International Journal of Management, IT & Engineering
Vol. 7 Issue 6, June 2017,
ISSN: 2249-0558 Impact Factor: 7.119
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

DEMAND OF AGRICULTURAL AND SHRINKING IN BASNA DRAIN IN PHAPHAMAU REGION ALLAHABAD UP

Bechan Yadav*

ABSTRACT

The present study deals with the relation between agriculture land and Basna drain in Phaphamau region. The agriculture area in Phaphamau region is very productive. Basna drain is an important stream in the region goes through Phaphamau satellite area of Allahabad city. The region suffers high population growth. Hence, there is an urban sprawl in the region. Due, to urban sprawl the agriculture area of the region converted into settlement area. Thus there is a very small land holding of the people in the region. The result is pressure of heavy population on agriculture area. Hence, the people of the region are converting Basna drain's basin area into agriculture area. Thus there is a great shrinking in width and depth of Basna drain in Phaphamau region. For saving the life of Basna drain and fulfilling the food requirement of the people in the region should control the urban and agricultural sprawl toward the basin area of Basna drain. For this there is need to control the high population growth and increase the productivity of agriculture area by using hybrid seeds, qualitative irrigation facility and fertilizers.

INTRODUCTION

India is agriculture and population rich country. Agriculture takes important role in the GDP and employment of India. Today, India ranks second worldwide in form output. Agriculture and allied sector like forestry and logging accounted for 17.32 percent of the GDP in2016-17, employed 52 percent of total workforce despite steady decline of its share in GDP. It is still one of the largest economic sectors and plays a significant role in the overall socio-

* (Research Scholar-S.R.F.), Department of Geography, University of Allahabad

economic development of India. Slow agriculture growth is a concern for policymakers as some two third of India's people depend on rural employment for a living.

According to the agriculture census the total number of operational holding in India numbered 138.35 million with an average size of 1.15 hectares. Of the total holding 85 percent are in marginal and small form categories of less than two hectares.

The same agriculture condition present in Phaphamau region. Region ranks first in agriculture production in Allahabad district. The agriculture share in GDP of Phaphamau region is highest. The average land holding of the region is 0.85 hectare is lower than the average land holding of India.

The population growth of India and Phaphamau region is very high. But the population growth of Phaphamau region is higher than India. Due to high population growth in Phaphamau region, there is growing gap between population and food grain in Phaphamau region. Thus there is a burden of population on agriculture area of the region. The topic of supply gap of food grain to the population is very contemporary. For fulfill the gap of food grain two sides are responsible; first is the population and second is agriculture.

For a proper supply of food grain to the people in the region needs balance relation in population and food grain. But there is no balance relation in food and people. For balance in food and population there is need of population control in Phaphamau. For this government should follow the 2000 population policy.

The other side is agriculture area. The agriculture area is decreasing due to high population growth and expansion of settlement. This side is the main topic of the study. The expansion of settlement towards agriculture area is decreasing by construction of dwellings, government and private buildings and roads.

After all the decreased agriculture area needs more agriculture for balance relation in food and people. For this there is a demand of more agriculture area. For more agriculture area the people of the region are shifting their agriculture form towards the basin of Basna drain or in the basin of Basna drain. This makes question mark on the existence of the stream.

The existence of the Basna drain is important for the people of the region. For this the people of the region should conscience and government should also be aware. Allahabad Development Authority (ADA) should regulate the regulation of Allahabad high court for live long life of stream. The court asked the Allahabad Development Authority (ADA) Uttar Pradesh to demarcate the zone 500 metre from high flood levels. Officials of the Allahabad Development Authority (ADA) say that demarcation has been made. But in reality there is no demarcation along the river and its tributary.

OBJECTIVE

The following objectives are propounded for this study.

- To describe the changes in agriculture area.
- To find out the causes of changes in agriculture area of Phaphamau region.
- To search the impact of agriculture area change in the region.
- To measure the changes in the width and depth of Basna drain in Phaphamau region.
- How to control the agriculture sprawl towards the basin of Basna drain.
- How to control the shrinking in Basna drain.

DATA SOURCES AND METHODOLOGY

The present study includes two data sources primary and secondary. The primary data is based on observation, questionnaire, schedule method and interview method. The secondary data have two methods of data sources published and unpublished data. On the basis of primary and secondary data the following methods have been used in the present study:

Firstly, the location map of the study area is based on toposheet no. 63G/14.

Secondly, the primary data is field-survey conducted and questionnaire based data collected.

Last, one is reference book and related study-area research consulted.

The methods of tabulation, data interpretation, data analysis have been used in this study.

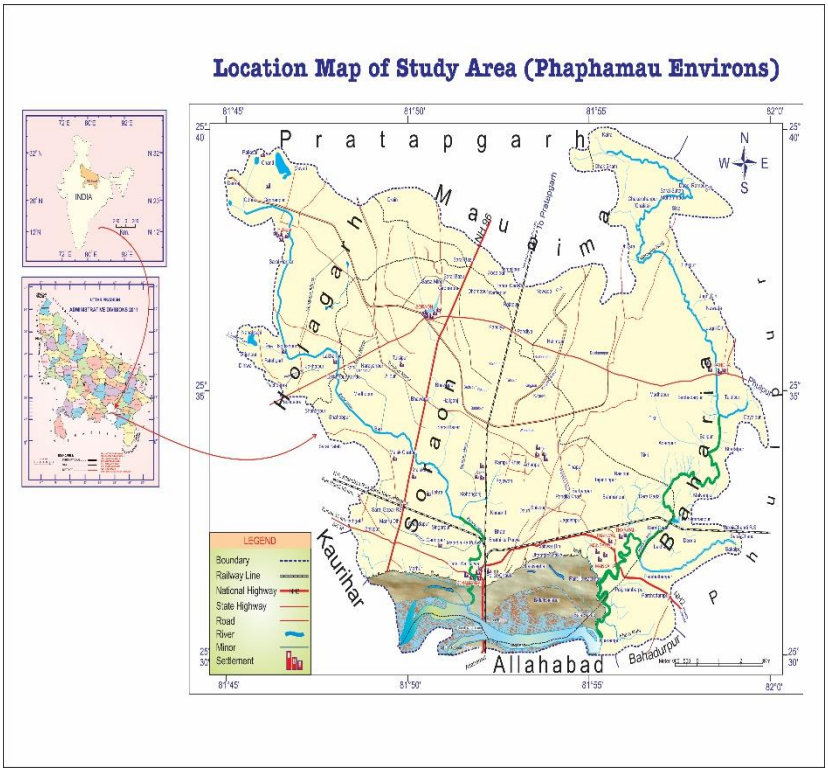
In this research work the graphing of the concerned data have also done. The method of data expression through graph is done by Microsoft Office Excel 2007.

STUDY-AREA

The study-area extends from 25˚ 25'N to 25˚ 35' N latitude and 81˚ 50'E to 81 57'E longitude. River Ganga and its tributary river Mansaita and Basna drain pass through this region. This region spreads over 31.45 km^2geographical area. Geomorphologically, the region is a segment of "Upper Ganga Plain" and particularly is known as a part of "Avadh Plain"(Lucknow Plain), which is one of the most important micro-physiographic units of "Great Plains" of North India. Geologically, the region is filled up with younger and older alluvial deposits. These deposits are comprised of caliches formation, buried soil layers and current soil layers in sequential order from bottom to top ranging from upper Pleistocene to Holocene periods. The main constituents of litho logy in the area are "Khather" and "Bhangar".

The alluvial soil of the area are still largely immature and are of little pedogenic evolution, but have encouraged geomorphic agent 'man' to establish a close relationship with nature, which is the earnest necessity of the present geological era 'anthropocene'.

The region enjoy mild monsoon climate with long hot summer (maximum temperature 41.82˚C and minimum temperature 24.91˚ C in May), medium rainfall generally from mid-June to mid-October (55.28 mm in June, 177.44 mm in July, 231.78 mm in August, 197.82 mm in September and 24.88 mm in October) and dry winter (maximum temperature 23.50˚C and minimum temperature 7.90˚C.



RESULT AND DISCUSSION

Comparative Study of Agricultural Area, Width and Depth of Basna Drain in Phaphamau Suburban Area:

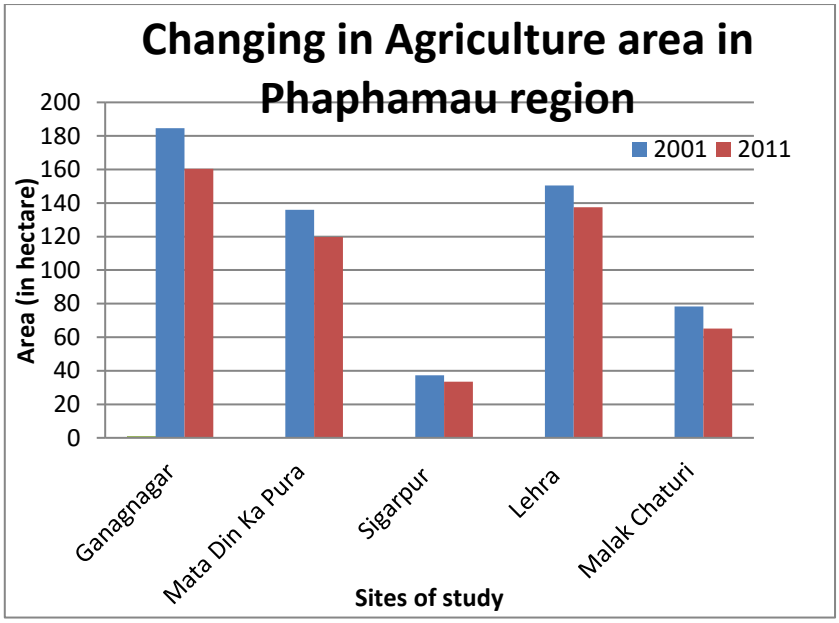
The study present the relationship of agriculture area and the width and depth of Basna drain. In this study there is a research on the rate of shrinking in Basna drain and rate of decrease in agriculture area in Phaphamau region. The study reveals the expansion of agriculture towards the basin of the drain, causes of expansion, methods to control the shrinking and expansion.

There are five selected site of villages near Basna drain. These sites show the expansion rate of agriculture area and shrinking in Basna drain. In this context first we describe the expansion of agriculture area and shrinking in Basna drain. Then what are the causes of expansion and shrinking and how to control the expansion and shrinking.

Table-1: Decreasing agriculture area and shrinking width and depth of Basna drain in Phaphamau region

S.N.	Name of Village/ Town	Agricultural Land (in hectare)		Width (in meter)		Depth (in meter)	
		2001	2011	2001	2011	2001	2011
	Ganganagar	184.70	160.30	30.0	24.0	6.01	3.06
	Mata Din Ka Pura	135.98	119.70	23.2	17.12	4.85	3.89
	Singarpur	37.39	33.40	18.6	15.1	4.39	3.21
	Lehra	150.43	137.48	17.3	12.0	4.39	3.37
	Malak Chaturi	78.40	65.20	15.0	11.0	4.5	2.43
	Total	**586.90**	**516.08**	**Aver. 20.82**	**Aver. 15.88**	**Aver. 4.83**	**Aver. 3.19**

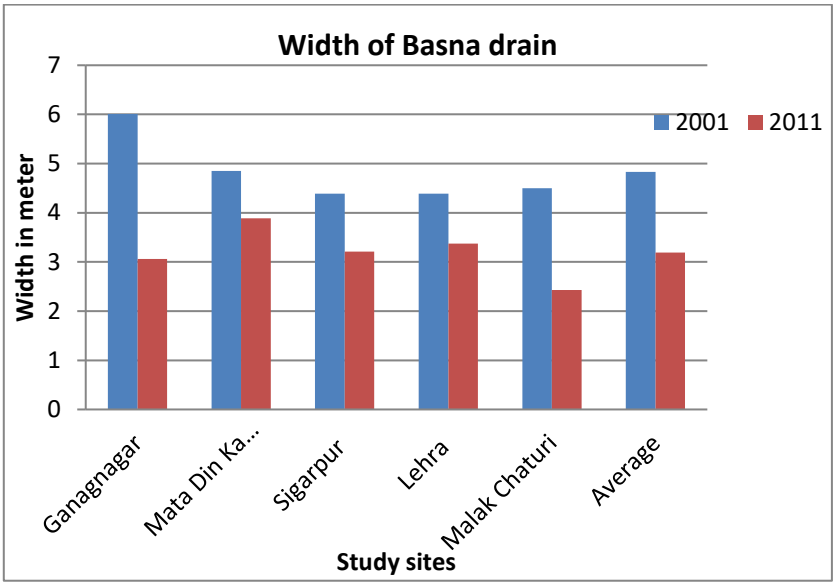
Source: Field Survey and Urban Primary Census Abstract.



The above table and diagram shows agriculture land of some selected village site near Basna drain. There are five selected site near Basna drain in Phaphamau region. The five selected site are Ganganagar, Mata Din Ka Pura, Singarpur, Lehra and Malak Chaturi. The total agricultural area of the five villages is 586.90 hectare in year 2001 and 516.08 hectare in year 2011. The decrease in agricultural land from 2001 to 2011 is 70.82 hectare. The annual decrease in agriculture land is 7.08 hectare. The rate of decrease is very high. There is a need to control the reduction of the agriculture area. If there is no control in the reduction, then there is no agriculture area in Phaphamau region till the year of 2081.

The main cause of agriculture reduction is high population growth. Due to high population growth there is urban sprawl in the region. There is a heavy amount of construction of buildings, roads and bridges by destruction in agricultural land.

The above diagram shows the change in agriculture land in Phaphamau region. Change occurs in all sites of the villages in the region, no one left from change. Site Ganganagar occur more changes than all other sites. The site Singarpur occur lowest agriculture land reduction in the region.



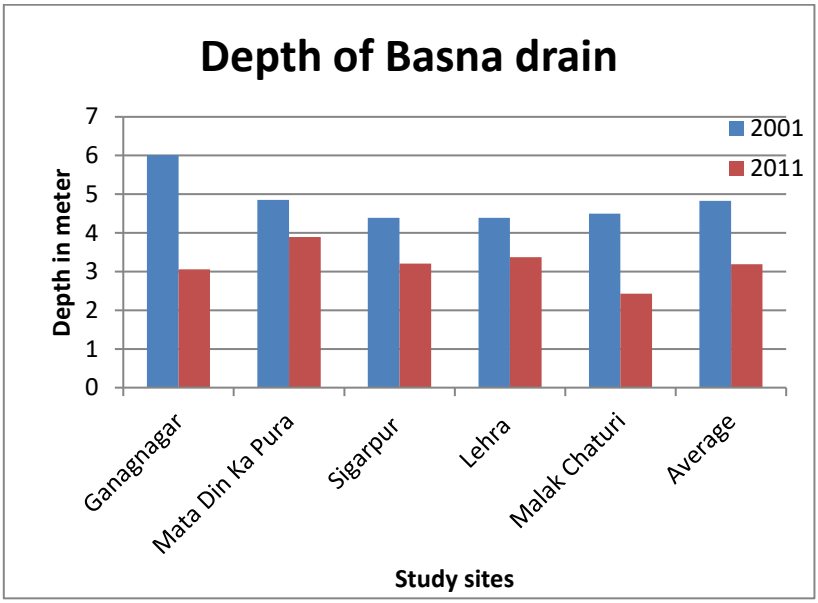
The above table and diagram shows the changes in the width and depth of Basna drain in year 2001 and 2011. The average width of Basna drain in year 2001 and 2011 is 20.82 meter and 15.88 meter respectively. The shrinking in the width of Basna drain from 2001 to 2011 is 5.05 meter. The average annual reduction in the width of Basna drain is 0.505 meter. The rate of width reduction in the stream is very high. It shows the very severe condition for the life of a stream.

The average depth of Basna drain is 4.83 meter in year 2001 and 3.19 meter in year 2011. Thus the decennial reduction in the depth of Basna drain is 1.64 meter. The annual reduction in depth is 0.164 meter the rate of depth reduction in Basna drain is very high.

There is a need of great conscience of the people about the natural phenomenon like Basna drain in Phaphamau region. Allahabad Development Authority should aware about the rapid shrinking in the basin of the drain and should regulate the Allahabad high court regulation of 500 meter no construction zone along the both side of the stream.

The above diagram shows the rate of shrinking in the width of Basna drain. The diagram clearly shows the in the width of Basna drain in year 2001 and 2011. The five sites (Ganganagar, Mata Din Ka Pura, Singarpur, Lehra and Malak Chaturi) show highest

destruction in the width of Basna drain than other area of Phaphamau region. The site Ganganagar occur the reduction in the width of the drain and the site Mata Din Ka Pura occur the lowest reduction in the width of the drain.



The above diagram shows the shrinking in the basin of Basna drain due to agriculture sprawl towards the basin. Like the reduction in the width of the Basna drain Ganganagar occur the highest reduction in the depth of the drain. Mata Din Ka Pura occur the lowest changes in the depth of the drain.

CONCLUSION

On the basis of data tabulation and graphical representation, the following finding shown with reference to decreasing agriculture area and shrinking basin of Basna drain in Phaphamau region.

- Due to heavy demand of houses, roads and bridges in Phaphamau region, there is a great reduction in agriculture in agriculture area.
- The high growth of population in the region makes urban sprawl. The sprawl makes reduction in the agriculture area. The reduction in agriculture area causes agricultural sprawl towards the basin of Basna drain.
- The agricultural sprawl towards the basin of Basna drain makes changes in the width and depth of the drain. Thus the rate of shrinking in the basin of Basna drain is very high. This rate of shrinking will vanish the existence of Basna drain within 70 years (till 2081).
- The agriculture work in the basin occur heavy amount of soil erosion. This eroded soil is depositing in the bed of Basna drain and make Basna drain shallow.
- Due to above happening the width and depth of Basna drain is decreasing rapidly.

SUGGESTIONS

The following suggestions should follow the people and government in the region for the balance future of Basna drain.

- First of all the people and government should be conscience about the natural phenomenon like Basna drain and human basic needs of agriculture area.
- People should not build their dwellings and other dwellings related work in the basin of the drain. Because it is very important for agriculture and environment of the region.
- Allahabad Development Authority (ADA) should regulate the direction of Allahabad high court for save life of a stream. The court asked the Allahabad Development Authority (ADA), Uttar Pradesh to demarcate the zone of 500 meter along both side of the stream from high flood levels.
- There should be plantation of 10 meter strip along the both side of Basna drain.
- To control urban sprawl in agriculture area and agriculture sprawl in the basin of the drain.
- The people in the region should follow the population policy 2000 to control in high growth rate population and government should regulate it on ground level strictly.

REFERENCES

- Anderson, M.G. Burt, T.P, 1978: Analysis of spatial water quality and stream networks in the Southern Catswalds during and after the draught of 1976. Earth Surface Process, 3, 59-70.
- Bery, L., 1970: Some erosinal features due to piping and subsurface wash with special reference to the Sudan, Geografica.
- Bandyopadhyay, B.K., 1980: A geographical analysis of Bankura district with special reference to soil and its impact on agriculture, unpublished D. Phi. Thesis, University of Calcutta.
- Chorley, R.J. (Edi), 1969: Water, Earth and Man. Methuen, London.
- Costa, J.E. 1987: Hydraulics and basin morphometry of the largest flash floods in the conterminous United States. J. Hydrol 313-338.
- Frissel, C.A, Liss, W.J. Warren. C.E., Hurley, M.D. 1986: A hierarchical framework for stream habitat classification: viewing streams in a watershed context. Environ Money, 10:199-214.
- Melton, M.A., 1957: Correlation structure of morphometric properties of drainage systems and their controlling agents, Jour. heol. V. 66, PP. 442-60.

- Singh, S.C., 1966: Changes in the courses of river and their effects on urban settlements in the middle Ganga Plain, Unpublished Ph.D. Thesis submitted in the Department of Geography, Banaras Hindu University, and Varanasi.
- Singh, Savindra and Singh, O.P., 1976: Morphometric Control on rural settlements of Palamu Upland, National Geographer, V.11, no. 2 p. 123-131.
- Soil Conservation Service, 1986: Urban hydrology for small watersheds. TR-55, 2nd edn, U.S.A.
- Thompson, J.R., Taylor, M.P., Fryirs, K.A. Brierley, G.J., 2001. A geomorphologic framework for river characterization and habitat assessment. Aquat Conser Mar. Freshw. Ecosyst, 11:373-389.

WEBSIDES

- www.allahabad.nic.in
- www.allahabad.wikipedia.in
- www.dainikjagaran.com
- www.indianexpress.com