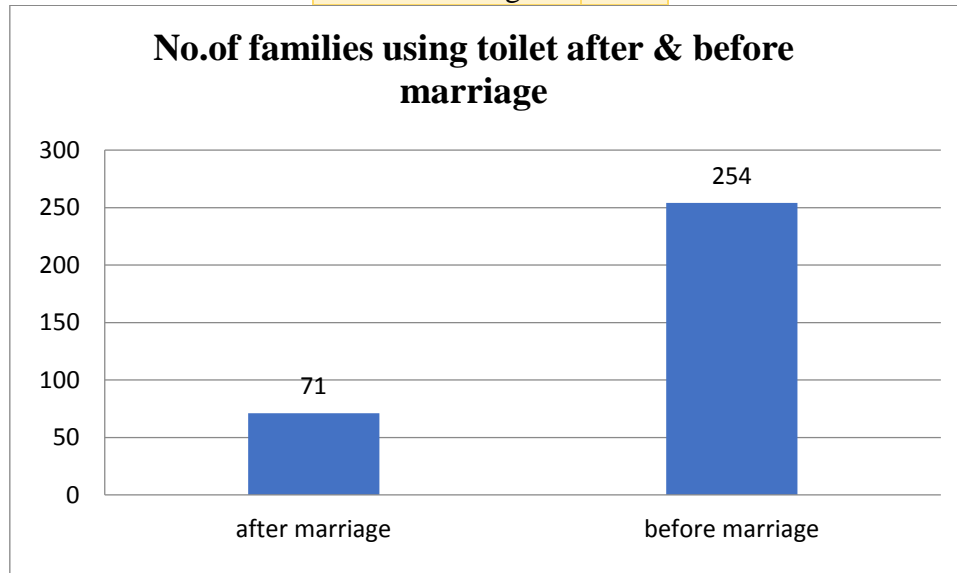


**Conclusion:** By comparing graph, Atigre village more facilitated by government scheme "SWACHH BHARAT MISSION – GRAMIN".

## No. of families using toilet after & before marriage

Nagaon

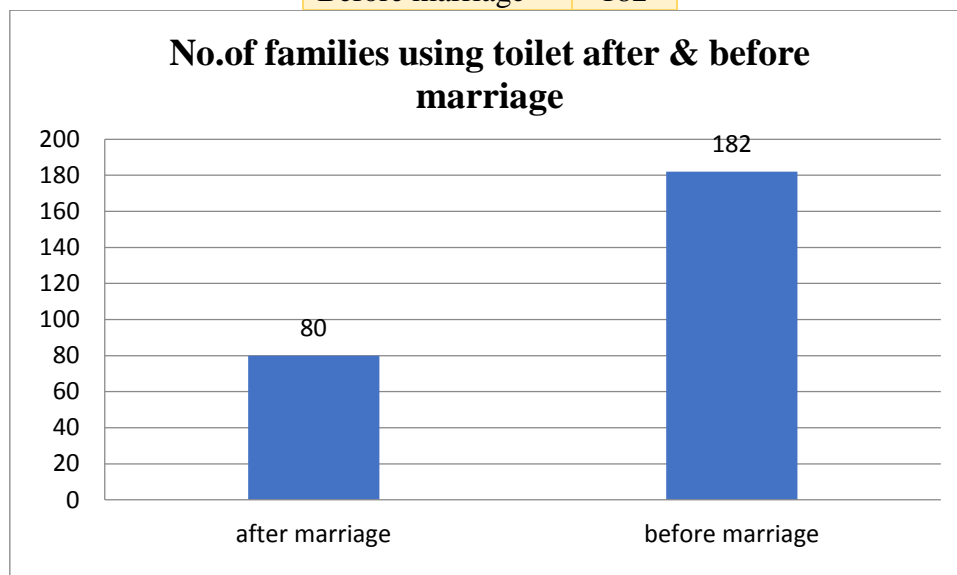
After marriage	71
Before marriage	254



**Conclusion :** In Nagaon, 22% toilet build up after marriage.

Atigre

After marriage	80
Before marriage	182

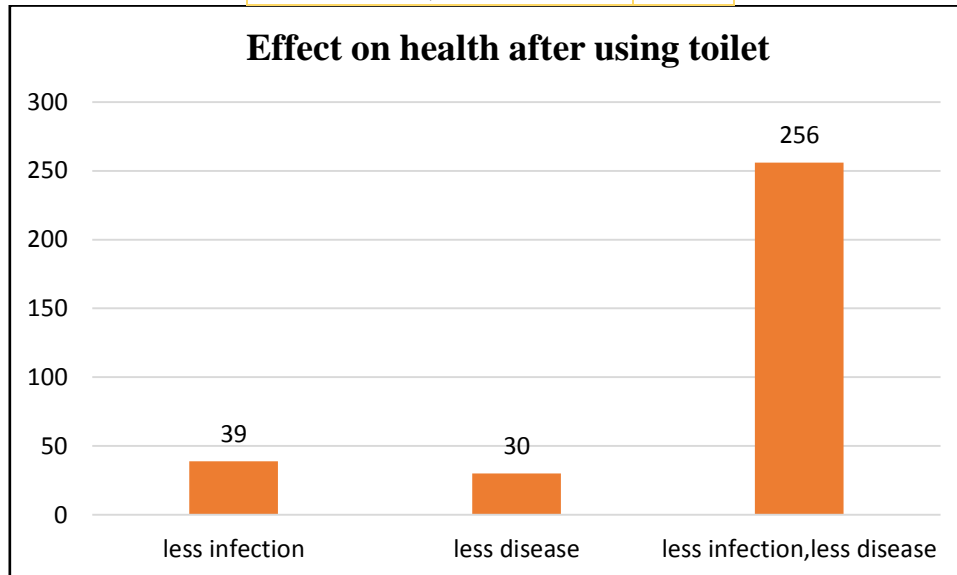


**Conclusion :** In Atigre , 31% toilet build up after marriage.

## Effect on health after using toilet

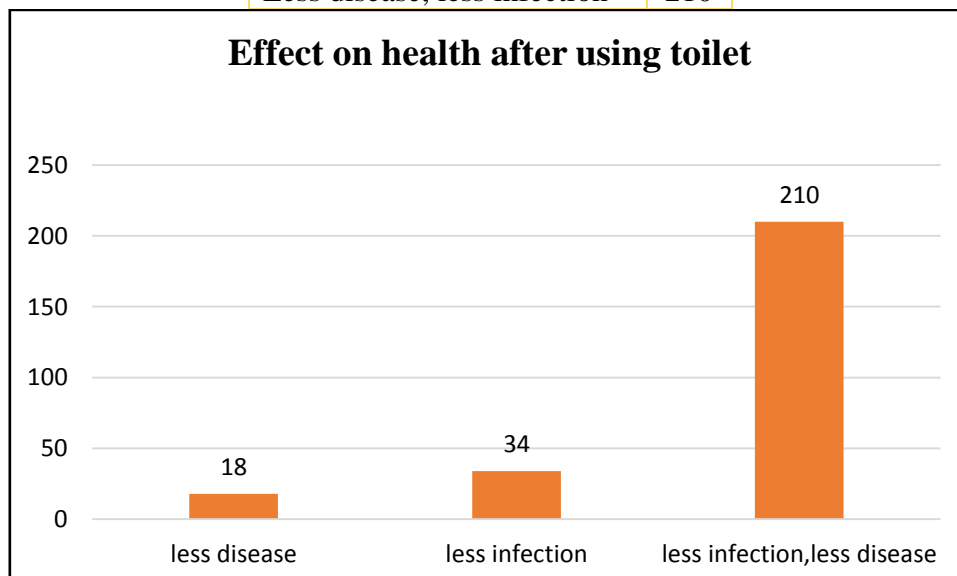
### Nagaon

Less infection	39
Less disease	30
Less disease , less infection	256



### Atigre

Less infection	18
Less disease	34
Less disease, less infection	210

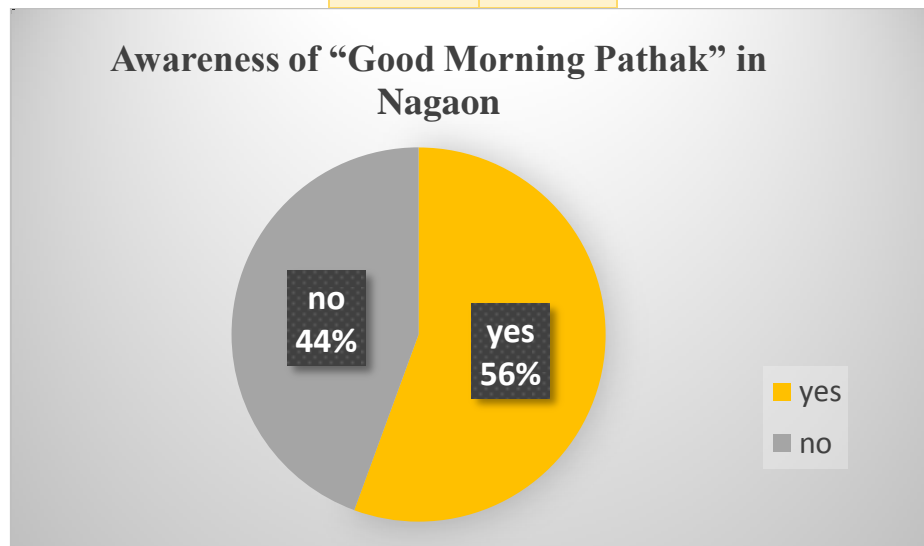


**Conclusion:** The disease & infection is less after using toilet.

## Awareness of “GOOD MORNING PATHAK”

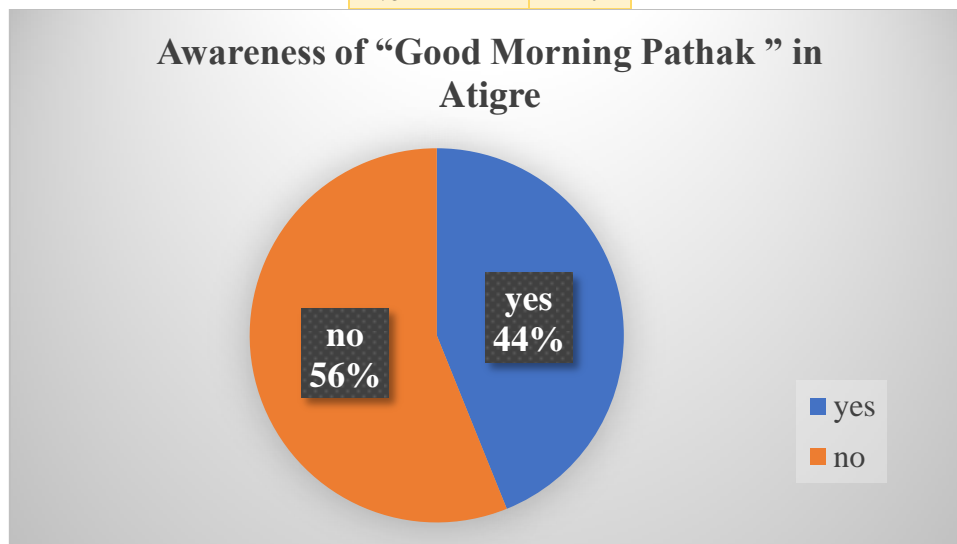
### Nagaon

Yes	179
No	143



### Atigre

Yes	115
No	147

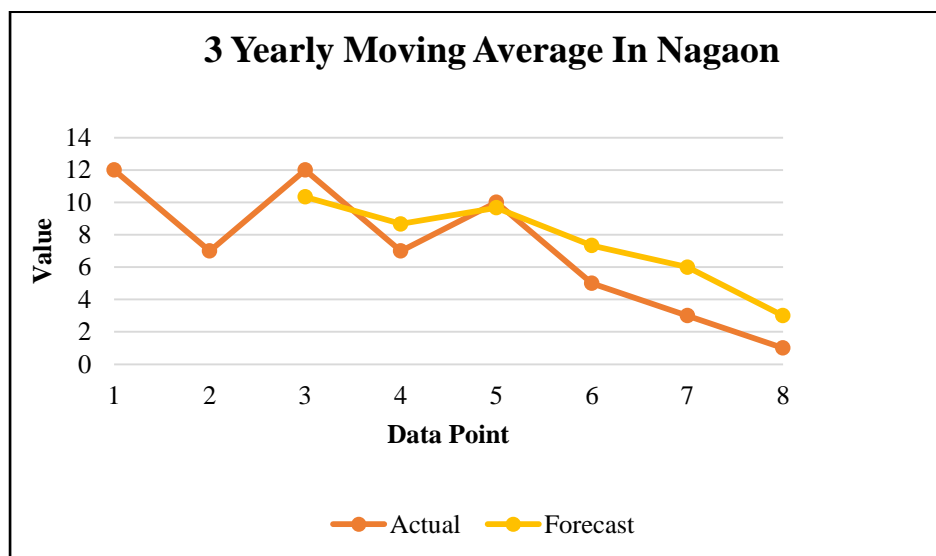


### Conclusion:

Awareness of “Good Morning Pathak” is 56% in Nagaon & 46% in Atigre.

## 3-yearly moving average of government scheme

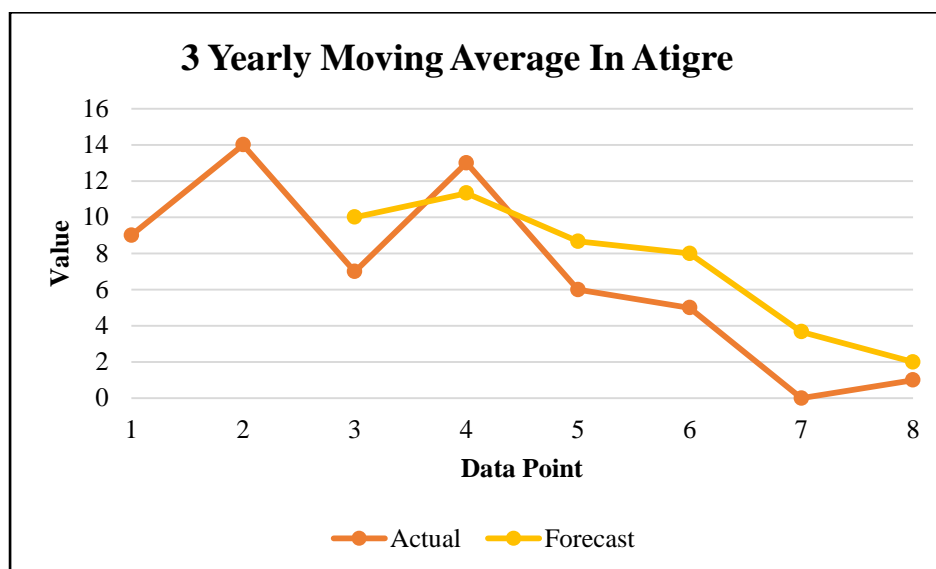
### 3-yearly moving average in Nagaon



Year	No. of families facilitated by govt. scheme
2014	6
2015	12
2016	7
2017	12
2018	7
2019	10
2020	5
2021	3
2022	1

**Conclusion:** Due to irregular variation effect of government scheme (“Swacch Bharat Mission - Garmin”) in Nagaon slowly decreases.

### 3-yearly moving average in Atigre



Year	No. of families facilitated by govt. scheme
2014	15
2015	9
2016	14
2017	7
2018	13
2019	6
2020	5
2021	0
2022	1

**Conclusion:** Due to irregular variation effect of government scheme (“Swacch Bharat Mission - Garmin”) in Atigre highly decreases

# **STATISTICAL ANALYSIS**

## To test proportion of toilets build by government scheme in Atigre and Nagaon

### Hypothesis:

$H_0$ : There is no significant difference between proportion of toilets build by government scheme in both villages.

V/s

$H_1$ : There is significant difference between proportion of toilets build by government scheme in both villages.

### Calculation:

Given:  $P_1 = 0.1938$ ,  $P_2 = 0.2671$ ,  $n_1 = 325$ ,  $n_2 = 262$ ,  $P = 0.2266$ ,  $Q = 0.7734$

$\alpha$ : 5% level of significance

$$|z| = \frac{P_1 - P_2}{\sqrt{PQ\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}} \sim N(0, 1)$$

Calculated  $|Z| = |-2.1088| = 2.1088$

p value = 0.0175

p value = 0.0175 < 0.05

Reject  $H_0$  at 5% level of significance

### Conclusion:

There is significant difference between proportion of toilets build by government scheme in both villages.



## To check the independency of toilets on ration card

### Hypothesis:

$H_0$ : There is no significant difference between toilet build & ration card.

V /s

$H_1$ : There is significant difference between toilet build & ration card.

### Atigre

	Yellow	Orange	White	Total
Government Scheme	12	55	3	70
By Own	14	153	16	183
Total	26	208	19	253

p value = 0.05142

p value > 0.05

$H_0$  is accepted at 5% l.o.s

### Conclusion:

In Atigre, There is no significant difference between toilet build & ration card.

### Nagaon

	Yellow	Orange	White	Total
Government scheme	16	47	0	63
By own	26	212	10	248
Total	42	259	10	311

p value = 0.003139

p value < 0.05

$H_1$  is rejected at 5% l.o.s

### Conclusion:

In Nagaon, There is significant difference between toilet build & ration card.

## To determine the relation between year & utilization of government scheme.

### Hypothesis:

H<sub>0</sub>: There is no significant difference between year & utilization of government scheme.

V/s

H<sub>1</sub>: There is significant difference between year & utilization of government scheme.

### Atigre

### ANOVA

	df	SS	MS	F	Significance F
<b>Regression</b>	1	22099567	22099567	14.73976	0.00856649
<b>Residual</b>	7	10495213	1499316.2		
<b>Total</b>	8	32594780			

### Inference

	Coefficients	Standard Error	P-value	Lower 95%	Upper 95%
<b>Intercept</b>	0	#N/A	#N/A	#N/A	#N/A
<b>15</b>	199.1885099	51.88227546	0.006380826	76.50642309	321.870597

## Nagaon

### ANOVA

	df	SS	MS	F	Significance F
<b>Regression</b>	1	25382553	25382553	24.63565	0.002543504
<b>Residual</b>	7	7212227	1030318		
<b>Total</b>	8	32594780			

### Inference

	Coefficients	Standard Error	P-value	Lower 95%	Upper 95%
<b>Intercept</b>	0	#N/A	#N/A	#N/A	#N/A
<b>6</b>	220.7236084	44.46996811	0.001631	115.5688434	325.87837

### Conclusion:

There is significant difference between year & utilization of government scheme.

## CONCLUSIONS

- The increase in no. of toilet decrease in disease & infection.
- Due to irregular variation effect of government scheme (SWACHH BHARAT MISSION- GRAMIN) slowly decreases & highly decreases in Nagaon & Atigre respectively, otherwise constant.
- As comparing graph, Atigre village more facilitated by government scheme (SWACHH BHARAT MISSION- GRAMIN).
- There is significant difference between proportions of toilets build by government scheme in both villages.
- In Nagaon, There is significant difference between toilet build & ration card.
- In Atigre, There is no significant difference between toilet build & ration card.
- There is significant difference between year & utilization of government scheme.
- After starting SWACHH BHARAT ABHIYAN no. of toilet users are increased.

# BIBLIOGRAPHY

## Reference Books:

- Fundamental of Statistics – S. C. Gupta.
- 100 Statistical Test – Gopal .k. Konji.
- Prograded the Statistics – B .L .Agarawal.
- <https://youtu.be/KwQsV77bYDY>Link
- Google



13. Is it built by your own or have given advantage of government scheme?  
a) By own                      b) Government scheme
14. How do you get information about scheme?  
a) Newspaper      b) Radio                      c) Internet                      d) TV
15. Did you get payment of government scheme?  
a) Yes                      b) No
16. Do you get total amount of Government. Scheme?  
a) Yes                      b) No
17. Are you using toilet before your marriage or after marriage?  
a) Before marriage                      b) After marriage
18. Is your baby use toilet?  
a) Yes                      b) No
19. Do you use hand wash after using toilet?  
a) Yes                      b) No
20. Do you know “Good Morning Pathak”?  
a) Yes                      b) No
21. Is their good effect of “Good Morning Pathak” in your village?  
a) Yes                      b) No
22. What are effects of change in health after using toilet?  
a) Less infection                      b) Less disease  
c) Not any change                      d) none
23. Would do you think about ‘Swacch Bharat Abhiyan’? Is it good f or us?  
a) Yes                      b) No                      c) No Comment
24. Is their facility of separate toilet for males? Female in your Village?  
a) Yes                      b) No